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Item 4 (a) of the provisional agenda*

Implementation of the Strategic Approach to

International Chemicals Management:

**Evaluation of and guidance on implementation and
review and update of the Strategic Approach**

**Submissions received from stakeholders on the inclusion of
activities relating to nanotechnologies and manufactured
nanomaterials and hazardous substances within the life cycle of
electrical and electronic products to SAICM Global Plan of
Action.**

Note by the secretariat

1. The secretariat has the honour to circulate in annexes to the present note, in compliance with Decision 1/1 of the Open-ended Working Group, submissions received from stakeholders on the inclusion of activities relating to nanotechnologies and manufactured nanomaterials, and hazardous substances within the life cycle of electrical and electronic products to the Global Plan of Action of the Strategic Approach.
2. The secretariat called for comments via the SAICM website from 5 March to 23 April 2012 on nanotechnologies and manufactured nanomaterials and from 5 April to 7 May 2012 on hazardous substances within the life cycle of electrical and electronic products.
3. Comments received were posted on the Strategic Approach website as requested and are compiled in the Annexes to the present note for the consideration of the Conference.
4. The submissions are presented as received by the secretariat for the information of participants and have not been formally edited.

* SAICM/ICCM.3/1.

Annex I – Suggested table of proposed activities on nanotechnologies and manufactured nanomaterials annotated according to the comments received in submissions**Annex II – Submissions on the proposal to include a new work area to the Global Plan of Action on nanotechnologies and manufactured nanomaterials**

The following stakeholders submitted comments of the table of proposed activities of nanotechnologies and manufactured nanomaterials in compliance with Decision OEWG.1/1 I:

Canada	20
Costa Rica	24
European Union	25
Japan	274
Madagascar	296
Senegal	31
United States of America	32
Inter-organization Programme for the Sound Management of Chemicals (IOMC)	36
International Council of Chemical Associations (ICCA)	38
Ecological Restorations	40
Friends of the Earth	41
Nano Industries Association	43

Annex III – Submissions on the proposal to include a new work area to the Global Plan of Action on hazardous substances within the life cycle of electric and electronic products

The following stakeholders submitted comments of the revised table of proposed activities of on hazardous substances within the life cycle of electric and electronic products prepared by the secretariat, in compliance with Decision OEWG.1/1 II:

Canada	46
Japan	54
United States of America	563
Inter-Organization Programme for the Sound management of chemicals (IOMC)	59
United Nations Development Programme (UNDP)	60
European Union	61
Information Technology Industry Council (ITIC)	64

Annex I

Suggested table of proposed activities on nanotechnologies and manufactured nanomaterials annotated according to the comments received in submissions

Abbreviations used in the Table to indicate the origins of comments

Canada (CAN)
Costa Rica (CRI)
European Union (EU)
Japan (JPN)
Madagascar (MDG)
Senegal (SEN)
United States of America (USA)
Inter-organization Programme for the Sound Management of Chemicals (IOMC)
Organisation for Economic Co-operation and Development (OECD)
United Nations Institute for Training and Research (UNITAR)
Ecological Restorations (ER)
Friends of the Earth Australia (FoE)
International Council of Chemical Associations (ICCA)
Nanotechnology Industries Association (NIA)
Open-ended Working Group brief consultative meeting (OEWG CM)

Revised table of proposed activities on nanotechnologies and manufactured nanomaterials annotated with comments from stakeholders

WORK AREAS ADDRESSING RISK REDUCTION (OBJECTIVE 1)					
Work Area	New Activity	Actors	Target/Time frame	Indicators of progress	Implementation aspects
Nanotechnologies and Manufactured nanomaterials	1. Develop, establish and promote adoption of technical guidelines and harmonized standards on nanotechnologies and manufactured nanomaterials based on precaution. <u>USA</u>: Change to: Support existing efforts to develop, establish and promote adoption of technical guidelines, including international standards on nanotechnologies and manufactured nanomaterials to manage identified risks of nanomaterials, as informed by the best available scientific data to protect human health and the environment. <u>OEWG CM</u>: Replace by: Contributing to the development, promotion and adoption of internationally recognized technical guidelines and harmonized standards on nanotechnologies and manufactured nanomaterials based on hazard and risk.	National governments, Intergovernmental and international organizations, industry, NGO <u>IOMC</u>: Add IOMC (OECD) <u>OEWG CM</u>: Add: OECD, ILO	2012 – 2017	Guidelines and standards are developed. <u>OEWG CM</u>: Change to: Internationally recognized guidelines and standards are developed. <u>OEWG CM</u>: Add: Increased awareness And use of these guidelines and standards.	
<u>CAN</u> : to Legal, policy and institutional	2. Identify, strengthen and implement legal instruments to ensure the	National governments, Intergovernmental and international	2012-2015	Best practices for production, use, transport, and disposal of	

WORK AREAS ADDRESSING RISK REDUCTION (OBJECTIVE 1)					
Work Area	New Activity	Actors	Target/Time frame	Indicators of progress	Implementation aspects
aspects (Area 29)	use of best practices in the production, use, transport and disposal of manufactured nanomaterials. <u>JPN</u>: Delete the word “legal” or the words “Identify, strengthen and implement legal instruments to” <u>USA</u>: Narrow to address specific nanomaterials or categories of nanomaterials or delete	organizations, industry, academia, NGOs and other interested groups. <u>IOMC</u>: Add IOMC (OECD)		manufactured nanomaterials are in place and implemented in all relevant sectors.	
<u>CAN</u>: to Research, monitoring and data (Area18), Or to: Occupational health and safety (Area 4)	3. Increase the active involvement of the health sector to identify, treat and track diseases potentially caused by occupational exposure to manufactured nanomaterials and develop and implement preventive interventions. <u>EU</u>: Could be linked to 21 through cross referencing <u>USA</u>: Delete	WHO, ILO, national governments, industry NGOs and other interested stakeholders <u>IOMC</u>: Delete :WHO, ILO, Add: IOMC (ILO, WHO, OECD)	2012-2020	WHO/ILO project to identify, treat and track diseases potentially caused by occupational exposure to manufactured nanomaterials. Guidance on preventive measures is adopted.	
<u>CAN</u>: to Occupational health and safety (Area 4)	4. Increase the understanding of the environmental, public and occupational health and safety implications, including risk assessment, of nanotechnologies and manufactured nanomaterials through further research	National governments, Intergovernmental and international organizations, industry, academia, NGOs and other interested groups <u>IOMC</u>: Add : IOMC (OECD)	2012 - 2018	Number of publicly available research papers on hazards and risks, significantly increase in all regions <u>NIA</u>: Include an indicator on a process to monitor funding for, and number of, ongoing research projects	Coordination by IOMC

WORK AREAS ADDRESSING RISK REDUCTION (OBJECTIVE 1)					
Work Area	New Activity	Actors	Target/Time frame	Indicators of progress	Implementation aspects
	<u>EU</u>: Combine with 5 and 6 with text: Enhance information and knowledge sharing through general public engagement activities on national and regional policy and regulatory activities. <u>USA</u>: Combine with 5 with text: Increase the understanding of the environmental, public, and occupational health and safety implications, including risk assessment, of nanotechnologies and manufactured nanomaterials through continued support for independent research. <u>OEWG CM</u>: Replace by: Increase the understanding of the environmental, public, and occupational health and safety implications, including risk assessment, of nanotechnologies and manufactured nanomaterials through supporting, and where feasible, increasing funding for collaborative research.			<u>NIA</u>: The qualification “in all regions” is of limited importance because scientific journals are published internationally. <u>OEWG CM</u>: Include Indicators of 5 here. For comments on these indicators, see under 5. Number of publicly available peer reviewed research papers on hazards and risks significantly increases. Increased allocation of national budget towards research on nanotechnologies. Number of funding opportunities available to promote nanotechnology research. Ratio of approved project versus proposed projects. Overall number of students in the nano-toxicology field.	
CAN: to Occupational health and safety (Area 4)	5. Support and, where feasible, increase funding for independent research on the environmental and occupational health and safety implications of manufactured nanomaterials. <u>EU</u>: Combine with 4 and 6 with	National governments, Intergovernmental and international organizations, industry, NGO, Academia	2012 – 2020	Number of publicly available peer reviewed research papers on hazards and risks significantly increases. <u>OEWG CM</u>: Delete here – move to 4 Increased allocation of national budget towards	Creation of International and national information clearing houses. <u>NIA</u>: The task of the international clearing house is not clear

WORK AREAS ADDRESSING RISK REDUCTION (OBJECTIVE 1)					
Work Area	New Activity	Actors	Target/Time frame	Indicators of progress	Implementation aspects
	new text (see 4) <u>USA</u>: Combine with 4 with new text (see 4) <u>OECD</u>: Replace “independent research” by “research of relevance to regulatory scientists”. <u>OEWG CM</u>: Delete			research on nanotechnologies. <u>FoE</u>: Replace by : Increased allocation of national budget towards research on environmental, health and safety implications of manufactured nanomaterials <u>OEWG CM</u>: Delete here – move to 4 Number of funding opportunities available to promote nanotechnology research. <u>FoE</u>: Delete <u>OEWG CM</u>: Delete here – move to 4 Ratio of approved project versus proposed projects. <u>FoE</u>: Add at the end: researching environmental health and safety implications of manufactured nanomaterials Overall number of students in the nano-toxicology field. <u>OEWG CM</u>: Delete here – move to 4	
<u>CAN</u> : to Information management and dissemination (Area 21)	6. Enhance information sharing on national and regional policy and regulatory initiatives. <u>EU</u>: Combine with 4 and 5 with new text (see 4).	National governments, Intergovernmental and international organizations, industry, NGO, Academia	2012 – 2015	All stakeholders are informed of hazards and risks of nanomaterials. All relevant stakeholders have access to available relevant information.	IOMC

WORK AREAS ADDRESSING RISK REDUCTION (OBJECTIVE 1)					
Work Area	New Activity	Actors	Target/Time frame	Indicators of progress	Implementation aspects
	<u>OEWG CM</u>: Replace by: Enhance information sharing through public engagement activities on national and regional policy and regulatory initiatives.			<u>USA</u>: Change to: All stakeholders are informed of current and pending policies and regulatory frameworks <u>NIA</u>: Add: Perform a stakeholder mapping in order to implement the proposed activity in a targeted fashion. <u>NIA</u>: Adjust indicator to sharing of information related to policy and regulatory initiatives. <u>OEWG CM</u>: Include indicators of 21 here. For comments on these indicators, see under 21: Key stakeholders, particularly consumers and workers, are informed of risks and hazards of nanomaterials. Add: Number of national and regional workshops on nanomaterials.	
<u>CAN</u>: to Information management and dissemination ((Area 21)	7. Develop a national inventory reflecting the national situation of nano-research, production, and marketing. <u>EU</u>: Delete and combine with 9 with text: Develop inventories or registers of activities for manufactured nanomaterials produced, imported or integrated into products.	National governments, Intergovernmental and International organizations, industry, NGOs, Academia, other interested groups	2012-2015	Number of national inventories developed.	

WORK AREAS ADDRESSING RISK REDUCTION (OBJECTIVE 1)					
Work Area	New Activity	Actors	Target/Time frame	Indicators of progress	Implementation aspects
	JPN: Combine with 9				
<u>CAN</u> : to Legal, policy and institutional aspects (Area 29)	8. Develop mandatory labeling schemes for manufactured nanomaterials. <u>EU</u>: Delete the word “mandatory”. JPN: Delete “mandatory”, <u>USA</u>: Delete <u>OECD, UNITAR</u>: Delete <u>OEWG CM</u>: Delete “mandatory”.	National governments, Intergovernmental and international organizations, industry, NGO	2012 – 2015	Nano product labels developed.	
<u>CAN</u> : to Legal, policy and institutional aspects (Area 29)	9. Develop national or regional registers for manufactured nanomaterials produced, imported or integrated into products. <u>EU</u>: Delete and combine with 7 with new text (see 7) <u>JPN</u>: Combine with 7 <u>USA</u>: Delete	National governments, Intergovernmental and international organizations	2012-2015 <u>CRI</u>: 2012 - 2018	Number of national registers in place.	
<u>CAN</u> : to Information management and dissemination (Area 21)	10. Develop and promote a voluntary global scheme certifying the presence of manufactured nanomaterials in products. <u>EU</u>: Delete <u>JPN</u>: Delete <u>USA</u>: Delete	National governments, Intergovernmental and international organizations, industry, NGO	2012-2020	Certification scheme is developed.	

WORK AREAS ADDRESSING RISK REDUCTION (OBJECTIVE 1)					
Work Area	New Activity	Actors	Target/Time frame	Indicators of progress	Implementation aspects
	OECD/UNITAR: Delete				
CAN: to Globally Harmonized System (GHS) (Area 5)	11. Develop GHS criteria to address the safety of manufactured nanomaterials. <u>EU</u>: Replace by: Analyse and discuss in the GHS forum criteria to address the safety of manufactured nanomaterials. This will improve information management systems. <u>JPN</u>: Replace by: Develop work plan for the adaptation of GHS to address the safety of manufactured nanomaterials <u>USA</u>: Specify specific nanomaterials or categories of nanomaterials or delete	National governments, intergovernmental organizations, industry, NGOs <u>JPN</u>: Add: UN Committees of Experts	2012-2015	Criteria for labeling of manufactured nanomaterials are developed and incorporated into the GHS.	UN ECOSOC, Regional economic integration organizations, WTO, WCO, ECOSOC

WORK AREAS ADDRESSING RISK REDUCTION (OBJECTIVE 1)					
Work Area	New Activity	Actors	Target/Time frame	Indicators of progress	Implementation aspects
<u>CAN</u> : to Information management and dissemination (Area 21)	12. Improve existing information management systems to include information specific to nanotechnologies and manufactured nanomaterials. <u>EU</u>: Sound activity, but could be incorporated into other activities <u>USA</u>: Change to: Expand information management systems containing non-proprietary information to include information specific to nanotechnologies and manufactured nanomaterials, considering existing efforts (such as international standards activities and relevant informatics communities).	National governments, Intergovernmental and international organizations, industry, NGO <u>IOMC</u>: Add IOMC (OECD)	2012 – 2015	MSDS (Material Safety Data Sheet) includes relevant nano information. Databases (e.g. nano portals) are developed. <u>NIA</u>: Inclusion of nano-specific information in the MSDS does not necessarily address the focus of the proposed activity. <u>NIA</u>: The development of databases is vague and would merit further description and justification.	
<u>CAN</u> : to Life cycle (Area 22)	13. Develop life cycle analysis (LCA) for manufactured nanomaterials <u>EU</u>: Sound activity, but could be incorporated into other activities	National governments, international organizations, NGOs, Industry, trade unions, chamber of commerce, <u>IOMC</u>: Add IOMC (OECD)	2012 -2015 <u>USA</u>: 2012 - 2020	Number of LCA developed for manufactured nanomaterials; Availability of LCA tools for manufactured nanomaterials	
<u>CAN</u> : to Legal, policy and institutional aspects (Area 29)	14. Identify and increase access to, and refine where necessary, existing guidance on the incorporation of nanotechnologies and manufactured nanomaterials in national chemicals management programs, and identify where gaps exist.	National governments, Intergovernmental and international organizations, industry, NGO	2012 – 2015	Nanomaterials are included in increasing number of chemical management programs. <u>ICCA</u>: Change to: Guidance for assessing nanomaterials are included in an increasing number of chemical management programmes. Increased access to existing	

WORK AREAS ADDRESSING RISK REDUCTION (OBJECTIVE 1)					
Work Area	New Activity	Actors	Target/Time frame	Indicators of progress	Implementation aspects
	<u>EU</u>: Sound activity, but could be incorporated into other activities <u>USA</u>: Combine with 15 <u>OECD/UNITAR</u>: Combine with 15 and 23 <u>OEWG CM</u>: Replace by: Develop country specific approaches incorporating lifecycle thinking to nano technologies and nanomaterials in existing national frameworks, policies, regulatory provisions and chemical management programmes.			guidance available. <u>OEWG CM</u>: Add: Reports on regulatory and institutional gaps. <u>OEWG CM</u>: When necessary new and/or amended legislation addressing the management of nanotechnologies and manufactured nanomaterials is in place and enforced.	
<u>CAN</u> : to Legal, policy and institutional aspects (Area 29)	15. Incorporate nanomaterials and nanotechnologies in national chemicals management program. <u>EU</u>: Sound activity, but could be incorporated into other activities <u>USA</u>: Combine with 14 <u>OECD, UNITAR</u>: Combine with 14 and 23 <u>OEWG CM</u>: Delete	National governments, Intergovernmental and international organizations, industry, NGO <u>IOMC</u>: Add IOMC (UNITAR, OECD)	2012 – 2015	Nanomaterials are included in increasing number of chemical management programs.	Involvement of all stakeholders and use of guidelines developed by intergovernmental organizations.
<u>CAN</u> : to Legal, policy and institutional aspects (Area 29)	16. Identify and address existing gaps and needs in existing legal and institutional framework addressing nano specific issues, including in relation to enforcement. <u>EU</u>: Delete and combine with 17,	National governments, Intergovernmental and international organizations, industry, NGO, Academia <u>IOMC</u>: Add IOMC (OECD)	2012 – 2015	Reports on regulatory and institutional gaps. <u>OEWG CM</u>: Delete New legislation addressing the management of nanotechnologies and manufactured nanomaterials is in place	

WORK AREAS ADDRESSING RISK REDUCTION (OBJECTIVE 1)					
Work Area	New Activity	Actors	Target/Time frame	Indicators of progress	Implementation aspects
	19 and 23 with text: Develop approaches to protect workers, the public and the environment from potential harm related to manufactured nanomaterials which could include the update or introduction of new legislation, and incorporation of lifecycle thinking in existing frameworks, policies, regulatory provisions, best practice guidelines and chemical management programmes. <u>USA</u>: Delete <u>OECD</u>: There is no consensus at this time as to whether specific legislation is necessary or whether existing regulatory regimes (for example those which address chemicals management) could be adapted to nano.			and enforced. <u>OEWG CM</u>: Delete	
<u>CAN</u> : to Legal, policy and institutional aspects (Area 29)	17. Establish national policy and institutional coordination plan regarding nanotechnologies and manufactured nanomaterials. <u>EU</u>: Delete and combine with 16, 19 and 23 with new text (see 16) <u>USA</u>: Delete	National governments, Intergovernmental and international organizations, industry, NGO <u>IOMC</u>: Add IOMC (UNITAR, OECD)	2012-2015	Number of national policy and institutional coordination plans in place.	Involvement of all stakeholders and use of guidelines developed by intergovernmental organizations.

WORK AREAS ADDRESSING RISK REDUCTION (OBJECTIVE 1)					
Work Area	New Activity	Actors	Target/Time frame	Indicators of progress	Implementation aspects
<u>CAN</u> : to Legal, policy and institutional aspects (Area 29)	18. Identify, strengthen and enforce regulatory provisions for the environmentally sound management of waste containing nanomaterials. <u>JPN</u>: Delete If it is included, refer to “...sound management of hazardous waste containing nanomaterials.” <u>USA</u>: Questions whether sufficient information exists to require waste containing nanomaterials to be managed in a manner different than that already required by existing legal frameworks for waste. <u>OEWG CM</u>: Replace by: Identify, strengthen and ensure through best practice, producer responsibility and/or regulatory provisions for environmentally sound management of manufactured nanomaterials throughout their lifecycle including waste containing nanomaterials.	National governments, Intergovernmental and international organizations, industry, NGO	2012 – 2015	Relevant legislation or/and best practices are in place and implemented in all relevant sectors. <u>OEWG CM</u>: Include indicators of 20 here: Number of countries who have EPR schemes in place (voluntary or mandatory). Number of manufacturers applying EPR schemes.	Develop pilot project for the sustainable management of waste containing nanomaterials.
<u>CAN</u> : to Legal, policy and institutional aspects (Area 29)	19. Develop and/or update existing legislation covering the entire spectrum of work situations in which nanomaterials are handled, to protect workers, the public and the environment, from potential harm related to nanotechnologies and	National governments, Intergovernmental and international organizations, industry, NGO	2012 – 2015	Relevant legislation is fully implemented in all relevant sectors.	IOMC

WORK AREAS ADDRESSING RISK REDUCTION (OBJECTIVE 1)					
Work Area	New Activity	Actors	Target/Time frame	Indicators of progress	Implementation aspects
	manufactured nanomaterials. <u>EU</u>: Delete and combine with 16, 17 and 23 with new text (see 16) <u>USA</u>: Delete				
<u>CAN</u>: to Promotion of industry participation and responsibility (Area 20)	20. Promote extended producer responsibility (EPR) throughout the life cycle of manufactured nanomaterials. <u>JPN</u>: The feasibility for implementation should be carefully considered. <u>USA</u>: While supporting EPR, as appropriate, it is unclear that producers of nanomaterials should be singled out in this manner. <u>OEWG CM</u>: Replace by: Promote extended producer responsibility (EPR)	National governments, Intergovernmental and international organizations, industry or industry associations, academia, NGOs	2012-2015	Number of countries who have EPR schemes in place (voluntary or mandatory). <u>OEWG CM</u>: Delete here – moved to 18 Number of manufacturers applying EPR schemes. <u>OEWG CM</u>: Delete here – moved to 18	Involve Association of industrial chambers of commerce.
<u>CAN</u>: to Education and training (public awareness) (Area 24)	21. Increase the understanding of environmental, public and occupational health and safety implications of manufactured nanomaterials through awareness raising and capacity building, and information sharing and dissemination. <u>EU</u>: Support activity, but could be	National governments, Intergovernmental and international organizations, industry, academia, NGOs, consumer groups, public and community research centers, trade unions and other interested groups	2012-2020	Key stakeholders, particularly consumers and workers are informed of risks and hazards of nanomaterials. <u>USA</u>: Change to: Key stakeholders, particularly consumers, are informed of known risks and hazards of	

WORK AREAS ADDRESSING RISK REDUCTION (OBJECTIVE 1)					
Work Area	New Activity	Actors	Target/Time frame	Indicators of progress	Implementation aspects
	linked to 3 through cross referencing <u>MDG</u>: Setting risk reduction objectives should be included	IOMC: Add IOMC (UNITAR)		nanomaterials. <u>NIA</u>: Focus should be on providing information to minimize risk if there is a hazard <u>NIA</u>: Downstream user is also a key stakeholder <u>BCM</u>: Delete here – move to 6 Number of national and regional workshops on nanomaterials. <u>NIA</u>: This indicator is too broad. Most workshops are targeted at a scientific audience and not to consumers or workers. <u>BCM</u>: Delete here – move to 6 Development of inventories of nanomaterials including their environmental, health and safety risks accessible to all stakeholders. <u>US</u>: Delete. Could be replaced by an indicator addressing outreach activities to make stakeholders aware of all the tools at their disposal, including any developed inventories.	

WORK AREAS ADDRESSING RISK REDUCTION (OBJECTIVE 1)					
Work Area	New Activity	Actors	Target/Time frame	Indicators of progress	Implementation aspects
<u>CAN</u> : to Implementation of integrated national programmes for the sound management of chemicals at the national level in a flexible manner (Area 26), Or to: Capacity building to support national actions (Area36)	22. Promote public and private sectors partnerships for the environmental sound management of nanomaterials with adequate financial support to assist developing countries, small island developing states and countries with economies in transition to build scientific, technical, and legal capacity to address associated risks. <u>JPN</u>: Add “as appropriate” after “Financial support”.	National governments, Intergovernmental and international organizations, industry, NGO, Academia	2012 – 2015	Number of public/private partnerships signed.	
<u>CAN</u> : to Legal, policy and institutional aspects (Area 29)	23. Develop guidance on legal and institutional gaps and needs assessment. <u>EU</u>: Delete and combine with 16, 17 and 19 with new text (see 16). <u>JPN</u>: The meaning or contents of “legal and institutional gaps ”and needs” should be clarified in detail. <u>USA</u>: Delete <u>OECD, /UNITAR</u>: Combine with 14 and 15 <u>OEWG CM</u>: Delete	National governments, Intergovernmental and international organizations (IOMC), industry, academia, NGOs and other interested groups	2012-2015	Guidance document is available.	

Annex II

Submissions on the proposal to include a new work area to the Global Plan of Action on nanotechnologies and manufactured nanomaterials

Submission from Canada

April 2012

SAICM Secretariat
Chemicals Branch
Division of Industry, Technology and Economics (DTIE)
United Nations Environment Programme (UNEP)
11-13 chemin des Anémones
CH-1219 Châtelaine, Geneva,
Switzerland
Email: saicm@unep.org

Reference: Nano GPA addition

Dear Secretariat:

As requested, Canada has a number of comments related to the proposal to add activities related to nanomaterials to the Global Plan of Action (GPA).

Firstly, consistent with our level of engagement in the Organization for Economic Cooperation and Development's Working Party on Manufactured Nanomaterials (OECD WPMN) and recent commitments in the North American context, Canada supports a global approach to the sound management of manufactured nanomaterials.

It is important to recognize, however, that actions regarding nanotechnology and nanomaterials should reflect the current state of science. Canada is of the view that in many cases the state of the science regarding nanomaterials is still in development and as such, many of the proposed activities (especially items 1, 2, 3, 8, 10, 16, and 18) may be premature. For example, the OECD WPMN is currently working on developing information on the safety of manufactured nanomaterials. Although the results of this initiative are not yet available, the information will be important in understanding the intrinsic properties of nanomaterials that can inform risk evaluation, risk management and technical guidance.

More specifically with respect to the format of any additions to the GPA, Canada would like to reiterate its comments made at the OEWG that the ICCM2 Decision on the Global Plan of Action does not refer to a process for the addition of new "Work Areas"; the decision refers only to "Activities".

Further, Canada suggests a new work area for nanotechnologies and manufactured nanomaterials is not necessary as all the activities proposed, could be included under existing Work Areas of the GPA. (Canada provided a possible mapping of the proposed new activities by existing Work Areas at the OEWG and has re submitted this in a separate word document accompanying this letter).

Canada notes that under the OECD Working Party for Manufactured Nanomaterials (WPMN) work proposed under a number of activities (e.g. activities 4, 5, 6, 13,) is already underway. To avoid duplication of effort, Canada encourages that SAICM cooperate and consult with the secretariat of the WPMN to discuss lessons learned on research results as they become available and on effective mechanisms for information exchange.

Thank you for this opportunity to provide input.

Yours sincerely

Suzanne Leppinen
Director
Chemicals Policy Bureau
Safe Environments Directorate
Health Canada

Attachment: Annex 1: Possible Mapping of proposed new activities by existing GPA Work Areas

Attachment:**Nanotechnologies and Manufactured nanomaterials**

POSSIBLE MAPPING OF PROPOSED NEW ACTIVITIES BY EXISTING “WORK AREAS”¹	
WORK AREA²	PROPOSED ACTIVITY
	1. Develop, establish and promote adoption of technical guidelines and harmonized standards on nanotechnologies and manufactured nanomaterials based on precaution.
29 Legal, policy and institutional Aspects	2. Identify, strengthen and implement legal instruments to ensure the use of best practices in the production, use, transport and disposal of manufactured nanomaterials.
18 Research, monitoring and data Or 4 Occupational Health & Safety	3. Increase the active involvement of the health sector to identify, treat and track diseases potentially caused by occupational exposure to manufactured nanomaterials and develop and implement preventive interventions.
4 Occupational Health & Safety	4. Increase the understanding of the environmental, public and occupational health and safety implications, including risk assessment, of nanotechnologies and manufactured nanomaterials through further research.
4 Occupational Health & Safety	5. Support and where feasible, increase funding for independent research on the environmental and occupational health and safety implications of manufactured nanomaterials.
21 Information management and dissemination	6. Enhance information sharing on national and regional policy and regulatory initiatives.
21 Information management and dissemination	7. Develop a national inventory reflecting the national situation of nano-research, production, and marketing.
29 Legal, policy and institutional Aspects	8. Develop mandatory labeling schemes for manufactured nanomaterials.
29 Legal, policy and institutional Aspects	9. Develop national or regional registers for manufactured nanomaterials produced, imported or integrated into products.
21 Information management and dissemination	10. Develop and promote a voluntary global scheme certifying the presence of manufactured nanomaterials in products.
5 Globally harmonized system (GHS)	11. Develop GHS criteria to address the safety of manufactured nanomaterials.
21 Information management and dissemination	12. Improve existing information management systems to include information specific to nanotechnologies and manufactured nanomaterials.
22 Life cycle	13. Develop life cycle analysis (LCA) for manufactured nanomaterials

¹ Table A. Possible Work Areas and their Associated Activities

² Current existing Work Areas of GPA

POSSIBLE MAPPING OF PROPOSED NEW ACTIVITIES BY EXISTING “WORK AREAS”¹	
WORK AREA²	PROPOSED ACTIVITY
29 Legal, policy and institutional Aspects	14. Identify and increase access to, and refine where necessary, existing guidance on the incorporation of nanotechnologies and manufactured nanomaterials in national chemicals management programs, and identify where gaps exist.
29 Legal, policy and institutional Aspects	15. Incorporate nanomaterials and nanotechnologies in national chemicals management program.
29 Legal, policy and institutional Aspects	16. Identify and address existing gaps and needs in existing legal and institutional framework addressing nano specific issues, including in relation to enforcement.
29 Legal, policy and institutional Aspects	17. Establish national policy and institutional coordination plan regarding nanotechnologies and manufactured nanomaterials.
29 Legal, policy and institutional Aspects	18. Identify, strengthen and enforce regulatory provisions for the environmentally sound management of waste containing nanomaterials.
29 Legal, policy and institutional Aspects	19. Develop and/or update existing legislation covering the entire spectrum of work situations in which nanomaterials are handled, to protect workers, the public and the environment, from potential harm related to nanotechnologies and manufactured nanomaterials.
20 Promotion of industry participation and responsibility	20. Promote extended producer responsibility (EPR) throughout the life cycle of manufactured nanomaterials.
24 Education and training (public awareness)	21. Increase the understanding of environmental, public and occupational health and safety implications of manufactured nanomaterials through awareness raising and capacity building, and information sharing and dissemination.
26 Implementation of integrated national programmes for the sound management of chemicals at the national level in a flexible manner Or 36 Capacity building to support national actions	22. Promote public and private sectors partnerships for the environmental sound management of nanomaterials with adequate financial support to assist developing countries, small island developing states and countries with economies in transition to build scientific, technical, and legal capacity to address associated risks.
29 Legal, policy and institutional Aspects	23. Develop guidance on legal and institutional gaps and needs assessment.

Submission from Costa Rica

PROPOSED ADDITION TO THE STRATEGIC APPROACH GLOBAL PLAN OF ACTION

Activities on Nanotechnologies and Manufactured Nanomaterials

Please refer: [Table showing proposed additions to the Global Plan of Action](#)

IDENTITY OF RESPONDENT

Name: Dr.-Ing. Paola Vega-Castillo
 Contact telephone number: +00 (506) 88 57 28 57
 Contact email: pvega@ietec.org
 Government: Costa Rica
 Organization: Instituto Tecnológico de Costa Rica
 Date of submission: April 23rd 2012

For each editorial comment please identify which of the following nine activities (activity 4, 5, 6, 12, 13, 14, 15, 21, 22) the comment relates to and provide a rationale to support your comment.

Editorial comment relating to activity number 4, 5 and 6: These activities should be carried out in inclusive frameworks that allow developing countries to access their counterparts in developed countries by means of research stays and joint research projects with scientists of both kinds of countries, to ensure a critical mass of human resources addressing nanoparticles risk assessment in developing countries, since the limited funds for research and limited access to scientific information and exchange may severely limit the ability of these countries to fulfill all expectations listed for most of the activities listed in the activity chart.

Currently the proposal as drafted includes the proposed additions under the objectives of risk reduction. Do you have a comment on where any of the proposed new activities (1-22 of the proposal) should be included? If so, please provide details.

Comment on structure of proposal : None

If you have any additional comment/concern that is not linked to the issues above please provide it in the following area:

Other outstanding comment : In activity 9, the period to implement legislation in Costa Rica is very short. It will probably take at least 3 years more than the time mentioned in the activity chart. Besides the time for writing the proposal, the approval time is much longer, due to the established procedures to approve a new law.

Submission from the European Union



Comments on behalf of EU and its Member States

on proposal for addition of new activities to the Global Plan of Action on nanotechnologies and manufactured nanomaterials

25 April 2012

Issue

In preparation for the International Conference on Chemicals Management (ICCM 3), the SAICM secretariat has asked for comments on the new activities under the Global Plan of Action (GPA). A proposal for updating the GPA to include activities relating to nanotechnology and manufactured nanomaterials was submitted to the first meeting of the Open Ended Working Group (OEWG) in November 2011 by the Government of Switzerland.

Background

The use of nanotechnologies and manufactured nanomaterials has evolved rapidly since the first session of the International Conference on Chemical Management in 2006. Today, these new materials are used in a wide range of applications, and much research and development is underway in many countries to understand the basics of the characteristics, properties, possible hazards and risks. Nanotechnologies and manufactured nanomaterials offer potential societal and economical benefits as well as potential environmental, health and safety risks.

Nanotechnologies and manufactured nanomaterials were not an issue at first session of the International Conference on Chemical Management but they were discussed at the Sixth session of the Intergovernmental Forum for Chemical Safety held in Dakar, Senegal in September 2008 and addressed in the report of the meeting as the Dakar Statement on Manufactured Nanomaterials. Furthermore, nanomaterials were addressed as an emerging issue under SAICM during the second session of the International Conference on Chemical management (ICCM2) in 2009. The SAICM Global Plan of Action (GPA) does not yet address this issue.

The Swiss proposal now contains 23 activities. The SAICM Secretariat has asked to comment specifically on the following parts of the proposal:

- i. editorial amendments to the wording on activities 4-6, 12-15, 21 and 22 in the column entitled "New activity" in the Swiss proposal (*note: these were activities that during informal session at Belgrade parties agreed were not contentious*)
- ii. where the new activities should be included in the Global Plan of Action.
- iii. clarify any remaining concerns on the other activities in the proposal

Re (i):

Activities 4-6

We agree with what these activities are trying to achieve but suggest that we combine 4, 5 and 6 to the following text: "*Enhance information and knowledge sharing through general public engagement activities on national and regional policy and regulatory initiatives.*" Target/Time frame 2012-2018.

Activities 12-15

We agree that the activities are sound, but they could be incorporated into other activities to reduce the total number of activities.

Activity 21

We support the activity, but point out the link with Activity no 3 and suggest some cross referencing.

Activity 22

We support this activity and have no editorial amendments.

Re (ii):

The current proposal addresses all the important considerations relating to nanomaterials and we have no further activities to add.

Re (iii):

We are concerned that the number of activities planned is not proportionate to other areas for concern within the GPA. There is duplication in the activities proposed and we propose the following amendments:

Activities 7 and 9:

Delete and replace with one activity: *Develop inventories or registers of activities for manufactured nanomaterials produced, imported or integrated into products.*
Rationale: Avoid duplication.

Activity 8:

Remove the word “mandatory” to read: *“Develop labelling schemes for manufactured nanomaterials”*. Rationale: labelling schemes may be appropriate for certain nanomaterials or products containing nanomaterials but not all.

Activity 10:

Delete the activity. Rationale: We do not see the need for a global scheme for certifying the presence of nanomaterials. Where nanomaterials are hazardous then they should be addressed through the Globally Harmonised System of Classification and Labelling of Chemicals (GHS).

Activity 11:

Change text to read *“Analyse and discuss in the GHS forum criteria to address the safety of manufactured nanomaterials. This will improve information management systems.”* Rationale: This is a more accurate reflection on how amending the GHS criteria would work.

Activities 16, 17, 19 and 23:

Delete and replace with one activity: *“Develop approaches to protect workers, the public and the environment from potential harm related to manufactured nanomaterials which could include the update or introduction of new legislation, and incorporation of lifecycle thinking in existing frameworks, policies, regulatory provisions, best practice guidelines and chemical management programmes”*. Rationale: Avoid duplication.

Submission from Japan

PROPOSED ADDITION TO THE STRATEGIC APPROACH GLOBAL PLAN OF ACTION

Activities on Nanotechnologies and Manufactured Nanomaterials

Please refer: [Table showing proposed additions to the Global Plan of Action](#)

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 Organization:
 Date of submission: May 8, 2012

For each editorial comment please identify which of the following nine activities (activity 4, 5, 6, 12, 13, 14, 15, 21, 22) the comment relates to and provide a rationale to support your comment.

Editorial comment relating to activity number 22 (“New Activity” column):

While capacity building for addressing risk of nanomaterials in developing countries would be important, financial support would be done if appropriate. Therefore “as appropriate” should be added after “financial support”.

Currently the proposal as drafted includes the proposed additions under the objectives of risk reduction. Do you have a comment on where any of the proposed new activities (1-22 of the proposal) should be included? If so, please provide details.

Comment on structure of proposal :

None

If you have any additional comment/concern that is not linked to the issues above please provide it in the following area:

General comment on proposed activities :

- 1) Japan believes that we should fully utilize and take into account the results of activities which OECD, ISO and other international organizations have been implementing internationally.
- 2) It should be considered carefully not to duplicate with existing related work area in GPA.
- 3) Nano-related area is the one which scientific knowledge has not yet been established even in the developed countries, therefore necessity of new activities should be considered based on the progress of scientific discussion and should focus on activities which are feasible for implementation.

Comments relating to proposed activities**Number 2:**

The word of “legal” or the phrase of “Identify, strengthen and implement legal instruments to” should be deleted. Utilization of best practices can be done by using non-legal framework such as guidance.

Number 7 and 9:

Generally “registration” would be necessary for making “inventory”, therefore those two items seem to be duplicated. Japan proposes integration of activity 7 with 9.

Number 8:

The word of “mandatory” should be deleted. The way of labeling schemes should be judged by each country.

Number 10:

This activity should be deleted because internationally applicable definition of nanomaterials is not yet established and scientific knowledge is limited. Thus it is premature to include this item into GPA.

Number 11:

Hazard including carcinogenicity of nanomaterials can be classified in the current GHS because GHS does not exclude nanomaterials. Therefore we should consider carefully whether new endpoints for nanomaterials are necessary or not in GHS.

At first, we should start work for adaptation of GHS. Therefore “New Activity” column would be appropriate to be replaced with “Develop work plan for the adaptation of GHS to address the safety of manufactured nanomaterials”, and “Actors” column would be replaced with “the UN committees of experts”.

Number 18:

This activity should be deleted (the same reason as activity 10).

If this type of activity is really required, the activity should clearly focus on hazardous waste containing nanomaterials, and “New Activity” column should be “... sound management of hazardous waste containing nanomaterials”.

Number 20:

The idea to manage nanomaterial through the life cycle of material sounds important with the view to better control.

However, if EPR would apply, it should be considered carefully about its feasibility for implementation.

Number 23:

The meaning or contents of “legal and institutional gap and needs” should be clarified in detail.

Submission from Madagascar

PROPOSED ADDITION TO THE STRATEGIC APPROACH GLOBAL PLAN OF ACTION

Activities on Nanotechnologies and Manufactured Nanomaterials

Please refer: [Table showing proposed additions to the Global Plan of Action](#)

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Organization: -

Date of submission: 03 April 2012

For each editorial comment please identify which of the following nine activities (activity 4, 5, 6, 12, 13, 14, 15, 21, 22) the comment relates to and provide a rationale to support your comment.

Editorial comment relating to the nine activities:

No comment

Currently the proposal as drafted includes the proposed additions under the objectives of risk reduction. Do you have a comment on where any of the proposed new activities (1-22 of the proposal) should be included? If so, please provide details.

Comment on structure of proposal

The objectives of risk reduction should be included in the activity number 21 which clearly defines some ways to prevent and reduce nanomaterials risks.

If you have any additional comment/concern that is not linked to the issues above please provide it in the following area:

Other outstanding comment : No additional comment

Submission from Senegal

PROPOSED ADDITION TO THE STRATEGIC APPROACH GLOBAL PLAN OF ACTION

Activities on Nanotechnologies and Manufactured Nanomaterials

Please refer: [Table showing proposed additions to the Global Plan of Action](#)

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 Date of submission: 07/05/12

For each editorial comment please identify which of the following nine activities (activity 4, 5, 6, 12, 13, 14, 15, 21, 22) the comment relates to and provide a rationale to support your comment.

Editorial comment relating to activity number X: My comments are referring to the whole added activities. I find that globally all the activities relevant to a sound management of nanomaterials are included in this new proposed SAICM GPA.

Currently the proposal as drafted includes the proposed additions under the objectives of risk reduction. Do you have a comment on where any of the proposed new activities (1-22 of the proposal) should be included? If so, please provide details.

Comment on structure of proposal : In my opinion, the location of the new activities are not very important. What is relevant is already done: it is the inclusion of activities aiming to risks reduction when dealing with nanomaterials, particularly in developing countries and countries with economies in transition.

If you have any additional comment/concern that is not linked to the issues above please provide it in the following area:

Other outstanding comment : None

Submission from the United States of America

PROPOSED ADDITION TO THE STRATEGIC APPROACH GLOBAL PLAN OF ACTION

Activities on Nanotechnologies and Manufactured Nanomaterials

Please refer: [Table showing proposed additions to the Global Plan of Action](#)

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 Date of submission: April 23, 2012

For each editorial comment please identify which of the following nine activities (activity 4, 5, 6, 12, 13, 14, 15, 21, 22) the comment relates to and provide a rationale to support your comment.

Editorial comment relating to activity number 4:

After carefully reviewing activities 4 and 5, we find it difficult to make a distinction between the two. Accordingly, they should be consolidated into a single activity or, alternately, the description of the activities should be modified to make the differences clear. In addition, we suggest avoiding the suggestion that clear deterministic relationship exists between funding level and research outcome.

To consolidate and clarify, we suggest something along the lines of the following:

Increase the understanding of the environmental, public, and occupational health and safety implications, including risk assessment, of nanotechnologies and manufactured nanomaterials through continued support for independent research.

Editorial comment relating to activity number 5:

See number 4.

Editorial comment relating to activity number 6:

In the Indicators of progress column, please make the following changes:

All stakeholders are informed of current and pending policies and regulatory frameworks ~~hazards, and risks of nanomaterials~~. All relevant stakeholders have access to available relevant information.

We support this activity, but indicators of progress do not match the activity. The OECD WPN and WPMN have ongoing work projects to survey national regulatory frameworks for nanomaterials, in general, and for nanotechnology in food and medical products.

Editorial comment relating to activity number 12:

We are not clear what is meant by “information management systems” in this context. We are concerned about the consistent use of language across different stakeholder groups and nations. If what is meant is a general type of database or otherwise searchable and shareable material listing, then, in order to be useful, such information management systems should use terms and meta data that are based on a shared set of descriptors. International standards activities, for example those being undertaken in and coordinated by the International Organization for Standardization (ISO TC229) WG1 (including those with the International Council for Science, CODATA, etc.) provide a basis for establishing naming conventions and other required data sharing inputs. Other informatics activities underway will also support this effort, but are too premature to result in a useful information management/database for this activity at this time.

If our understanding is correct as noted above, we suggest rewording the description of this activity as:

~~Expand~~ ~~Improve existing~~ information management systems containing non-proprietary information to include information specific to nanotechnologies and manufactured nanomaterial, considering existing efforts (such as international standards activities and relevant informatics communities).

Editorial comment relating to activity number 13:

We recommend extending the end date, which we currently believe is impractically ambitious:

2012 – ~~2015~~ 2020

We support on-going work in the OECD WPMN but believe the 2015 date is impractically ambitious because in our experience, this process takes at least 3 years for an analysis. Without defining this activity more specifically, we believe it is unreasonable to expect that the actors listed will be able to conduct or sponsor a number of these analyses within 3 years.

Editorial comment relating to activity number 14:

We support activity 14 and have already taken measures in support in the context of the United States' National Nanotechnology Initiative (NNI) Goal 4: Responsible Nanotechnology development.

Editorial comment relating to activity number 15:

We have difficulty making a distinction between activities 14 and 15. Accordingly, we recommend that they be consolidated into a single activity or, alternately, the description of each activity should be modified to make the differences clear.

Editorial comment relating to activity number 21:

We recommend that text in the Indicators of Progress column be changed to:

Key stakeholders, particularly consumers and workers, are informed of known risks and hazards of nanomaterials. Number of national and regional workshops of nanomaterials. ~~Development of inventories of nanomaterials including their environmental, health and safety risks accessible to all stakeholders.~~

The development of inventories is an activity, not an indicator. Inventories are covered elsewhere already. We suggest that the indicators instead speak to outreach activities to make stakeholders aware of all tools at their disposal, including any developed inventories.

Editorial comment relating to activity number 22:

We support this activity.

Currently the proposal as drafted includes the proposed additions under the objectives of risk reduction. Do you have a comment on where any of the proposed new activities (1-22 of the proposal) should be included? If so, please provide details.

Comment on structure of proposal

We suggest that these new activities be placed under the objective of addressing knowledge and information (Objective 2). We believe a consensus exists on the need for further research on understanding the environmental and health effects of nanomaterials, but we are concerned that placing the activities under the auspices of risk reduction prejudices the environmental and human health impacts of nanomaterials before there is sufficient research to draw a conclusion.

If you have any additional comment/concern that is not linked to the issues above please provide it in the following area:

Other outstanding comments :

The United States continues to have concerns about activities 1, 2, 3, 8, 9, 10, 11, 16, 17, 18, 19, 20, and 23. We propose deletion of several of the proposed activities, including development of certification schemes, labeling, regulatory and legislative provisions for the environmentally sound management of waste containing nanomaterials or worker and public protection. Such actions must be based on scientific evidence and principles. Without strong scientific evidence that manufactured nanomaterials present certain risks, such activities can unnecessarily stigmatize manufactured nanomaterials and products. We suggest deletion of the above-referenced activities now, without prejudice to their consideration later.

As a vocal proponent for nanotechnology as an emerging issue at ICCM2, the United States welcomes continued work on nanotechnologies and nanomaterials under SAICM. We support the addition of activities on nanotechnologies and manufactured nanomaterials to the GPA. We underscore the importance of carefully examining proposed activities against the criteria set out in the procedure for the inclusion of new activities in the GPA, especially their relevance and cost-effectiveness. The United States strongly supports activities that seek to incorporate nanotechnology issues into existing chemical management frameworks. We also welcome efforts to increase the understanding of environmental health and safety implications of nanomaterials through information sharing, such as the awareness raising workshops conducted by UNITAR and OECD over the past two years.

Activity number 1:

We suggest rewording this activity. Work is currently underway to develop technical guidelines and international standards, but it is not yet clear that additional efforts to develop international standards are needed. Additionally, it is not apparent that standards need to be harmonized between countries, but could, rather, be tailored to meet the needs of individual countries. Finally, standards should be based on principles of identified hazards and risk.

Support existing efforts to develop, establish, and promote adoption of technical guidelines, including ~~harmonized~~ international standards on nanotechnologies and manufactured nanomaterials ~~based on precaution~~ to manage identified risks of nanomaterials, as informed by the best available scientific data to protect human health and the environment.

Activity number 2: Legal instruments should not be specific to nanomaterials without a strong foundation of scientific evidence on which to base them. Further, without sufficient scientific evidence, one cannot adequately develop or identify best practice in the production, use, transport, and disposal of manufactured nanomaterials. Against this background, we propose the deletion of this activity.

Activity number 3: This activity assumes there is a definitive link between manufactured nanomaterials and morbidity where there is not; inclusion of this activity could potentially stigmatize further research and development in nanotechnologies. At this time, we cannot adequately identify commercial activity for nanomaterials and to what workers are potentially exposed. It is possible that this activity could be narrowed to address specific nanomaterials or categories of nanomaterials, but without that, we propose the deletion of this activity.

Activity number 8: We propose the deletion of this activity. The reason for promoting the development of mandatory labeling schemes for manufactured nanomaterials is unclear and, thus, we do not believe such schemes are necessary. Even if such a scheme were agreed to be necessary, we have concerns that the development of a labeling scheme is not yet feasible for nanomaterials generally because there is no scientific consensus on characterization thresholds, parameters, values, or characteristics needed to identify a material as a nanoparticle. Additionally, there is not a risk or hazard unique to nanotechnology or the use of manufactured nanomaterials within the product. Without strong scientific evidence that manufactured nanomaterials present certain risks, labels can unnecessarily stigmatize manufactured nanomaterials and reduce use, trade, research, and innovation in this field.

The need for a label and its informational value is specific to the audience, i.e. business-to-business,

occupational, consumer, etc. Labeling should be based on principles developed under GHS. GHS does not currently specifically address nanotechnology or nanomaterials unless a weight-of-evidence demonstrates the need for labeling. It should be noted that GHS is taking up the discussion of nanotechnology at meetings this summer in Geneva and such the results of such discussions may help to inform ICCM3. Since the GHS work is sponsored by the UN and OECD, however, the United States believes it is more appropriate to develop these types of criteria and decisions within that process.

Activity number 9: Our concerns with activity number 9 are similar to those expressed under activity number 8. We recommend deletion of this activity. Without strong scientific evidence that manufactured nanomaterials present certain risks, registers can unnecessarily stigmatize manufactured nanomaterials and products and reduce use, trade, research, and innovation in this area. With respect to products, it is unclear what the basis is for developing registers in the absence of strong scientific evidence that the manufactured nanomaterials present certain risks or their presence is relevant to the product's function or use.

Activity number 10: The need for a certification scheme that would certify the presence of manufactured nanomaterials in products is not clear. If the intent is to prevent misrepresentation about the nature of materials in the product, then existing statutes and regulatory authorities in most countries can adequately address such concerns. Certification schemes, no matter how voluntary, add to the cost of the product, which invariably are passed onto consumers. Other effective conformity assessment mechanisms can be found that can address specific conformity assessment needs. We recommend deletion of this activity. Without strong scientific evidence that manufactured nanomaterials present certain risks, registers can unnecessarily stigmatize manufactured nanomaterials and products and reduce use, trade, research, and innovation in this area. With respect to products, it is unclear what the basis is for developing registers in the absence of strong scientific evidence that the manufactured nanomaterials present certain risks or their presence is relevant to the product's function or use.

Activity number 11: This activity is not technically feasible for "nanomaterials" in general. Specific nanomaterials or categories of nanomaterials may lend themselves to this activity, but without identifying them, we propose deletion of this activity. Development of GHS criteria is geared toward labeling. (Please see our concerns under activity number 8 with respect to labeling.)

Activity number 16: Identifying and addressing gaps in legal and institutional frameworks, including enforcement, implies that an accepted reference model or best practice exists for such a legal and institutional framework. We question that such a model exists at a national, regional, or global level and find this activity premature. Against that background, we recommend deletion of this activity.

Activity number 17: The intention of this activity is not clear. If it is to develop national plans for policy and institutional policy for managing nanomaterials, we question whether sufficient scientific evidence exists on which to base such plans and find this activity to be premature. Similar to Activity number 16, this suggests that best practice exists for such a plan. Without such existing thinking, we suggest deleting this activity.

Activity number 18: We question whether sufficient scientific evidence exists to require waste containing nanomaterials to be managed in a manner different than that already required by existing legal frameworks for waste.

Activity number 19: The development of legislation specific to nanomaterials should be based upon scientific principles and evidence. We question whether sufficient principles and evidence exists and propose the deletion of this activity.

Activity number 20: While the United States supports extended producer responsibility, as appropriate, it is unclear that producers of nanomaterials should be singled out in this manner. Such prejudice against one sector separate should be based upon scientific principles and evidence. Without strong scientific evidence that manufactured nanomaterials present certain risks, singling out producers of nanomaterials can unnecessarily stigmatize manufactured nanomaterials and products.

Activity number 23: We have similar concerns for this activity as stated above for Activity number 16. Identifying and addressing gaps in legal and institutional frameworks, including enforcement, implies that an accepted reference model or best practice exists for such a legal and institutional framework. We question that such a model exists at a national, regional, or global level and find this activity premature. Against that background, we recommend the deletion of this activity.

Submission from the Inter-organization Programme for the Sound Management of Chemicals (IOMC)

FORM FOR SUBMITTING COMMENTS

PROPOSED ADDITION TO THE STRATEGIC APPROACH GLOBAL PLAN OF ACTION

Activities on Nanotechnologies and Manufactured Nanomaterials

Please refer: [Table showing proposed additions to the Global Plan of Action](#)

IDENTITY OF RESPONDENT

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 Organization: WHO
 Date of submission: 03/04/2012

For each editorial comment please identify which of the following nine activities (activity 4, 5, 6, 12, 13, 14, 15, 21, 22) the comment relates to and provide a rationale to support your comment.

Editorial comment relating to activity number X:

See attached: (i) additions to table of Work Areas, for Actors and Indicators of progress; (ii) separate page of comments from OECD and OECD/UNITAR

- -

Currently the proposal as drafted includes the proposed additions under the objectives of risk reduction. Do you have a comment on where any of the proposed new activities (1-22 of the proposal) should be included? If so, please provide details.

Comment on structure of proposal

If you have any additional comment/concern that is not linked to the issues above please provide it in the following area:

Other outstanding comment :

1. OECD/UNITAR comments (lead IOMC organizations for this emerging issue)

It might be difficult to reach consensus on a mandatory system of labelling as outlined in activity 8. We believe that at the present time, consideration of this issue could involve too much effort. It might be better considered under activity 11 (GHS) before considering mandatory labelling schemes.

It is difficult to consider how a certification scheme (activity 10?) might be established and what it might involve. It could be recommended to concentrate on activity 12, which addresses SDSs.

Activities 14 and 15 are very similar. For the sake of clarity, they could be combined.

Activity 23 seems closely linked to activities 14 and 15. It might be possible to incorporate the three activities together.

2. OECD comments

Collectively, this would be a highly ambitious programme of work and some rationalisation of the activities might be beneficial to those considering the proposal.

Second, as regards item 3, we note that WHO and ILO are mentioned. However, there has been substantial work done by OECD in this area, which we believe might be usefully recognised.

We have some suggestions regarding the wording in activity 5. The way the text under this activity is currently worded almost assumes that any research is helpful. In our experience, much published research (especially that of some years ago) is of questionable value to regulatory scientists. There are a number of reasons for this but we will give just one example. In the recent past, there were many different approaches to the preparation of samples used in experimental systems to test nanomaterials. This meant that it was difficult to interpret and compare results. This is why the OECD has spent considerable efforts on preparing guidance in this area. In practical terms, we would prefer a reference to “research of relevance to regulatory scientists” rather than “independent research”. The indicators of progress described under this activity would not ensure that research would be relevant. Unless, such indicators could be found it might be worth deleting this activity altogether.

Activity 16 could be considered to be very controversial. There is no consensus at this time as to whether specific legislation is necessary or whether existing regulatory regimes (for example those which address chemicals management) could be adapted to nano. Therefore, the indicator of progress suggesting new legislation is likely to prove controversial.

Submission from the International Council of Chemical Associations (ICCA)

PROPOSED ADDITION TO THE STRATEGIC APPROACH GLOBAL PLAN OF ACTION

Activities on Nanotechnologies and Manufactured Nanomaterials

Please refer: [Table showing proposed additions to the Global Plan of Action](#)

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Organization: International Council of Chemical Associations (ICCA)

Date of submission: April 3, 2012

For each editorial comment please identify which of the following nine activities (activity 4, 5, 6, 12, 13, 14, 15, 21, 22) the comment relates to and provide a rationale to support your comment.

Editorial comment relating to activity number 4: ICCA supports this proposed activity. Research activities should be directed at the highest priority questions, and be conducted in a transparent manner in collaboration with stakeholders (research needs have also been identified in the REACH Implementation Project on Nanotechnology in the EU which could also apply on a global level).

Editorial comment relating to activity number 5: ICCA supports this proposed activity. Research activities should be directed at the highest priority questions, and conducted in a transparent manner in collaboration with stakeholders.

Editorial comment relating to activity number 6: ICCA supports this proposed activity. Information sharing should give due consideration to the protection of trade secrets and other forms of confidential business information, in order to facilitate continued innovation.

Editorial comment relating to activity number 12: ICCA supports this proposed activity, and urges governments to make use of existing databases containing information submitted by industry to fulfill requirements under national regulatory regimes. In addition, ISO TTC 229 has for some time been working on the issue of MSDS for nanomaterials, and ICCA would urge stakeholders to take this work into account.

Editorial comment relating to activity number 13: ICCA supports this proposed activity in principle, although we would note that many governments, inter-governmental bodies, and industry groups are already conducting such analysis. SAICM stakeholders should be encouraged to consider existing work in this area rather than duplicating it.

Editorial comment relating to activity number 14: ICCA supports this proposed activity. ICCA suggests that the first indicator of progress might be better stated as “Guidance for assessing nanomaterials are included in an increasing number of existing chemical management programs.”

Editorial comment relating to activity number 15: ICCA supports this proposed activity.

Editorial comment relating to activity number 21: ICCA supports this proposed activity.

Editorial comment relating to activity number 22: ICCA supports this proposed activity, so long as the provision of financial support to developing country governments to facilitate their participation in public-private partnerships is provided through existing funding mechanisms (industry is, of course, prepared to provide financial contributions to the public-private partnerships themselves).

Currently the proposal as drafted includes the proposed additions under the objectives of risk reduction. Do you have a comment on where any of the proposed new activities (1-22 of the proposal) should be included? If so, please provide details.

Comment on structure of proposal: ICCA's view is that the content of each of the proposed actions for addition to the GPA needs to be clarified and agreed before deciding which of the SAICM core objectives the proposed actions should be listed under.

If you have any additional comment/concern that is not linked to the issues above please provide it in the following area:

Other outstanding comment: In the limited time available for discussion on this issue at the OEWG meeting, there was only time for an initial assessment by those stakeholders participating in the contact group of the proposed activities for addition to the GPA. ICCA notes that the request for comments only appears to relate to nine of the twenty-three proposed activities for addition to the GPA. It would appear that these nine items were the ones that all participants in the contact group on this issue at the OEWG meeting said they could agree with. The other fourteen proposed additions all attracted varying levels of opposition from the stakeholders present. ICCA questions why comments were not sought on the fourteen other proposed activities. Have these activities now been omitted from the proposal? ICCA has significant concerns about several of these proposed activities, and if these activities are still proposed for consideration at ICCM-3, ICCA would appreciate an opportunity to provide further comments.

Submission from Ecological Restorations

PROPOSED ADDITION TO THE STRATEGIC APPROACH GLOBAL PLAN OF ACTION

Activities on Nanotechnologies and Manufactured Nanomaterials

Please refer: [Table showing proposed additions to the Global Plan of Action](#)

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Date of submission: 01/04/12

For each editorial comment please identify which of the following nine activities (activity 4, 5, 6, 12, 13, 14, 15, 21, 22) the comment relates to and provide a rationale to support your comment.

Editorial comment relating to activity number X:

Currently the proposal as drafted includes the proposed additions under the objectives of risk reduction. Do you have a comment on where any of the proposed new activities (1-22 of the proposal) should be included? If so, please provide details.

Comment on structure of proposal

If you have any additional comment/concern that is not linked to the issues above please provide it in the following area:

Other outstanding comment : I don't have problems with the structure as in the GPA but I will suggest much emphasis on capacity building for developing and countries with economies in transition as these are not or may not even be aware of the hazards and risks associated with nanotechnologies and nanomaterials. Therefore increasing the capacity of these countries at all levels may help to achieve desired results. This could be in awareness raising, research (funding, increased number of researchers in the fields, laboratories and equipment).

Submission from Friends of the Earth

PROPOSED ADDITION TO THE STRATEGIC APPROACH GLOBAL PLAN OF ACTION

Activities on Nanotechnologies and Manufactured Nanomaterials

Please refer: [Table showing proposed additions to the Global Plan of Action](#)

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 Organization: Friends of the Earth Australia
 Date of submission: 23/4/12

For each editorial comment please identify which of the following nine activities (activity 4, 5, 6, 12, 13, 14, 15, 21, 22) the comment relates to and provide a rationale to support your comment.

Editorial comment relating to activity number 4:

Typing error in *Indicators of Progress* – it should read ‘papers’ rather than ‘paper’

Editorial comment relating to activity number 5:

New activity

There should be a comma after ‘Support and’

Indicators of progress

Paragraph 2 needs to specify an increased allocation of national budget towards research on the environmental, health and safety implications of manufactured nanomaterials, as opposed to merely research on nanotechnologies which could include funding for broader (or commercial) research and development.

Paragraph 3 should be deleted. The number of funding opportunities available to promote nanotechnology has no bearing on supporting and increasing funding for research on the environmental, health and safety implications of manufactured nanomaterials.

Paragraph 4 needs to be changed to make it clear that it is referring to projects researching the environmental, health and safety implications of manufactured nanomaterials – rather than to nanotechnology research more broadly.

Editorial comment relating to activity number 22:

New activity

The proposed promotion of private sector partnerships to assist developing countries to build scientific, technical and legal capacity to address the risks of manufactured nanomaterials introduces conflicts of interest. It also raises practical and ethical concerns if the companies involved have a vested interest in the commercialization of the technology. Strict guidelines and systems to identify and insulate conflicts of interest will be needed to ensure that environmental, health and safety objectives are not undermined due to private sector involvement. For example, to ensure that research goals, conduct and communication are not distorted by the interests of funders, funding from private sector parties should not be linked to particular or identifiable projects.

Indicators of progress

The number of public/private partnerships signed may not be the best measure of successful progress.

Currently the proposal as drafted includes the proposed additions under the objectives of risk reduction. Do you have a comment on where any of the proposed new activities (1-22 of the proposal) should be included? If so, please provide details.

Comment on structure of proposal

The vast majority of the new activities are best placed under '*Measures to support risk reduction*' in the Global Plan of Action, with the exception of activities 12 and 21 which would be best placed under '*Strengthening knowledge and information*'.

If you have any additional comment/concern that is not linked to the issues above please provide it in the following area:

Other outstanding comment :

The background information provided by the Swiss Government highlights a number of the environmental, health and safety concerns raised by manufactured nanomaterials. In recognising the wide range of hazards and risks associated with the release of nanomaterials into the environment and into human systems, coupled with the likely disruptive social and economic impacts of nanotechnology, Friends of the Earth call for a strongly precautionary approach to the development of nanotechnology.

We recognise that further scientific research on the health and environmental safety of nano-materials and products is required to inform the development of regulations to manage the risks of nanotoxicity. However, for even this non-commercial research work to proceed, precautionary protocols will be required to protect the health and safety of researchers and to strictly minimise any environmental releases.

Further, we recognise that given the scale of existing knowledge gaps and technical barriers, it is not yet possible to develop systems for risk assessment and management in which the public can have confidence.

In the absence of established and validated regulatory systems, Friends of the Earth Australia is calling for an immediate moratorium on all commercial research, development and release of nanotechnological materials and products.

Submission from Nano Industries Association

PROPOSED ADDITION TO THE STRATEGIC APPROACH GLOBAL PLAN OF ACTION

Activities on Nanotechnologies and Manufactured Nanomaterials

Please refer: [Table showing proposed additions to the Global Plan of Action](#)

IDENTITY OF RESPONDENT

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 Date of submission: 2012-04-03

For each editorial comment please identify which of the following nine activities (activity 4, 5, 6, 12, 13, 14, 15, 21, 22) the comment relates to and provide a rationale to support your comment.

The Nanotechnologies Industries Association welcomes the opportunity to comment on the Proposed Addition to the Strategic Approach Global Plan of Action Activities Related to Nanotechnologies and Nanomaterials. The NIA's comments focus on five of the nine activities (out of the total 22), for which comments were sought. Finally a number of general comments are provided.

Editorial comment relating to activity number 4: Comment related to indicators of progress column: In its nature, scientific publications are published after the research has been completed. The inclusion of a process to monitor funding for and number of ongoing research projects should be considered as an earlier indicator. In addition, as scientific research is published mostly in international scientific journals the relevance of monitoring publications in all regions may be of limited importance.

Editorial comment relating to activity number 5: Comment related to implementation aspects column: The task of the international and national information clearing houses is not clear.

Editorial comment relating to activity number 6: The new activity describes enhanced information sharing of regional policy and regulatory initiatives, whereas the indicator of progress column indicates information of hazards and risks. Sharing of policy and regulatory initiatives are related to risk management, whereas information related to hazards and toxicity is related to risk assessment. It is proposed that the indicators of progress is harmonized and adjusted to share information related to policy and regulatory initiatives. It is furthermore proposed, as a first step, to perform a stakeholder mapping in order to implement the proposed activity in a targeted fashion.

Editorial comment relating to activity number 12: Comment related to indicators of progress column: The inclusion of nano-specific data in MSDS (material safety data sheets) does not necessarily address the focus of the proposed activity (i.e. '[i]mprove existing information management systems to include information specific to nanotechnologies and manufactured nanomaterials'). MSDS contain – and should continue to contain, information that is directly relevant to the hazard profile of a material only. Nano-specific information, such as particle size, is no indication of the safety or hazard potential of a material. Provision of nano-specific information on Technical Data Sheets (TDS) should be considered to complement the suggested indicator of progress, if this does not fall under confidential data. The development of databases is vague and would merit further description and justification.

Editorial comment relating to activity number 21: Comment related to indicators of progress column: Information to consumers is very important, but the focus should be about providing nanomaterials that are safe for consumers to use at the intended use. Workers and downstream users (before consumer) are the key stakeholders. Focus should be on providing information to minimize risk if there is a hazard. The number of national and regional workshops may be too broad an indicator, as most workshops are targeted and a scientific audience and not related to consumers or workers.

Currently the proposal as drafted includes the proposed additions under the objectives of risk reduction. Do you have a comment on where any of the proposed new activities (1-22 of the proposal) should be included? If so, please provide details.

Comment on structure of proposal: Risk is the function of hazard and exposure and reduction of risk is therefore achievable in a dual manner, either reduce the hazard (e.g. its severity or effect) or by reducing the exposure to the hazard. The proposed range of activities is broad, and the activities are sometimes somewhat overlapping, both in their nature and in their indicators of progress. This should be considered for the inclusion of the activities.

If you have any additional comment/concern that is not linked to the issues above please provide it in the following area:

Other outstanding comment: The proposed addition would merit from a description of the differences of nanotechnologies and nanomaterials. Nanotechnologies may be applied and used without generation of nanomaterials. Thus the potential effects are different and therefore require a different approach. The proposal should acknowledge this and provide a separation where appropriate and relevant.

For all activities where national actions are proposed, the proposed addition should strive for harmonisation. Measures to promote harmonisation should be included to avoid creation of a patchwork of divergent actions that would have a negative impact of resource utilisation of all involved parties.

Other outstanding comment: (continued)

The NIA would also like to recall the current activities of other international organisations in the area of nanotechnology and nanomaterials (e.g. ISO and OECD) that addresses a number of the proposed activities and where consolidated progress has been made. Broad cooperation should be promoted to avoid unnecessary duplication of activities and optimisation of resource utilisation.

The NIA has positive experience in the effectiveness of public/private partnerships as suitable means to achieve a number of the proposed activities.

//END

Annex III

Submissions on the proposal to include a new work area to the Global Plan of Action on hazardous substances within the life cycle of electric and electronic products

The following stakeholders submitted comments of the revised table of proposed activities of on hazardous substances within the life cycle of electric and electronic products prepared by the secretariat, in compliance with Decision OEWG.1/1 II:

Canada	46
Japan	54
United States of America	56
Inter-Organization Programme for the Sound management of chemicals (IOMC)	59
United Nations Development Programme (UNDP)	60
European Union.....	61
Information Technology Industry Council (ITIC)	64

Submission from Canada

June 2012

SAICM Secretariat
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Reference: HSEE GPA addition

Dear Secretariat:

As requested, Canada has a number of comments related to the proposal to add activities related to Hazardous Substances in the lifecycle of Electrical and Electronic Waste to the Global Plan of Action (GPA). Comments on specific activities are included in the table below.

Canada continues to view the GPA as a working tool and guidance to aid in the implementation of the Strategic Approach. As such, it is neither restrictive nor exhaustive. Not only are countries free to undertake any Activity in the GPA, as appropriate, in implementing SAICM, but the GPA does not prevent any stakeholder from undertaking Activities not included in the GPA. As such, Canada is also of the view that it is inappropriate, in a guidance document associated with a voluntary approach, to prescribe actors, timelines, indicators or other aspects of implementation. Should ICCM adopt a document containing these columns, Canada would request the same footnote currently in the GPA. As such we have not provided comments on those sections.

The GPA is voluntary and activities should be flexible enough to address differing national circumstances and needs, and should not lead to trade restrictions that are not based on sound science and risk assessment. In addition, any policy or framework should be consistent with the principles of minimizing the regulatory burden on stakeholders. This comment refers to several proposed activities in the table below including activities 3, 5, and 6.

With respect to the format of any additions to the GPA, and in particular, regarding suggested new Work Areas, Canada suggests a new work area (or work areas) for Hazardous Substances through the lifecycle of Electronic and Electrical Waste is not necessary as all the activities proposed, could be included under existing Work Areas of the GPA. (In the form for submission of comments below, Canada has provided a possible location of the proposed new activities by existing Work Areas of the GPA).

Canada recognizes electronic waste as an ongoing global challenge for environmentally sound management (ESM), particularly in developing countries which may lack capacity to ensure the proper management of these wastes. Canada supports many of the proposed activities identified below. However, Canada remains concerned that some of the proposed activities under the GPA duplicate the ongoing work of the other international forums, and existing multilateral agreements and processes. Canada believes it is essential to avoid duplication and continue to support the valuable work underway through the Basel Convention as the principal forum for international cooperation to address transboundary movement, Environmentally Sound Management and capacity building issues related to electronic waste.

Thank you for this opportunity to provide input.

Yours sincerely

Suzanne Leppinen

Director
Chemicals Policy Bureau
Safe Environments Directorate
Health Canada

Attachment: Annex 1: Comments on proposed new activities and suggestions of existing GPA Work Areas where activities might fit.

Annex 1: FORM FOR SUBMITTING COMMENTS

PROPOSED ADDITION TO THE STRATEGIC APPROACH GLOBAL PLAN OF ACTION

Activities on Hazardous substances within the lifecycle of electrical and electronic products

IDENTITY OF RESPONDENT

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Organization: Health Canada

Date of submission: May 30, 2012

For each of the work areas below, using the revised table, specify the activity for which you are providing comments, or suggest a new activity as appropriate providing inputs on actors, target time, indicators of progress and implementation aspects.

Work area	New activity	Comment from Canada
E-products green design	1.Compile and communicate lists of chemicals of concern to human health or the environment in e-products	While Canada could support this proposed new activity, it could be considered that it may be part of an already existing activity and Work Area under the GPA: For example, the following activity (#88 of the GPA under the “Hazard data generation and availability” Work Area) already exists: - <i>Generate and share information detailing the inherent hazards of all chemicals in commerce, giving priority to hazard information for those chemicals that have the greatest potential for substantial or significant exposures.</i> In addition, Canada agrees that database and information should be available as part of the Chemicals in Products (CiP), however, consideration must be taken regarding the Confidential Business Information (CBI) Management.
	2.Promote public and private partnerships for the environmentally sound management of hazardous substances in e-products	While Canada could support this proposed new activity, it could be considered that it may be part of an already existing activity and Work Area under the GPA: For example the following activity (#186 of the GPA, under the existing “Social and economic considerations” Work Area) also already exists: - <i>Develop frameworks for promoting private-public partnerships in the sound management of chemicals and wastes.</i>
	3.Assess and fill gaps in existing policies, legal and institutional framework addressing design of e-products	See comment in the attached letter.
	4.Identify tools and best practices that advance design for hazardous chemical reduction, elimination and	While Canada could support the inclusion of this proposed new activity, it could be considered that it may be part of already existing activities and Work Area under the GPA: For example, the following corresponding activity exists

Work area	New activity	Comment from Canada
	substitution	- <i>Encourage sustainable production and use and promote the transfer, implementation and adoption of pollution prevention policies and cleaner production technologies, in particular best available techniques and best environmental practices (Activity #43 under the existing “Cleaner production” Work Area)</i> The following activities exists under the existing “Risk assessment, management and communication” Work Area - <i>Apply science-based approaches, including those from among existing tools from IOMC organizations on, inter alia, test guidelines, good laboratory practices, mutual acceptance of data, new chemicals, existing chemicals, tools and strategies for testing and assessment; (Activity #63 of the GPA)</i> - <i>Encourage the development of simplified and standardized tools for integrating science into policy and decision-making relating to chemicals, particularly guidance on risk assessment and risk management methodologies. (Activity #64 of the GPA)</i> and under the “Waste management (and minimization)” Work Area) - <i>Prevent and minimize hazardous waste generation through the application of best practices, including the use of alternatives that pose less risk. (Activity #70 of the GPA)</i> As well the following two activities exist under the “Life cycle” Work Area: - <i>Encourage management practices that take into account the full life-cycle approach to sustainable chemicals management, emphasizing front-end pollution prevention approaches. (Activity #119 of the GPA)</i> - <i>Utilize the life-cycle management concept to identify priority gaps in chemicals management regimes and practices and to design actions to address gaps in order to identify opportunities to manage hazardous products, unintentional toxic emissions and hazardous wastes at the most advantageous point in the chemical life cycle. (Activity #121 of the GPA)</i>
	5. Adopt policy instruments and actions that support hazardous chemical reduction, elimination and substitution in electrical and electronic products	See comment in the attached letter.
	6. Promote harmonization of	See comment in the attached letter.

Work area	New activity	Comment from Canada
	policies and regulations that support hazardous chemical reduction, elimination and substitution in e-products,	
Environmentally sound manufacturing	Promote sustainable production and pollution prevention	While Canada could support this proposed new activity, it could be considered that it may be part of already existing Work Areas under the GPA: For example: <i>- Encourage sustainable production and use and promote the transfer, implementation and adoption of pollution prevention policies and cleaner production technologies, in particular best available techniques and best environmental practices (BAT/BEP). (Activity # 43 under the “Cleaner production” Work Area)</i> <i>- Develop national profiles and implement action plans for sound management of chemicals. (Activity #1 under the “Assessment of national chemicals management to identify gaps and prioritize actions” Work Area)</i> <i>- Encourage management practices that take into account the full life-cycle approach to sustainable chemicals management, emphasizing front-end pollution prevention approaches. (Activity #119 under the “Life cycle” Work Area)</i>

Work area	New activity	Comment from Canada
	Prioritize reduction of exposure; eliminate or substitute the most hazardous substances of concern ³ and production processes	While Canada could support this proposed new activity, it could be considered that it may be part of already existing Work Area under the GPA: - <i>Avoid worker exposure through technical measures where possible; provide appropriate protective equipment; improve the acceptance of wearing protective equipment and stimulate further research on protective equipment to be used under hot and humid conditions.</i> (Activity #19 under the “Occupational health and safety” Work Area) - <i>Implement capacity-building programmes on waste minimization and increased resource efficiency, including zero waste resource management, waste prevention, substitution and toxic use reduction, to reduce the volume and toxicity of discarded materials.</i> (Activity #258 under the “Waste management” Work Area) - <i>Promote research into technologies and alternatives that are less resource intensive and less polluting.</i> (Activity #84 under the “Research, monitoring and data” Work Area)
	Conduct research and development on safer chemicals substitutes, alternatives, and safer production processes	While Canada could support this proposed new activity, it could be considered that it may be part of already existing Work Area under the GPA: - <i>Develop scientific knowledge to strengthen and accelerate innovation, research, development, training and education that promote sustainability.</i> (Activity #83 under the “Research, monitoring and data” Work Area) - <i>Promote research into technologies and alternatives that are less resource intensive and less polluting.</i> (Activity 84 under the “Research, monitoring and data” Work Area)
	Formulate, promote and implement health-based exposure limits for workers that provide equal protection in the workplace and the community	While Canada could support this proposed new activity, it could be considered that it may be part of already existing Work Area (s) under the GPA: For example the following activity already exists under the “Human health protection” Work Area: - <i>Develop better methods and criteria for determining the impact of chemicals on human health (and thereby on the economy and sustainable development), for setting priorities for action, for the detection of chemicals and for monitoring the progress of SAICM.</i> (Activity #4 of the GPA)

³ [Substances of concern include those that are persistent, bioaccumulative and toxic substances (PBTs); very persistent and very bioaccumulative substances; chemicals that are carcinogens or mutagens or that adversely affect, inter alia, the reproductive, endocrine, immune, or nervous systems; persistent organic pollutants (POPs); mercury and other chemicals of global concern; chemicals produced or used in high volumes; those subject to wide dispersive uses; and other chemicals of concern at the national level.

Work area	New activity	Comment from Canada
		In addition, the following activities already exist under the “occupational health and safety” Work Area of the GPA: - <i>Develop harmonized data elements on occupational health and safety for recording relevant workplace data in company-specific databases. (Activity #11 of the GPA)</i> - <i>Consider legislation to protect the health of workers and the public, covering the entire spectrum of work situations in which chemicals are handled, including such sectors as agriculture and health. (Activity #12 of the GPA)</i> - <i>Develop a system of health and environmental impact assessment in chemicals handling and incorporate it in occupational safety and health programmes. (Activity #13 of the GPA)</i> - <i>Develop, enhance, update and implement ILO safe work standards, ILO guidelines on occupational safety and health management system (ILO-OSH 2001) and other non-binding guidelines and codes of practice, including those particular to indigenous and tribal populations. (Activity #14 of the GPA)</i> - <i>Develop national occupational safety and health policies containing specific text on chemicals management, with a clear emphasis on preventive measures, requiring that workplace risk assessments and hazard prevention measures be carried out based on the recognized hierarchy of prevention and control measures. (Activity #15 of the GPA)</i> - <i>Avoid worker exposure through technical measures where possible; provide appropriate protective equipment; improve the acceptance of wearing protective equipment and stimulate further research on protective equipment to be used under hot and humid conditions. Activity #19 of the GPA)</i> - <i>Develop guidance on a harmonized approach to the setting of occupational exposure limits. (Activity #21 of the GPA)</i>
Environmentally sound management of e-waste	Assess gaps in existing policy, legal and institutional framework, including control of transboundary movement and illegal traffic	The Basel Convention is recognized as the principal forum for international cooperation to address transboundary movement, ESM and capacity building issues related to electronic waste and participants should be encouraged to participate in the work of the Basel Convention, including PACE.
	Establish voluntary approaches and use of economic instruments Extended producer responsibility and - e-products take-back schemes	Canada could support this as a proposed activity under SAICM work activity “ Waste Management and Minimization ” / “ Capacity building ” providing that its focus is limited to information sharing as opposed to infrastructure development, which Canada believes to be outside the scope of SAICM. Furthermore, participants should be encouraged to participate in the ongoing work of other

Work area	New activity	Comment from Canada
		international forums that are implementing take-back programs including Basel PACE and UN StEP. Furthermore, it is Canada's view that participants should not duplicate the work of the former OECD EPR work programme, which led to the development of the 2001 <i>EPR Guidance Manual for Governments</i> .
	Conduct pilot projects on environmentally sound management of e-waste, without duplicating Basel Convention programme	Canada has concerns with this activity, given that the implementation of pilot projects is resource intensive and typically a multi-year commitment. Furthermore international forums such as Basel PACE and UN StEP are currently implementing pilot projects in developing countries. Lessons learned and approaches used from these pilot projects (including sustainable funding approaches) are intended to be transferrable.
Awareness-raising	Promote awareness, information, education and communication for all relevant stakeholders along the supply chain	While Canada could support this proposed new activity, it could be considered that it may be part of already existing Work Areas under the GPA: <i>For example,</i> - <i>Include a range of preventive strategies, education and awareness-raising and capacity-building in risk communication.</i> (Activity #110 under the “Information management and dissemination” Work Area) - <i>Undertake awareness raising and preventive measures campaigns in order to promote safe use of chemicals.</i> (Activity #163 under the “Stakeholder participation” Work Area) - <i>Implement information, education and communication packages on the sound management of chemicals, targeting key stakeholders including waste handlers and recyclers.</i> (Activity #161 under the “Waste management Training (and minimization)” Work Area)

Submission from Japan

FORM FOR SUBMITTING COMMENTS

PROPOSED ADDITION TO THE STRATEGIC APPROACH GLOBAL PLAN OF ACTION

Activities on Hazardous substances within the lifecycle of electrical and electronic products

IDENTITY OF RESPONDENT

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Organization:

Date of submission: May 14, 2012

For each of the work areas below, using the revised table, specify the activity for which you are providing comments, or suggest a new activity as appropriate providing inputs on actors, target time, indicators of progress and implementation aspects.

Work Area	Activity	Actors	Target time	Indicator of progress	Implementation aspects
E-products green design	Compile and communicate lists of chemicals of concern to human health or the environment in e-products			Database and information freely available on hazards and risks on hazardous chemicals in e-products <Comment on the proposed indicator> Database and information should not be limited to hazardous properties. It should be better to clarify evidences and risks associated with specific products groups and include such information.	

	Identify tools and best practices that advance design for hazardous chemical reduction, elimination and substitution <Comment on the proposed activity> Tools and best practices for the selection of feasible/applicable resources by producers would be useful information for developing countries and countries in economy transition, if such tools and best practices can be identified through categorization of products by resources-type and based on risks of inappropriate disposal.				
Environmentally sound manufacturing < Comment on the proposed work area > Japan supports the importance of dissemination of this work area.					

Environment ally sound management of e-waste					
Awareness raising	Promote awareness, information, education and communication for all relevant stakeholders along the supply chain <Comment on the proposed activity> Japan supports the importance of the activity. However, <u>it should not be limited to the electrical and electronic industry but also for whole supply chain from the view of sound chemical management.</u>				

Any other comments (optional): _____

Submission from the United States of America

PROPOSED ADDITION TO THE STRATEGIC APPROACH GLOBAL PLAN OF ACTION

Activities on Hazardous substances within the lifecycle of electrical and electronic products

IDENTITY OF RESPONDENT

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 Organization: Department of State
 Date of submission: May 7, 2012

For each of the work areas below, using the revised table, specify the activity for which you are providing comments, or suggest a new activity as appropriate providing inputs on actors, target time, indicators of progress and implementation aspects.

Work Area	Activity	Comments
E-products green design	Compile and communicate lists of chemicals of concern to human health or the environment in e-products	We are considering this activity and do not have comments at this time, but may have comments in the future.
	Promote public and private partnerships for the environmentally sound management of hazardous substances in e-products	We support the inclusion of this activity.
	Assess and fill gaps in existing policies, legal and institutional framework addressing design of e-products	We do not have any comments.
	Identify tools and best practices that advance design for hazardous chemical reduction, elimination and substitution	We support the inclusion of this activity.
	Adopt policy instruments and actions that support hazardous chemical reduction, elimination and substitution in electrical and electronic products	In "Indicators of progress" column, it is unclear that the number of instruments and policy actions has a direct relationship with sound management of chemicals. The number of instruments is not important, but the effectiveness of those instruments is important. Additionally, in the same column, "regulations of" should be changed to "policy instruments and actions on" to ensure consistency with the activity title and allow for broad consideration of various types of instruments and actions. Please also note that the policy instruments and actions being adopted can be at the local, national, and/or regional levels.
	Promote harmonization of policies and regulations that support hazardous chemical reduction, elimination and substitution in e-products,	We suggest that this activity should be removed. It is not clear that harmonization of policies and regulations would solve or even reduce the challenges posed by electrical and electronic products. On the contrary, policies and regulations that may work in one country may not work in another. Policies and regulations are tailored to the unique domestic circumstances in each country.

Environmentally sound manufacturing	Promote sustainable production and pollution prevention	We support the inclusion of this activity. The term “compliance,” however, should be changed to “implementation” in the “Indicators of progress” column since adherence to best practices is usually not mandatory.
	Prioritize reduction of exposure; eliminate or substitute the most hazardous substances of concern and production processes	We support the inclusion of this activity.
	Conduct research and development on safer chemicals substitutes, alternatives, and safer production processes	We support the inclusion of this activity.
	Formulate, promote and implement health-based exposure limits for workers that provide equal protection in the workplace and the community	We support the inclusion of this activity.
Environmentally sound management of e-waste	Assess gaps in existing policy, legal and institutional framework, including control of transboundary movement and illegal traffic	At OEWG 1, countries expressed concern that this activity duplicates efforts to address e-waste by the Basel Convention. We reiterate those concerns expressed at OEWG 1 and urge that this activity be revised to eliminate duplication with the Basel Convention.
	Establish voluntary approaches and use of economic instruments Extended producer responsibility and e-products take-back schemes	As with the activity above, at OEWG 1, countries expressed concern that this activity duplicates efforts to address e-waste by the Basel Convention. We reiterate those concerns expressed at OEWG 1 and urge that this activity be revised to eliminate duplication with the Basel Convention.
	Conduct pilot projects on environmentally sound management of e-waste, without duplicating Basel Convention programme	It is not clear from the title what additional pilot projects on the environmentally sound management of e-waste are needed beyond those already conducted by the Basel Convention. More clarity is needed in the title about work needed that cannot be completed under the auspices of the Basel Convention.
Awareness raising	Promote awareness, information, education and communication for all relevant stakeholders along the supply chain	We support the inclusion of this activity.

Any other comments (optional): _____

The United States remains concerned about the continued duplication of efforts here with work performed in other forums. While we support much of the work in other forums, such as the Basel Convention, and encourage SAICM stakeholders to also support these efforts, we caution stakeholders not to create new initiatives that would be within the scope of another international agreement. The United States is generally supportive of actions to reduce the use of hazardous chemicals in products. We encourage SAICM to focus its efforts further upstream in the lifecycle of electrical and electronic products and allow the Basel Convention to focus on electrical and electronic products when they become wastes.

Submission from the Inter-Organization Programme for the Sound management of chemicals (IOMC)

The following comments by the Inter-Organization Programme for the Sound management of chemicals (IOMC) have been made:

- **Comment 1:**

- Work area: E-products green design; Activity 1 Compile and communicate lists of chemicals of concern to human health or the environment in e-products; Implementation Aspects: IOMC Coordination - Create coordination committees at the national level and networks (global, regional and national,) involving all key stakeholders:
“It's not clear what is intended here, because the actors are mainly non-IOMC organizations, so IOMC as such does not have a mandate to coordinate them. However, one or more IOMC organization could volunteer to implement a project on this and involve relevant institutions.”

The comments were posted on the Strategic Approach website.

Submission from the United Nations Development Programme (UNDP)

PROPOSED ADDITION TO THE STRATEGIC APPROACH GLOBAL PLAN OF ACTION

Activities on Hazardous substances within the lifecycle of electrical and electronic products

IDENTITY OF RESPONDENT

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 Government: **N/A**
 Organization: **United Nations Development Programme**
 Date of submission: **23 April 2012**

For each of the work areas below, using the revised table, specify the activity for which you are providing comments, or suggest a new activity as appropriate providing inputs on actors, target time, indicators of progress and implementation aspects.

Work Area	Activity	Actors	Target time	Indicator of progress	Implementation aspects
E-products green design					
Environmentally sound manufacturing					
Environmentally sound management of e-waste	As in draft	UNDP	As in draft	As in draft	As in draft
Awareness raising	As in draft	UNDP	As in draft	As in draft	As in draft

Any other comments (optional): _____

Submission from the European Union

PROPOSED ADDITION TO THE STRATEGIC APPROACH GLOBAL PLAN OF ACTION

Activities on Hazardous substances within the lifecycle of electrical and electronic products

IDENTITY OF RESPONDENT

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Government: Denmark

Organization: Ministry of the Environment

Date of submission: 10 May 2012

For each of the work areas below, using the revised table, specify the activity for which you are providing comments, or suggest a new activity as appropriate providing inputs on actors, target time, indicators of progress and implementation aspects.

Only paragraphs with suggestions for new text have been included in the table. The rest of the text in the revision by the Task Team should be kept as it is. “Target time” and “implementation aspects” has been deleted in the table as we did not have any comments to those elements.

Work Area	Activity	Actors	Indicator of progress
E-products green design	Manufacturers and producers compile and communicate lists of chemicals of concern to human health or the environment and precious and rare metals in e-product groups Promote public and private partnerships including product stewardship approaches such as the Chemical Industry Association Responsible care programme for the environmentally sound management of hazardous substances in e-products both during production, use and at the end of life. Encourage approaches for green design by quantifying and communicating the potential value of materials that they could recover and identifying the tools and best practices that advance design for hazardous chemical reduction, elimination and substitution Work with retailers to raise their internal procurement specifications so that they can choice edit on behalf of consumers. Adopt policy instruments and actions that support hazardous		Nations able to adequately assess quantity and recovery value for a range of potentially hazardous, critical and valuable materials in their electronic product streams.

	chemical reduction, elimination and substitution in electrical and electronic products, considering work of standardization bodies on definition of threshold values for the max. content of hazardous substances in products and respective measurement methods.		
Environmentally sound manufacturing and sustainable consumption	Promote sustainable production and pollution prevention and encourage sustainable consumption Prioritize reduction of exposure; eliminate or substitute the most hazardous substances of concern ⁴ and production processes and promote public procurement processes that include this.		Number of substitutes /alternatives produced and effective Health status of workers and local communities Number of public procurement processes established. Number of instruments and policy actions adopted and implemented Regulations of hazardous chemicals in electrical and electronic products,
			Hazardous chemical ingredients disclosure across supply chain, Green electrical and electronic product procurement initiatives, voluntary and mandatory Product Labeling measures, Product Requirements and Self-Regulatory Initiatives by industry.
Environmentally sound management of e-waste	Assess gaps in existing policy, legal and institutional framework, including control of transboundary movement and illegal traffic in cooperation with relevant bodies of the Basel Convention Conduct pilot projects which lead to financially self sustaining initiatives on socially, economically, environmentally sound management of e-waste without duplicating other activities including the Basel Convention programme. Work with retailers to raise their willingness to contribute to the collection of e-waste.	National and regional Governments, UNIDO, UNEP (e.g. IETC) Stockholm Convention, Basel Convention, Partnership for Action on Computing Equipment, Solving the e-Waste Problem, Basel Convention regional centres, industry, academic institutions	Number of socially, economically and environmentally sustainable pilot projects undertaken

⁴ Substances of concern include those that are persistent, bioaccumulative and toxic and/or those that are carcinogens, mutagens, reproductive or developmental toxins, neurotoxins, neurodevelopmental toxins, respiratory toxins, immunotoxins, organ system toxins, and/or endocrine-disrupting compounds.

Awareness raising	Promote awareness, information, education and communication for all relevant stakeholders along the supply chain recognizing that different information etc will be required by e.g. manufactures compared to the informal sector.. Awareness and information should be targeted the different stakeholders in the chain.		
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Any other comments (optional): _____

Submission from Information Technology Industry Council (ITIC)



Information Technology Industry Council
Leading Policy for the Innovation Economy

May 4, 2012

Mr. Muhammed Omotola
Associate Programme Officer
SAICM Secretariat
Room C209 IEH1
UNEP Chemicals Branch
Division of Industry, Technology and Economics (DTIE)
United Nations Environment Programme (UNEP)
11-13 chemin des Anémones
CH-1219 Châtelaine, Geneva,
Switzerland

Dear Mr. Omotola,

Introduction

On behalf of the leading companies in information and communications technology, we thank the Secretariat for the opportunity to provide comments on Annex I; Proposed new activities for inclusion into the Global Plan of Action considered by the first meeting of the OEWG relating to hazardous substances in the life cycle of e-products: REVISED by the TASK TEAM on 28 March 2012.

Overarching Comments

Our industry recognizes the importance of and fully supports responsible management across the life-cycle of electronic products. We do not believe it is necessary, however, to add a separate proposal to the Global Plan of Action since the topics of interest are being addressed in various existing fora. We instead encourage SAICM to coordinate, share and promote sector-specific best practices.

Life Cycle Management of Electronic Products

We ask the Secretariat to recognize the overlap of e-products green design with SAICM's Chemicals in Products (CiP) emerging issue area. At prior meetings leading up to and including the OEWG in Belgrade, the electronics industry has detailed the broad regulation of the material content of electronic products; market incentives for convergence of global designs; sector-specific chemical supply chain management methods such as the IEC 62474 standard; and, on-going continuous improvement via research in various aspects of environmentally conscious design for electronics. Design for environment materials research and evaluation of safer



Information Technology Industry Council
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alternatives occurs relative to each stage of the product value chain, and applies not only to our own manufacturing operations, but also to those of our suppliers.

In regards to responsible end of life management, an equally important area, there is also overlap with existing efforts, most notably the Basel Convention. The Basel Convention's Partnership for Action on Computing Equipment (PACE), as well as the draft Basel Technical Guidelines applicable to all electrical and electronic equipment, are defining environmentally sound management practices for recycling, refurbishment and transboundary movement, including in-country pilot projects and capacity building. We encourage SAICM to coordinate with these existing efforts.

Sincerely,

A handwritten signature in black ink, appearing to read 'Rick Goss'.

Rick Goss
Vice President of Environment and Sustainability
Information Technology Industry Council

A handwritten signature in black ink, appearing to read 'Erica Logan'.

Erica Logan
Director, Environment and Sustainability
Information Technology Industry Council

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International Conference on Chemicals Management

Third session

Nairobi, 17–21 September 2012

Item 4 (a) of the provisional agenda*

Implementation of the Strategic Approach to

International Chemicals Management:

**Evaluation of and guidance on implementation and
review and update of the Strategic Approach**

**Revised table of activities for inclusion under a new work area
relating to hazardous substances within the life cycle of
electrical and electronic products**

Note by the secretariat

1. The secretariat has the honour to circulate in the annex to the present note, in compliance with Decision 1/1 of the Open-ended Working Group, editorial suggestions made on activities for inclusion under a new work area relating to hazardous substances in the life cycle of electrical and electronic products to the Global Plan of Action of the Strategic Approach.
2. The suggestions are recorded in the annex as annotations on the revised table of activities relating to hazardous substances in the life cycle of electrical and electronic products to the Global Plan of Action of the Strategic Approach.

* SAICM/ICCM.3/1.

Annex I

Annex I. Annotated table showing editorial suggestions made on the revised proposed activities for inclusion under a new work area relating to hazardous substances within the life cycle of electrical and electronic products

Work area	New activity	Actors	Target time	Indicators of progress	Implementation aspects
E-products green design	1. Compile and communicate lists of chemicals of concern to human health or the environment in e-products <u>IOMC</u>: “It's not clear what is intended here, because the actors are mainly non-IOMC organizations, so IOMC as such does not have a mandate to coordinate them.” <u>EU</u> suggests revision: “Manufacturers and producers compile and communicate lists of chemicals of concern to human health or the environment and precious and rare metals in e-product groups” <u>CAN</u> could support this activity but it may be considered as part of e.g. #88 of GPA	National and Regional authorities, Basel, Rotterdam and Stockholm Conventions, Basel and Stockholm Convention Regional Centres, SAICM, industry, non-governmental organizations, Partnership for Action on Computing Equipment (PACE), Solving the e-Waste Problem (STEP), UNIDO, academic and research institutions	2012–2015	Database and information freely available on hazards and risks on hazardous chemicals in e-products <u>EU</u> suggests: “Nations able to adequately assess quantity and recovery value for a range of potentially hazardous, critical and valuable materials in their electronic product streams.” <u>Japan</u> suggests: “Database and information should not be limited to hazardous properties. It should be better to clarify evidences and risks associated with specific products groups and include such information.”	IOMC coordination Create coordination committees at the national level and networks (global, regional and national) involving all key stakeholders
	2. Promote public and private partnerships for the environmentally sound management of hazardous substances in e-products <u>USA</u> supports the inclusion of this activity <u>EU</u> suggests revision: “Promote public and private partnerships including product stewardship approaches such as the Chemical Industry Association Responsible care programme for the environmentally sound management of hazardous substances in e-products both during production, use and at the end of life.” <u>CAN</u> could support this activity but it may be considered as part of e.g. #186 of GPA	National and Regional authorities, industry, non-governmental organizations, Basel Convention, Stockholm Convention, SAICM Secretariat, Basel and Stockholm Convention Regional Centres, Partnership for Action on Computing Equipment (PACE), Solving the e-Waste Problem(StEP), UNIDO, academic and research institutions	2012–2015	Number of partnerships established Number of partnership projects undertaken	Establish or use existing private-public partnership initiatives, Global, regional and national networks involving all key stakeholders
	3. Assess and fill gaps in existing policies, legal and institutional framework	National and Regional authorities, non-governmental organizations, , Basel Convention Regional Centres, Stockholm	2012–2015	Reports on regulatory and institutional gaps in green e-products design	Inter-agency and multi-stakeholder committees created

Work area	New activity	Actors	Target time	Indicators of progress	Implementation aspects
	addressing design of e-products <u>CAN</u> should be flexible to address differing circumstances. Any framework should be consistent with the principles of minimizing the regulatory burden on stakeholders.	Convention, UNIDO, academic and research institutions		Number of countries and regional authorities with relevant policies, laws, regulations and guidelines Relative reduction in toxic chemicals in e-products	
	4. Identify tools and best practices that advance design for hazardous chemical reduction, elimination and substitution <u>USA</u> supports the inclusion of this activity <u>EU</u> suggests revision: “Encourage approaches for green design by quantifying and communicating the potential value of materials that they could recover and identifying the tools and best practices that advance design for hazardous chemical reduction, elimination and substitution. Work with retailers to raise their internal procurement specifications so that they can choice edit on behalf of consumers.” <u>CAN</u> could support this activity but it may be considered as part of e.g. #43, #63, #64, #70, #119, #121 of GPA <u>Japan</u> comments on the proposed activity: “Tools and best practices for the selection of feasible/applicable resources by producers would be useful information for developing countries and countries in economy transition, if such tools and best practices can be identified through categorization of products by resources-type and based on risks of inappropriate disposal.”	National and Regional authorities, industry, non-governmental organizations, Solving the E waste Problem (StEP), UNIDO, UNEP/IETC, Stockholm Convention, , academic and research institutions	2012–2015	Number of green design tools identified Best practices guidance developed	National, regional and global coordination Partnerships in cooperation with industry.
	5. Adopt policy instruments and actions that support hazardous chemical reduction, elimination and substitution in electrical and electronic products <u>USA</u> suggests “regulations of” to be changed to “policy instruments and actions on” <u>EU</u> suggests revision:” Adopt policy instruments and actions that support hazardous	National and Regional authorities, industry, non-governmental organizations, academic and research institutions	2012–2015	Number of instruments and policy actions adopted and implemented Regulations of hazardous chemicals in electrical and electronic products, Hazardous chemical ingredients disclosure across supply chain, Green	Global, regional and national coordination

Work area	New activity	Actors	Target time	Indicators of progress	Implementation aspects
	chemical reduction, elimination and substitution in electrical and electronic products, considering work of standardization bodies on definition of threshold values for the max content of hazardous substances in products and respective measurement methods.” <u>CAN</u> should be flexible to address differing circumstances. Any framework should be consistent with the principles of minimizing the regulatory burden on stakeholders.			electrical and electronic product procurement initiatives. EU suggests addition: “voluntary and mandatory Product Labeling measures, Product Requirements and Self-Regulatory Initiatives by industry.”	
	6. Promote harmonization of policies and regulations that support hazardous chemical reduction, elimination and substitution in e-products <u>USA</u> suggests deletion <u>CAN</u> should be flexible to address differing circumstances. Any framework should be consistent with the principles of minimizing the regulatory burden on stakeholders.	National and Regional authorities, UNEP, UNIDO, SAICM Secretariat, Basel Convention Regional Centres, Stockholm Convention Regional Centres, industry, non-governmental organizations, academic and research institutions	2012–2015	Number of policies and laws harmonized	Global, regional and national coordination
Environmentally sound manufacturing <u>Japan</u> supports the importance of dissemination of this work area	7. Promote sustainable production and pollution prevention <u>USA</u> suggests the term “compliance” to be changed to “implementation” <u>EU</u> suggests revision:” Promote sustainable production and pollution prevention and encourage sustainable consumption” <u>CAN</u> could support this activity but it may be considered as part of e.g. #43, #1, #119 of GPA	National and Regional authorities, industry, non-governmental organizations, UNIDO, UNEP/DTIE, UNITAR, Stockholm Convention, Basel Convention regional centres, cleaner production centres	2012–2015	Pollution prevention tools in place Level of compliance with international best practices Awareness materials availability Pollution monitoring schemes in place	Infrastructure Technical capacity

Work area	New activity	Actors	Target time	Indicators of progress	Implementation aspects
	8. Prioritize reduction of exposure; eliminate or substitute the most hazardous substances of concern¹ and production processes <u>USA</u> supports the inclusion of this activity <u>EU</u> suggests revision: "Prioritize reduction of exposure; eliminate or substitute the most hazardous substances of concern and production processes and promote public procurement processes that include this." <u>CAN</u> could support this activity but it may be considered as part of e.g. #19, #258, #84 of GPA	National and Regional authorities, industry, non-governmental organizations, UNIDO, WHO, ILO, UNITAR, StEP UNEP/DTIE., Stockholm Convention	2012–2015	Number of substitutes /alternatives produced and effective Improved Health status of workers and local communities with use of alternatives and substitutes <u>EU</u> suggests additions: "Number of public procurement processes established."	
	9. Conduct research and development on safer chemicals substitutes, alternatives, and safer production processes <u>USA</u> supports the inclusion of this activity <u>CAN</u> could support this activity but it may be considered as part of e.g. #83, #84 of GPA	National and Regional authorities, industry, non-governmental organizations, UNIDO, UNITAR, Basel Convention Regional Centres, UNEP/DTIE, Stockholm Convention, World bank, academic and research institutions	2012–2015	Number of produced research outputs Number of research successes Development of safer substitutes and safer production processes	Provision of research and capacity building assistance including training and methodologies
	10. Formulate, promote and implement health-based exposure limits for workers that provide equal protection in the workplace and the community <u>USA</u> supports the inclusion of this activity <u>CAN</u> could support this activity but it may be considered as part of e.g. #4, #11, #12, #13, #14, #15, #19, #21 of GPA	National and Regional authorities, industry, non-governmental organizations, ILO, WHO, UNIDO, UNITAR, International Standards Organisation (ISO), , academic and research institutions, and the World Bank	2012–2015	Number of operational health related standards developed and implemented Availability of occupational health information Exposure monitoring	Standard setting and licensing
Environmentally sound management of e-waste	11. Assess gaps in existing policy, legal and institutional framework, including control of transboundary movement and illegal traffic, <u>USA</u> suggests revision, in order to eliminate duplication with the Basel Convention <u>EU</u> suggests revision: "Assess gaps in existing policy, legal and institutional framework, including control of transboundary movement	National and Regional authorities, Basel Convention, SAICM Secretariat, Partnership for Action on Computing Equipment (PACE), Basel Convention Regional Centres, UNIDO, industry, non-governmental organizations, European Union Network for the Implementation and Enforcement of	2012–2015	Number of policies/laws/regulations developed and enforced Number of illegal traffic shipments returned to country of origin <u>EU</u> suggests revision: "Number of socially,	Multi-stakeholder participation. Coordination of existing initiatives on the control or transboundary movement of e-waste and illegal shipment.

¹ [Substances of concern include those that are persistent, bioaccumulative and toxic substances (PBTs); very persistent and very bioaccumulative substances; chemicals that are carcinogens or mutagens or that adversely affect, inter alia, the reproductive, endocrine, immune, or nervous systems; persistent organic pollutants (POPs); mercury and other chemicals of global concern; chemicals produced or used in high volumes; those subject to wide dispersive uses; and other chemicals of concern at the national level.

Work area	New activity	Actors	Target time	Indicators of progress	Implementation aspects
	and illegal traffic in cooperation with relevant bodies of the Basel Convention.” <u>CAN</u> : “The Basel Convention is recognized as the principal forum for international cooperation to address transboundary movement, ESM and capacity building issues related to electronic waste and participants should be encouraged to participate in the work of the Basel Convention, including PACE.”	Environmental Law (IMPEL), International Network for Environmental Compliance and Enforcement(INECE), UNDP		economically and environmentally sustainable pilot projects undertaken.”	
	12. Establish voluntary approaches and use of economic instruments Extended producer responsibility and -e-products take-back schemes <u>USA</u> suggests revision, to eliminate duplication with the Basel Convention <u>CAN</u> : Canada could support this as a proposed activity under SAICM work activity “Waste Management and Minimization” / “Capacity building” providing that its focus is limited to information sharing as opposed to infrastructure development, which Canada believes to be outside the scope of SAICM. Furthermore, participants should be encouraged to participate in the ongoing work of other international forums that are implementing take-back programs including Basel PACE and UN StEP. Furthermore, it is Canada’s view that participants should not duplicate the work of the former OECD EPR work programme, which led to the development of the 2001 EPR Guidance Manual for Governments.”	National and Regional authorities, industry, non-governmental organizations, and consumer associations.	2012–2015	Number of take-back schemes implemented Extent of infrastructural development promoting use of economic instruments	
	13. Conduct pilot projects on environmentally sound management of e-waste, without duplicating Basel Convention programme <u>USA</u> suggests more clarity in the title <u>EU</u> suggests revision: “Conduct pilot projects which lead to financially self sustaining initiatives on socially, economically, environmentally sound management of e-waste without duplicating other activities including	National and Regional authorities, UNIDO, SAICM Secretariat, Stockholm Convention, Basel Convention, Partnership for Action on Computing Equipmen(PACE)t, Solving the e-Waste Problem, Basel and Stockholm Convention regional centres, industry, academic and research institutions <u>EU</u> suggests revision: “National and regional authorities, UNIDO, UNEP (e.g.	2012–2015	Number of informal sector persons successfully trained in the environmentally sound management of waste; sustainable collection and dismantling of end-of life e-products; and the control of illegal traffic. Number of pilot projects undertaken.	

Work area	New activity	Actors	Target time	Indicators of progress	Implementation aspects
	the Basel Convention programme. Work with retailers to raise their willingness to contribute to the collection of e-waste.” <u>CAN</u>: Canada has concerns with this activity, given that the implementation of pilot projects is resource intensive and typically a multi-year commitment. Furthermore international forums such as Basel PACE and UN StEP are currently implementing pilot projects in developing countries. Lessons learned and approaches used from these pilot projects (including sustainable funding approaches) are intended to be transferrable.	IETC) Stockholm Convention, Basel Convention, Partnership for Action on Computing Equipment, Solving the e-Waste Problem, Basel Convention regional centres, industry, academic institutions”		Number of project reports	
Awareness-raising	14. Promote awareness, information, education and communication for all relevant stakeholders along the supply chain <u>USA</u> supports the inclusion of this activity <u>EU</u> suggests revision ”Promote awareness, information, education and communication for all relevant stakeholders along the supply chain recognizing that different information etc will be required by e.g. manufactures compared to the informal sector.. Awareness and information should be targeted the different stakeholders in the chain.“ <u>CAN</u> could support this activity but it may be considered as part of e.g. #110, #163, #161 of GPA <u>Japan</u> supports the importance of the activity. However, it should not be limited to the electrical and electronic industry but also for whole supply chain from the view of sound chemical management.	National and Regional authorities, UNIDO, UNEP, UNDP, SAICM, UNITAR, Secretariat, UNESCO, Stockholm Convention, Basel Convention, Partnership for Action on Computing Equipment(PACE), Solving the e-Waste Problem (StEP), Basel and Stockholm Convention regional centres, industry, academic institutions, non-governmental organizations	2012–2015	Level of awareness among stakeholders. Amount of information, education and communication materials produced.	

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International Conference on Chemicals Management

Third meeting

Nairobi, 17–21 September 2012

Item 4 (c) of the provisional agenda *

Implementation of the Strategic Approach to International Chemicals Management:

Evaluation of and guidance on implementation and review and update of the Strategic Approach

**Baseline estimates report 2006-2008: Progress in implementation
of the Strategic Approach on International Chemicals
Management**

Note by the secretariat

The secretariat has the honour to circulate in the annex to the present note the baseline estimates report 2006 – 2008 providing information on progress in implementation of the Strategic Approach to International Chemicals Management. The report has been prepared by the secretariat in accordance with the agreements reached by the second session of the International Conference on Chemicals Management. The report was provided in draft form to the first meeting of the Open-ended Working Group of the International Conference on Chemicals Management held Belgrade, 15–18 November 2011. The report is provided for the information of participants and has not been formally edited

* SAICM/ICCM.3/1

Baseline estimates report 2006-2008
Progress in implementation of the Strategic Approach to
International Chemicals Management

June 2012

Acknowledgement: The secretariat would like to acknowledge the contributions made by Slavena Georgieva, Armand Racine, Ingrid Rijk. Luz-Yenny Romero and Simonetta Spaviera-Mora in preparing the present baseline report

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- I. Indicators for reporting by stakeholders on progress in implementation of the Strategic Approach
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- IV. Summary of baseline estimates for seven of the 20 adopted indicators for monitoring progress in SAICM implementation

Executive summary

1. In accordance with the agreements reached by the second session of the International Conference on Chemicals Management the secretariat has prepared the present baseline estimates report for the period 2006–2008 using readily available sources of information and data, including responses to interim reporting questionnaires submitted during the first intersessional rounds of regional meetings, reports to the second session of the International Conference on Chemicals Management and publicly available sources such as the internet.
2. The approach taken by the secretariat to the preparation of the baseline report has been to extract information from the readily available sources that corresponded to the adopted indicators. The questionnaire developed for collecting information for the first periodic report was used to guide this work and ensure consistency. Information on whether a particular activity had been completed or was underway was tabulated for summation and numerical analysis using a spreadsheet. Because of the large amount of information potentially available, the secretariat accorded priority to information related to governmental activities. Baseline estimates of progress are possible for seven of the 20 indicators adopted by the Conference. Estimates for intergovernmental and non-governmental organizations are possible for three of these seven indicators. Data and information pertaining to the remaining 13 indicators varied in quality are not suitable for quantifying a reliable baseline estimate. No readily available information was found for the purpose of developing a baseline estimate for four of the 20 indicators.
4. The baseline estimates that are possible are characterized as predominantly estimates of initial implementation activities, including activities taken pursuant to the establishment of the Strategic Approach, such as designation of Strategic Approach focal points. Overall, the results show a high level of "baseline" activity especially in the case of Governments' commitment to the Strategic Approach, establishment of inter-sectoral and multi-stakeholders mechanisms, and identification and prioritization of chemicals management needs.
5. An estimate of the numbers of Governments, intergovernmental and non-governmental organizations participating in the Strategic Approach is necessary if estimates are to be comparable over time or expressed as percentages. Estimates are made of the numbers of participants in Strategic Approach regional meetings held over the period 2006–2008, the numbers providing written reports on their activities over this time and the numbers of official Strategic Approach focal points.

I. Introduction

A. The issue

6. The industrial consumption of chemicals and modern society's reliance on them for virtually all manufacturing processes make the chemicals industry one of the major and most globalized sectors of the world economy. Global consumption of chemicals has grown rapidly in the last decades, with the world chemical output increasing from 171 to 503 billion US dollars between 1970 and 1998¹.
7. Acknowledgement of the essential economic role of chemicals and their contribution to improved living standards is tempered with the recognition of potential costs. These include the chemical industry's heavy use of water and energy and the potential adverse impacts of chemicals on the environment and human health. The diversity and potential severity of such impacts makes sound chemicals management a key cross-cutting issue for sustainable development.
8. The 2002 World Summit on Sustainable Development (WSSD) defined the goal that by 2020 chemicals should be used and produced in ways that lead to the minimization of significant adverse effects on human health and the environment (the 2020 goal). Over the past decades, significant progress has been made in chemicals management at national and international levels. Key instruments and processes have been established to address major chemicals management concerns. But these efforts have not so far, been sufficient to protect the environment and health the populations from chemicals risks.
9. Of particular significance in this regard are the gaps, overlaps and duplication in chemicals management activities at the international, national and local levels. This raises concern with regard to the changing patterns of global chemicals production and trade, with a progressive shift of portions of chemicals production and use from member countries of the Organization for Economic Cooperation and Development (OECD) to developing countries and countries with economies in transition that lack the technical and financial capacity to manage chemicals soundly. By 2020, a third of global

¹ Organization for Economic Co-operation and Development, 2001. *Environmental Outlook for the Chemicals Industry*. Paris, p. 28.

chemicals production and consumption is expected to occur in developing countries and those with economies in transition.²

B. The Strategic Approach and its mandates

10. Acknowledging the need for further improvements in chemicals management, stakeholders participating in the first session of the International Conference on Chemicals Management adopted, in 2006, the Strategic Approach for International Chemicals Management. As a non-binding, inter-sectoral and multi-stakeholders policy framework, the Strategic Approach aims to guide efforts to achieve the WSSD 2020 goal.

11. The Strategic Approach includes the Dubai Declaration on International Chemicals Management, expressing a high level of political commitment to the Strategic Approach and calling for a strengthened focus on improved cross-sectoral governance for the sound management of chemicals throughout their life-cycle at the international, regional, national and local levels. An Overarching Policy Strategy sets out the scope, needs, objectives, financial considerations, principles and approaches, and implementation and review arrangements. Objectives are grouped under five themes:

- I. Risk reduction
- II. Knowledge and information
- III. Governance
- IV. Capacity-building and technical cooperation
- V. Illegal international traffic

12. The Declaration and Strategy are accompanied by a Global Plan of Action that serves as a working tool and guidance document to support implementation of the Strategic Approach. The many activities in the plan are to be implemented, as appropriate, by stakeholders, according to their applicability.

C. The reporting modalities

13. Paragraph 24, of the Overarching Policy Strategy provides that the International Conference on Chemicals Management will undertake periodic reviews of the Strategic Approach. In doing so, it will receive reports from all relevant stakeholders on progress in implementation of the Strategic Approach. The Conference will evaluate the implementation of the Strategic Approach with a view to reviewing progress against the 2020 target and taking strategic decisions, programming, prioritizing and updating the approach as necessary. Paragraph 28 b) assigns to the secretariat the function of reporting to the Conference on implementation of the Strategic Approach by all participants.

14. The modalities for reporting were further elaborated at the second session of the Conference (Geneva, May 2009), to include two distinct tracks:

(a) Arrangements for the preparation of a baseline report concerning all stakeholders for the period 2006-2008, based on the most recent data, and

(b) Arrangements for subsequent periodic reporting to sessions of the Conference commencing at the third report session of the Conference to be held in 2012 when a first report on progress for 2009-2011 would be considered.

15. A set of 20 indicators to be used by all stakeholders in reporting on progress on the sound management of chemicals was also agreed. The 20 indicators relate to specific chemicals management elements which are relevant to the objectives of the Overarching Policy Strategy of the Strategic Approach. The indicators as adopted by the second session of the Conference are contained in annex I of the present report.

² *Ibid.*, p. 35; Organization for Economic Co-operation and Development, 2008, *OECD Environmental Outlook to 2030*, p. 381.

D. Objectives and structure of this report

16. This baseline report presents the results from the analysis of readily available information on Strategic Approach implementation from Governments, intergovernmental and non-governmental organizations (including those from civil society and the private sector) over the period 2006-2008.
17. The specific objectives of the report are to:
 - (a) Determine the numbers of Strategic Approach stakeholders potentially engaged in implementation of the Strategic Approach, including Governmental, non-governmental and intergovernmental organizations;
 - (b) Determine a quantitative baseline estimate for each of the 20 adopted indicators using readily available information.
18. To ensure minimum consistency with future progress reporting, the baseline estimate for these initial activities is presented as far as possible in line with the adopted indicators of progress.

II. Methodology

19. A baseline can be defined as “A measurement, calculation, or location used as a basis for comparison”³. The underpinning rationale for establishing a baseline in the context of an international instrument is to set the frame for monitoring progress in the achievement of the instrument’s objectives over time, by providing a snapshot of the situation before adoption of the instrument. This is generally done in a quantitative way to ensure a maximum level of objectivity and accuracy. However, it can be complemented by a qualitative assessment to avoid misinterpretation of the figures.
20. In order to measure progress in implementation of the instrument, the baseline is compared with similar information obtained by a periodic review of progress. Such review aims at providing a picture of the measures and activities undertaken during a given period, and ultimately to assess the level of achievement of the objectives defined in the instruments. To ensure comparability of data, the baseline and subsequent progress should ideally be measured using the same modalities and presented in the same units.

A. Challenges for the baseline estimate

21. The scope of the Strategic Approach and the characteristics of the system for reporting on progress raise two main challenges for the development of a baseline as defined above:
 - (a) For periodic reporting data on the 20 adopted indicators will be collected through an electronic tool to be developed by the secretariat. Using this tool, information on the indicators is foreseen to be provided by Strategic Approach stakeholders by responding to an electronic questionnaire specifically developed to assess the level of progress on the indicators. For the baseline report, this on-line reporting system was not yet in place. The secretariat therefore utilized existing questionnaires which had been completed by Strategic Approach stakeholders prior to regional meetings and the second session of the Conference. These questionnaires having been prepared before the development of the indicators did not explicitly cover many of the adopted indicators. Instead information was provided mostly in a narrative format.
 - (b) The sound management of chemicals is a broad undertaking that requires the implementation of a diverse set of actions. The types of actions required and the sequence for implementation varies significantly depending on the specific regional, national and/ or local situations. The baseline report for the Strategic Approach is to cover the period 2006-2008. The baseline assessment therefore covers the three first years of implementation of the Strategic Approach, instead of providing a snapshot the situation before its adoption.

B. Sources of available information

22. The reporting modalities adopted by the second session of the Conference stipulate that the development of the baseline report should be based on the most recent available information. Therefore, data used to prepare this report were collected from the following sources:

³ The American Heritage Dictionary of the English Language (2000). Definition of a baseline. Fourth Edition, Houghton Mifflin Company, Updated in 2009. Available at: <http://www.thefreedictionary.com/baseline>

1. Preliminary reporting questionnaires

23. As an interim reporting measure before the adoption of the reporting modalities by the second session of the Conference, short questionnaires on the first efforts of Governments and organizations on implementation of the Strategic Approach were used by the secretariat particularly in the context of regional meetings held between 2006 and 2008. An example of one of the interim questionnaires is contained in annex II.

24. The interim reporting questionnaires tended to focus on initial actions that were underway in countries together with a general question on new activities underway on risk reduction, knowledge and information, governance, capacity-building and technical cooperation and illegal international traffic. The questions were very broad, often covering whole sections of the Overarching Policy Strategy such as "have activities been undertaken on risk reduction" and answered by "yes" and "no" questions, with the possibility to qualify the answers with additional information. In addition, the opportunity was given to add general comments, and some stakeholders attached additional documentation, including formal statements, strategic documents, and lists of activities undertaken as part of implementation of the Strategic Approach. The questions were open and consequently gave considerable latitude in how much detail was provided in answers.

25. The questionnaires were submitted prior to meetings such as regional meetings of the Strategic Approach and the second session of the Conference. Many Governments and organizations had answered more than one questionnaire over 2006-2008, the latest was analyzed first since it contained the most up-to-date information. Information from older submissions was added where relevant.

2. Information held by the secretariat

(a) **Lists of Strategic Approach focal points.** The secretariat maintains lists of official Strategic Approach focal points. These include the Strategic Approach national focal points designated by Governments, and focal points nominated by intergovernmental and non-governmental organizations. In light of the period covered by the baseline report, all nominations of Strategic Approach focal points communicated to the secretariat before 2009 were included in the present report.

(b) **Quick Start Programme Trust Fund approved projects.** The secretariat administers a special trust fund - the Quick Start Programme (QSP) Trust Fund- for supporting the implementation of Strategic Approach objectives. Information on projects approved under the QSP Trust Fund in rounds I-V(closing on 29 August 2008) were considered for the present baseline report.

(c) **Lists of participants in regional meetings and sessions of the International Conference on Chemicals Management.** The secretariat prepares lists of participants to all meetings it organizes and therefore has records of the participation of Governments, intergovernmental and non-governmental organizations in Strategic Approach meetings over the baseline period. For the purposes of the present report, the number of Governments and organizations in all regional meetings and the second session of the International Conference was totaled to obtain an appreciation of the extent of participation in Strategic Approach meetings.

3. Documentation from the second session of the Conference

(a) **SAICM/ICCM.2/INF/1 - Ratification and implementation status of existing international instruments and programmes.** This document provides information on the ratification and implementation status of existing international instruments and programmes relating to the sound management of chemicals as of 10 February 2009. Specifically, it presents the ratification status of the following international instruments and programmes and also presents information on the national implementation of the Globally Harmonized System of Classifications and Labeling of Chemicals (GHS), and on the development of National Implementation Plans (NIPs) under the Stockholm Convention on Persistent Organic Pollutants and National Chemicals Management Profiles such those facilitated by the United Nations Institute for Training and Research (UNITAR):

- Basel Convention on the Control of Transboundary Movement of Hazardous Wastes and their Disposal (BC);
- Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade (RC);

- Stockholm Convention on Persistent Organic Pollutants (SC);
- Montreal Protocol on Substances that Deplete the Ozone Layer of the Vienna Convention on the Protection of the Ozone Layer;
- International Labour Organization Convention 170 on Safety in the Use of Chemicals at Work (ILO C.170);
- International Maritime Organization Convention for the Prevention of Pollution from Ships (MARPOL); and
- International Health Regulations, 2005 (IHR).

(b) SAICM/ICCM.2/INF/9 - Recognition of the Strategic Approach by the governing bodies of intergovernmental organizations. This document provides information on the formal recognition by the governing bodies of the seven participating organizations of the Inter-Organization Programme for the Sound Management of Chemicals (IOMC).⁴

(c) SAICM/ICCM.2/INF/20 - Summary and commentary on submissions received from stakeholders in response to the questionnaire on Strategic Approach implementation. This document summarizes and comments on the answers to the questionnaire that were submitted by governments and organizations ahead of the second session of the Conference. Information is presented qualitatively and does not attempt to provide a quantitative picture from the submitted answers. As such, this document was mainly used for the general commentaries it provides on implementation of the Strategic Approach by governments and organizations.

(d) SAICM/ICCM.2/INF/10 - Report by the Intergovernmental Forum on Chemical Safety on contributions to the implementation of the Strategic Approach.

(e) SAICM/ICCM.2/INF/11 - Report by the World Health Organization. This document outlines the importance of the sound management of chemicals for the protection of human health, provides an update on the implementation of the Strategic Approach from a health-sector perspective since the adoption of the Strategic Approach and identifies further opportunities for action by the health-sector in this regard.

(f) SAICM/ICCM.2/INF/3 - Report on activities of the InterOrganization Programme for the Sound Management of Chemicals (IOMC) and its participating and observer organizations in support of the implementation of the Strategic Approach. This document was examined to complement information in questionnaires submitted by participating organizations of the IOMC.

4. Information from the secretariat of international organizations

26. Additional information on the status of ratification and implementation of international agreements and conventions was collected on the websites of some specific mechanisms to complement information available in document SAICM/ICCM.2/INF/1 (see above). These mechanisms include:

- (a) Organization for the prohibition of Chemical Weapons. (see: <http://www.opcw.org/about-opcw/member-states/status-of-participation-in-the-cwc/>)
- (b) United Nations Economic Commission for Europe (GHS) (see: http://www.unece.org/trans/danger/publi/ghs/implementation_e.html)
- (c) Toxic Release Inventory Program, countries with PRTR (see <http://www.epa.gov/tri/programs/international/index.htm#h1>, (last updated 6 May 2009).

⁴ The eight participating organizations of the IOMC are: Food and Agriculture Organization of the United Nations (FAO); International Labor Organization (ILO); United Nations Environment Programme (UNEP); United Nations Industrial Development Organization (UNIDO); United Nations Institute for Training and Research (UNITAR); World Health Organization (WHO); World Bank and the Organisation for Economic Co-operation and Development (OECD). The United Nations Development Programme is an observer organization in IOMC.

5. Baseline estimates reports prepared by specific stakeholders

27. In addition to the answers to the questionnaire prepared by the Strategic Approach secretariat, two organizations developed their own reports on the progress in implementing the Strategic Approach. These are:

(a) The International Council of Chemical Associations (ICCA), Baseline estimate report for the UN Strategic Approach to International Chemicals Management (SAICM)⁵. Based on a new tool to correlate the results of the ICCA Responsible Care and Global Product Strategy initiatives with the 20 adopted indicators, the ICCA developed a report including information from 53 national chemical associations.

(b) Citizens' Report. Global Outreach Campaign on the Strategic Approach to International Chemicals Management (SAICM), prepared by the International POPs Elimination Network (IPEN), on behalf of six international non-governmental organization networks⁶. The Citizen's Report developed by IPEN on behalf of six international networks of non-governmental organizations describes the state of implementation of the Strategic Approach developing and transition countries from the perspectives of public interest groups and civil society organizations. The report presents information on activities undertaken by these organizations in contribution to implementation of the Strategic Approach. The approach followed in the report did not allow comparison with available information for other stakeholders and could not be used for this baseline. However, this document in itself provides valuable information on the contribution of non-governmental organizations to implementation of the Strategic Approach.

D. Initial assessment of the available information

28. Future reporting on progress in implementation of the Strategic Approach will be based on the answers provided by stakeholders to the on-line questionnaire and directly related to the 20 indicators. An initial assessment was therefore made to link information available for the baseline assessment with these indicators. Careful attention was paid to the comparability of information available for the various organizations, as well as the objectivity of the assessment.

29. It was only for two of the adopted indicators 10 and 11 that readily available information could be used unambiguously from the interim reporting questionnaires. Information provided in the interim reporting questionnaires proved difficult to use for other indicators for a number of reasons:

(a) The structure of the interim reporting questionnaires evolved over time and some questions were only included in later versions of the questionnaire. The questionnaires used for Governments and organizations differed in structure and content.

(b) Not all Governments and organizations reported each time they were requested to do so and therefore the type of information was not necessarily comparable within the same group of stakeholders.

(c) Questions in the interim reporting questionnaires were quite general and the level of detail provided in answers varied considerably, some answers provided a full list of activities, some only selected examples, some referred to attached documents of differing natures;

(d) In most cases, only the name of programmes and projects were provided with no detail on the specific activities undertaken. Linking these activities with the indicators was necessarily too subjective and partial to be interpreted as a reliable baseline on implementation of the Strategic Approach.

30. Additional sources of information such as official reports and websites helped completing the baseline estimate for four other indicators while secretariat records were used for information about the Quick Start Programme. Most of this additional information could only be reliably linked to the indicators in the case of Governments.

31. Consequently, the baseline estimates are presented separately for Governments, intergovernmental organizations and non-governmental organizations as the information on which they are based differs in a number of aspects. The construct of the baseline was in general more

⁵ http://www.icca-chem.org/ICCADocs/2010-06_ICCA_BaselineEstimateReport.pdf?epslanguage=en (accessed 10 June 2012)

⁶ http://www.ipen.org/campaign/documents/education/citzreport_09.pdf (accessed 10 June 2012)

problematic for intergovernmental and non-governmental organizations as some indicators were in their nature more directly relevant for Governments and their application to other organizations is subject to interpretation. Less other sources of comparable information were also available for these organizations.

1. Assessment of information from Governments

32. In the case of Governments, information could reliably be used to estimate a baseline for seven of the 20 indicators (numbers 6, 9, 10, 11, 12, 14, and 17). Partial information was available for another ten indicators (numbers 3, 4, 5, 8, 9, 13, 15, 16, 19, and 20). No information was available for four indicators (numbers 1, 2, 7, and 18).

33. Despite a lack of completeness, this set of seven indicators can arguably be seen as relatively consistent as it includes activities that are fundamental as a basis to a national chemicals management system.

34. Available information was also analyzed by region and development status. While guidance accompanying the indicators adopted at the second session of the Conference included the recommendation to include an analysis of the stages of implementation, such an analysis could not be made because of the paucity of information in this regard.

2. Assessment of information from intergovernmental and non-governmental organizations

35. In the case of intergovernmental and non-governmental organization the questionnaires submitted to organizations prior to regional meetings (held between 2006 and 2008) were different to those utilized for Governments. In addition, some questions were addressed only to some groups of organizations limiting the amount of comparable information available.

36. As a result, only three indicators could reliably be linked with the available information (numbers 10, 11, and 17). In the case of inter-governmental organizations, information available for indicator 11 was incomplete. For the other 17 indicators, available information was not sufficient to draw any meaningful conclusions.

37. As the region and development status of non-governmental and intergovernmental organizations was not always possible to ascertain based on available information, such an analysis was not included in the baseline. Similarly, not enough information was available to reliably evaluate the stage of implementation of the activities of non-governmental and intergovernmental organizations.

III. Estimating the number of Strategic Approach participants

38. Measuring progress in implementation of an international instrument first requires knowledge of the stakeholders to which the instrument applies. In effect, international instruments are developed by a certain number of participants who commit to undertake some specified actions in order to achieve an objective. Progress in implementation of the instrument is therefore measured inside of these boundaries.

39. Legally-binding conventions include a formal ratification procedure that signals the commitment to achieve the stated objectives, and at the same time defines the boundaries of the total population. As the Strategic Approach is a non-legally-binding international instrument, there is no formal ratification procedure signaling the commitment to participate, and no official list of 'Parties'. Participation in the sessions of the Conference is open to any Member State of the United Nations under some conditions⁷, and, similarly, to:

“any accredited international non-governmental organization having activities, expertise and responsibilities consistent with the purpose and objectives of the Strategic Approach to International Chemicals Management that has informed the secretariat in writing in accordance with rule 13 of its wish to be represented at sessions of the Conference and whose attendance is not objected to by one third or more of the governmental participants present when the Conference considers the request”⁸

⁷ These conditions are defined in the rules of procedure of the Conference adopted at ICCM2. See: SAICM/ICCM.2/15, *Report of the International Conference on Chemicals Management on the work of its second session*, Annex II/1: Rules of procedure of the International Conference on Chemicals Management.

⁸ SAICM/ICCM.2/15, *Report of the International Conference on Chemicals Management on the work of its second session*, Annex II/1: Rules of procedure of the International Conference on Chemicals Management, p. 23.

40. In general, all participants have the same voice in the discussion⁹. This open, multi-stakeholders design underpins the Strategic Approach, but it also results in challenges for the identification of the stakeholders to which the Strategic Approach is relevant or who participate actively in its processes.

A. Governments

1. Numbers of Government participants

41. Considering the rules for participation in the sessions of the Conference and in line with the open nature of the Strategic Approach, the number of Member States of the United Nations is considered the number of Government participants (194).

42. From another perspective there are a number of other measures of Government participation during 2006-2008 which are relevant.

(a) Participation in SAICM meetings

(i) 126 Governments were represented at the first session of the Conference and formally adopted the Strategic Approach.

(ii) 123 Governments were represented at the second session of the Conference and formally adopted the reporting modalities.

Responding governments by region			Total number of countries		Reports by region	
Region	Number countries	% Govs	Countries/region	% region	Number of reports	% reports
AFR	32	31.07	53	60.38	46	27.71
ASP	24	23.3	56	42.86	32	19.28
CEE	19	18.45	25	82.61	38	22.89
LAC	13	12.62	33	39.39	19	11.45
WEOG	15	14.56	29	51.72	31	18.67
Total	103	100	194	52.82	166	100

(b) Designation of a national focal point

A critical first step for participating in the Strategic Approach is the designation of a national focal point, as it provides a basis for communication with the secretariat. Based on the list of focal points kept by the Secretariat, 166 Governments had designated a national focal point as of 31 December 2008 (85.57 per cent of UN Member States).

(c) Submission of interim reporting questionnaires

A total of 166 interim reporting questionnaires from 103 Governments were submitted to the secretariat over the period 2006-2008 and were available for the work on the baseline estimate. More than half (53.09 per cent) of the UN Member States had submitted at least one completed questionnaire over this time. A list of those Governments submitting interim reporting questionnaires over the period 2006-2008 is contained in annex III.

2. Governments submissions by region

43. Under the Strategic Approach, Governments are organized in five regional groups. These are: Africa (AFR), Asia and Pacific (ASP), Central and Eastern Europe (CEE), Latin America and the Caribbean (LAC) and Western Europe and Others Group (WEOG)¹⁰.

44. The highest number of Governments submitting questionnaires came from the African region. Thirty-one per cent of African Governments submitted at least one questionnaire over 2006-

⁹ This changes when decisions can't be made at consensus. In that case, decisions are made by a qualified majority of the Governments present and voting. Governments have also the possibility to exclude IGOs and NGOs from discussions on sensitive agenda items if accepted by a two-third majority of Governments "present and voting. SAICM/ICCM.2/15, *Report of the International Conference on Chemicals Management on the work of its second session*, Annex II/1: Rules of procedure of the International Conference on Chemicals Management, p. 23.

2008. However, looking at the proportion of responding countries within each region, the Central and Eastern European region submitted the highest number of reports (82.61 per cent). The lowest proportion of submissions was from the Latin America and Caribbean region (39.39 per cent).

3. Government submissions by development status

45. In general, 68.93 per cent of the Governments submitting questionnaires are categorized as developing countries¹¹. Of those, least developed and low middle income countries represent 29.13 per cent and 20.39 per cent of those making submissions respectively. Other low income and upper middle income countries are relatively underrepresented with 6.80 per cent and 12.62 per cent of the total respectively.

Responding countries per Status of economic development		
Developing country	Number countries	% respondents
Least Developed Countries	30	29.13
Other Low Income Countries	7	6.80
Low Middle Income Countries	21	20.39
Upper Middle Income Countries	13	12.62
Total	71	36.60

46. Despite the relatively high proportion of responding countries of low income status, very few questionnaires from small island developing states were received. Only 20.0 per cent of small island developing states submitted questionnaires over the baseline period (7.77 per cent of the total respondents). In contrast, 61.3 per cent of non-small island developing states reported about their progress (92.23 per cent of the total respondents).

Responding SIDS			Total SIDS	
SIDS/ non-SIDS	Number countries	% countries	Total region	% region
SIDS	8	7.77	40	20.00
Non-SIDS	95	92.23	154	61.29
Total	103	100	194	52.82

B. Non-governmental organizations

1. Number of non-governmental organization Strategic Approach participants

47. In general, the category 'non-governmental organizations' includes all organizations that are not officially recognized as a Governmental entity. A list of those non-governmental organizations submitting questionnaires over the period 2006-2008 is contained in annex III.

48. Beyond participation in sessions of the Conference, non-governmental organizations can participate in the Strategic Approach in a number of ways including participation in regional meetings, implementation of technical programmes and projects, and advocacy. There is no official directory of non-governmental organizations with interests in the area of sound chemicals management, although the Global Outreach Campaign conducted by the International POPs Elimination Network identifies more than 1000 relevant organizations in over 100 countries in this regard¹² and six international networks for non-governmental organizations. As is the case for Governments, the designation of a Strategic Approach focal point within a non-governmental organization is the primary mechanism for communication with the secretariat.

¹¹ According to the OECD Development Assistance Committee

¹² www.ipen.org/campaign/documents/education/citzreport_09.pdf

49. Non-government organizations can be further categorized as *civil society* and *private sector* organizations¹³. Similar to the networks described above by IPEN, private sector organizations are often associations of relevant companies and national associations. The International Council of Chemical Associations has reported in its baseline report¹⁴ that there are 53 national associations of chemical companies who are members of ICCA. Some chemical companies would also be members of more than one association. Drawing a distinction between private and civil society associations is often difficult without further knowledge and research into the legal standing, membership and modes of operation of the organization. Categorizing the baseline estimates information results in terms of civil society and private sector organizations creates a very limited size group for the private sector organizations making results difficult to interpret in disaggregated form. A list of those non-governmental organizations submitting questionnaires over the period 2006-2008 is contained in annex III.

50. From the perspective of developing an understanding of the participation of non-governmental organizations in Strategic Approach institutions over 2006-2008:

- (a) 156 non-governmental organizations attended at least one Strategic Approach meeting, including 129 civil society and 27 private sector organizations;
- (b) 62 questionnaires were submitted from 44 non-governmental organizations (including 39 civil society and 5 private sector organizations).
- (c) 57 designated a focal point, 51 civil society and 6 private sector organizations.

51. The percentage of non-governmental organizations having an official Strategic Approach focal point is estimated as 36 per cent, using the number of non-governmental organizations participating in at least one Strategic Approach meeting as the denominator. However the designation of a focal point may not fully indicate the proportion of non-governmental organizations participating in the Strategic Approach. This could be due to a number of reasons including the fact a number of meeting participants may belong to one of a networks of umbrella non-governmental organizations.

52. The level of non-governmental organizations reporting on implementation of the Strategic Approach can be calculated as 25 per cent taking the total of non-governmental organizations involved in Strategic Approach regional meetings during 2006 and 2008 as the basis.

C. Intergovernmental organizations

1. Numbers of intergovernmental organization Strategic Approach participants

53. Broadly, the term 'intergovernmental organization' includes all those organizations established by a group of Governments and which the main official decision-making body gathers representatives of the participating Governments.

54. Estimating the number of inter-governmental organization participants in the Strategic Approach is also somewhat challenging. This category includes various types of organizations with different mandates at the regional and global levels (i.e. UN agencies, Bretton Woods institutions, regional integration organizations, etc.). As for non-governmental organizations there is no official list of all existing inter-governmental organizations working in the field of sound chemicals management.

55. From the perspective of developing an understanding of the participation of intergovernmental organizations in the Strategic Approach over 2006-2008:

- (a) 31 inter-governmental organizations attended at least one Strategic Approach meeting;
- (b) 15 submitted at least one reporting questionnaire (45 questionnaires in total); and
- (c) 13 designated an official focal point.

56. Many of the inter-governmental organizations submitted more than one written report on progress in implementation of the Strategic Approach over 2006-2008, the average number being

¹³ These categories include both organizations and federations/networks of organizations. The figures included in this report do therefore not necessarily reveal the full range of non-governmental organizations in the Strategic Approach.

¹⁴ The International Council of Chemical Associations (ICCA), *Baseline estimate report for the UN Strategic Approach to International Chemicals Management (SAICM)*, available at: http://www.icca-chem.org/ICCADocs/2010-06_ICCA_BaselineEstimateReport.pdf

three reports. Seven of the 15 organizations that submitted reports were participating organizations of the IOMC. These organizations were also represented in most if not all Strategic Approach meetings.

57. Thirteen (41.9 per cent) of intergovernmental organizations participating in Strategic Approach meetings had nominated an official focal point over 2006-2008. The percentage of intergovernmental organizations submitting a report on progress can be calculated as 48 per cent using the number of organizations participating in Strategic Approach meetings as the denominator. A listing of the intergovernmental organizations submitting interim reporting questionnaires is contained in annex III.

IV. Baseline results for SAICM indicators

A. Baseline results for Governments

58. This section presents the quantitative results of the baseline estimate for Governments. The results are structured by indicator, and include: i) a general picture of the indicator, and ii) a disaggregated view of the results by region and development status. Due to lack of comparable data, only seven of the 20 indicators could be assessed quantitatively.

59. As different sources of information were used for quantifying estimates, the same denominator could not be used for all seven indicators. When the submitted questionnaires were used as a source of information, the denominator is the total number of respondents. When other publicly available sources of information were used the total number of UN Member States is used as the denominator. The number of eligible countries was used for indicator 17 on the Quick Start programme of the Strategic Approach.

Indicator 6: Number of countries providing information according to internationally harmonized standards

60. For this indicator, sufficient information was not available from the questionnaires submitted by Governments. While not the only internationally harmonized labeling system¹⁵, the Globally Harmonized System of Classification and Labelling of Chemicals (GHS) is one of the most comprehensive tools in this area.

Number of Governments implementing the GHS		
	Number	% UN Members
Yes	65	33.33
No	129	66.67
Total	194	100

61. Using information previously presented to the second session of the Conference¹⁶ it is estimated that approximately one third of Governments were in the process of adoption of the GHS at the end of 2008. However, it should be noted that this includes different levels, as many of the activities addressing implementation are specific for different categories of chemicals for example, pesticides, workplace or occupational health and safety risks. Additional information available on the website of the United Nations Economic Commission for Europe¹⁷ shows more detailed information in this regard.

62. The geographical distribution of UN Member States in the process of adoption of the GHS at the end of 2008 shows that the Western Europe and Others Group is the region with the highest proportion of countries addressing implementation of the GHS. This was the case for 82.76 per cent of countries of this region, compared to only 13.21 per cent of the African region.

63. It appears from the proportion of countries of each development group the higher the income, the more countries have implemented GHS. A growing number of developing countries might be expected to show increased activities in relation to GHS implementation in the coming years.

¹⁵ The WHO Recommended Classification of Pesticides by Hazard is recommended in the FAO International Code of Conduct on the Distribution and Use of Pesticides is also a widely recognized tool for classification of pesticides. Not entirely compatible with the GHS, it is now being harmonized with this newer, more comprehensive instrument.

¹⁶ SAICM/ICCM.2/INF/1

¹⁷ http://www.unece.org/trans/danger/publi/ghs/implementation_e.html

Governments implementing GHS in different developmental groups		
Dev status	Number	% dev status
Least Developed Countries	6	12.24
Other Low Income Countries	2	16.67
Lower Middle Income Countries	11	24.44
Upper Middle Income Countries	18	46.15
Total	37	19.09

Governments implementing GHS by regional group		
Region	Number	% region
Africa	7	13.21
Asia Pacific	13	23.64
Latin America and the Caribbean	8	32
Central and Eastern Europe	13	39.39
Western Europe and Others Group	24	82.76
Total	65	33.33

Indicator 9: Websites providing publicly available information

64. As sufficient information was not available from the questionnaires to quantify a baseline for this indicator, the number of countries having an operational PRTR as reported in the US EPA website was used as a proxy.¹⁸

65. By the beginning of 2009, 31 PRTRs were operational (15.98 per cent of UN Member States).

66. Looking at the regional breakdown, it appears that countries from the Western Europe and Others Group have the largest number of operational PRTR systems (72.41 per cent of the countries), followed by the Central and Eastern European countries (39.13 per cent of countries). This result is largely consistent with countries adopting the PRTR protocol to the UN Economic Commission for Europe Aarhus Convention. No country from the African and Asia-Pacific regions is reported as having an operational PRTR as of 2009. Only one of the countries with an operational PRTR is classified as a developing country.

Indicator 10: Number of countries that have committed themselves to implementation of the Strategic Approach

67. Expressing a commitment to implement the Strategic Approach may take a number of forms. In addition to the designation of an official focal point these might include ministerial statements, resolutions, and development of a national Strategic Approach implementation plan. For this baseline, readily available information allowed only an assessment of the number of nominated focal points, and the development of national Strategic Approach implementation plans.

Governments with SAICM Implementation Plan		
	Number	% respondents
Yes	14	13.59
No	89	86.41
Total	103	100

68. Among all Member States of the United Nations, 164 had designated a national Strategic Approach focal point (85.57 per cent), indicating a high baseline level of activity.

69. Information for quantifying the development of a Strategic Approach implementation plan was extracted from the interim reporting questionnaires. The estimate for this indicator therefore uses the number of responding Governments as the denominator.

¹⁸ <http://www.epa.gov/tri/programs/international/index.htm#h1.last>

70. The proportion of Governments that reported having finished developing their Strategic Approach implementation plans is 13.59 per cent. Even though it does not capture the entire spectrum of forms for expressing commitment, evolution of the trends in development of implementation plans will be a useful part of future monitoring arrangements.

Indicator 11: Number of countries with multi-stakeholders coordinating mechanism

71. Two questions in the questionnaires addressed multi-stakeholder mechanisms by Governments. The first one was related to the establishment of inter-sectoral committees with an indication of the sectors involved. The second question asked whether a planning meeting of national stakeholders had been convened¹⁹.

Governments holding planning meeting for chemicals safety			Governments with Multi-stakeholders mechanism		
	Number	% Respondents		Number	% Respondents
Yes	80	77.67	Yes	80	77.66
No	23	22.33	No	22	22.33
Total	103	100	Total	103	100

72. The majority of respondents reported having established a multi-stakeholder mechanism (77.66 percent). These mechanisms appear to take various forms and include diverse groups of stakeholders. While some gather representatives from government bodies, others are reported to include non-governmental stakeholders such as private sector groups, civil society organizations, universities and research institutions, etc. The levels, mandates and powers of the committees can also vary significantly.

Number of sectors engaged in multi-stakeholder mechanisms					
	1-4 sectors	5-8 sectors	>8 sectors	N/A	Total
Number	5	23	23	29	80
% mechanisms	6.25	28.75	28.75	36.25	100

73. Similarly a significant majority of responding Governments indicated having convened at least one planning meeting of national stakeholders (77.67 per cent) in the baseline period.

74. Few multi-stakeholders mechanisms were reported to include less than five sectors (6.25 per cent of responding Governments). However, 36.25 per cent of the responding Governments did not provide any detail on the composition of the committee. When reported, the sectors involved most frequently included agriculture, environment, health, trade/industry, foreign affairs, finance/economy, labour, sciences/ education/academia, transport, customs, non-governmental organizations, private sector, and focal points of multi-lateral environment agreements.

Indicator 12: Number of countries with mechanisms to implement key international chemicals priorities

75. For assessment of this indicator, information on the adoption of the seven key chemicals management international instruments reported in SAICM/ICCM.2/INF/1 was reviewed²⁰. In addition,

¹⁹ This question could have been related to indicator 14 on the identification and prioritization of capacity-building needs. However, guidance accompanying the indicator specified to focus on publicly available plans.

²⁰ The group includes: Basel Convention on the Control of Transboundary Movement of Hazardous Wastes and their Disposal (BC), the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade (RC), the Stockholm Convention on Persistent Organic Pollutants (SC), the Montreal Protocol on Substances that Deplete the Ozone Layer of the Vienna Convention

the website of the Organization for the Prohibition of Chemical Weapons was also consulted adding an eight instrument, the Chemicals Weapon Convention to the list. For legally-binding conventions, the number of ratifications was recorded, while for the others available information on implementation was included.

Adoption of 8 key international instruments for chemicals						
	0	1-2	3-4	5-6	7-8	Total
Number	1	3	20	72	98	194
%	0.51	1.54	10.26	36.92	50.77	100

76. Overall, half of the UN Member States were identified as adopting 7-8 international instruments over 2006-2008 indicating a very high level of baseline activity. Only one Government had not adopted any instrument. It has to be remembered however, that such estimates do not capture progress in the achievement of the objectives of the instrument themselves.

Indicator 14: Number of countries that have identified and prioritized their capacity-building needs for the sound management of chemicals

77. The number of countries that have identified and prioritized their capacity-building needs could not be assessed based on the information contained in the interim reporting questionnaires. The guidance accompanying indicator 14 specifies that data collection should focus on plans that are publicly available. Therefore, information on the development of the UNITAR National Chemicals Management Profile and of a Stockholm Convention NIP from the document SAICM/ICCM.2/INF/1 was used as a proxy.

Number of countries with specified plans for identification and prioritization of needs		
	Number UN Members	% UN Members
SC NIP	87	44.85
NCMP	102	52.58
No	5	2.58
Total	194	100

78. About half of UN Member States (52.58 per cent) were reported as having developed a National Chemicals Management Profile by 2009. Only slightly fewer countries had developed a Stockholm Convention National Implementation Plan (44.85 per cent). While these numbers are impressive it should be noted that many of these profiles and national implementation plans might have been developed prior to 2006 as they were largely part of initiatives that took place in late 1990s and early 2000s following the publication in 1996 of guidance for their development.²¹ The development of these plans was also a significant part of enabling activities sponsored under the Stockholm Convention. It may be of interest in future years to monitor the updating and use of these plans or their integration with other planning tools for improving the sound management of chemicals.

Number of specified plans per regional group				
	NCMP	% region	SC NIP	% region
AFR	31	58.49	28	52.83
ASP	26	46.43	18	32.14
CEE	14	60.87	12	52.17
LAC	20	60.61	11	33.33
WEOG	11	37.93	18	62.07
Total	102	52.58	87	44.85

on the Protection of the Ozone Layer, International Labour Organization Convention 170 on Safety in the Use of Chemicals at Work (ILO C.170), International Maritime Organization Convention for the Prevention of Pollution from Ships (MARPOL), the International Health Regulations, and the Chemical Weapons Convention (CWC) from the Organization for the Prohibition of Chemical Weapons.

²¹ <http://www2.unitar.org/cwm/nphomepage/index.html>

79. The proportion of countries having developed a National Chemicals Management Plan by is skewed towards the African and Latin America and Caribbean and Central and Eastern European regions. In many of these instances specific funding and bilateral arrangements supported work in these countries. Many countries in the Western Europe and Others Group were engaged in other activities to document the chemicals in use and prioritize their chemicals management priorities and so do not feature greatly in the baseline estimates.

Indicator 17: Number of countries with projects supported by the Strategic Approach's Quick Start Programme (QSP) Trust Fund

80. Information collected by the secretariat as part of their administration of the Quick Start Programme Trust Fund was used for this indicator. In line with the objective of the fund to support the implementation of initial activities in developing countries, 147 countries are eligible for QSP projects and hence this number was used as the denominator for this baseline measure.

81. The period covered by this report (2006-2008) included the first five rounds of QSP projects. A little under half of the eligible Governments (46.94 per cent) had at least one QSP project approved over 2006-2008. These projects totaled US\$83. 13,518,402 (US\$ 182,681 per project on The highest number of countries that had QSP projects awarded over this period are from the Latin America and Caribbean region (63.64 per cent) . Following this are countries from the African region (49.06 per cent, Asia and Pacific (30.36 per cent) and finally Central and Eastern Europe (21.74 per cent). Countries from the African region received the highest total funding overall (US\$ 5,045,896).

Governments with approved QSP projects in rounds I-V		
	Number of countries	% eligible countries
Yes	69	46.94
No	78	53.06
Total	147	100

Approved QSP projects (rounds I-V) by region			
	Number countries	% region	Funding (US\$)
Africa	26	49.06	5'045'896
Asia Pacific	17	30.36	3'189'351
Central Eastern Europe	5	21.74	1'116'684
Latin America and the Caribbean	21	63.64	4'166'470
Total	69	35.57	13'518'401

82. Countries from the category "Other low income countries" had the highest proportion of projects (58.33 per cent of the total number of countries in the category), followed by "Least developed countries" (51.02 per cent), and low middle income countries (48.89 per cent) . Thirty-three per cent of countries from the "Upper middle category" were awarded QSP projects during 2006-2008.

B. Baseline results for non-governmental organizations

83. Due to the limited information available, only three indicators could be assessed quantitatively for non-governmental organizations (indicators 10, 11, and 7). The results are presented separately for civil society and private sector organizations. One of the main challenges in analyzing the civil society and private sector participation in Strategic Approach implementation is the unclear representation status of some of these in the reporting system. Not only is it difficult to distinguish between the legal status of the groups but as discussed earlier several of these groups represent groups of organizations. In addition, the range of information provided was quite variable and difficult to compare.

84. Another significant challenge for assessment of civil society and private sector non-governmental organizations is that that the formulation of some indicators are more directly relevant for Governments, while applying them for civil society and private sector organizations is open to interpretation.

1. Civil society organizations

Indicator 10: Number of organizations that have committed themselves to implementation of the Strategic Approach

85. For the approximation of a baseline estimate for this indicator comparable information for the designation of a focal point and on the development of a Strategic Approach implementation plan was available.

Civil Society organizations with SAICM implementation plan		
	Number	%
Yes	26	66.67
No	11	28.21
NA	2	5.13
Total	39	100

86. In total, 51 civil society organizations had designated a focal point over 2006-2008 as recorded by the secretariat. In the absence of any data in on the total number of civil society organizations engaged in the sound management of chemicals it may be estimated that this figure represents a baseline estimate of 40 per cent when compared to the number of civil society organizations participating in Strategic Approach meetings over this period, slightly higher than when considered in combination with private sector organizations.

87. Thirty-nine civil society organizations reported on Strategic Approach implementation activities using the interim questionnaires ahead of Strategic Approach regional meetings. With regard to the development of a SAICM implementation plan, 26 (67 per cent) of the responding civil society organizations had started the development of such a plan over 2006-2008. Eleven indicated that they had not started such a plan (28 per cent of responding civil society organizations), while two did not answer this question (five per cent of the responding civil society organizations).

Indicator 11: Number of organizations with multi-stakeholders coordinating mechanism

88. Approximation of this indicator for non-government organizations is made more difficult by the fact that its formulation can be open to mixed interpretation.

89. The development of multi-stakeholder mechanisms for participatory decision-making is usually interpreted as something addressed by Governments entities, as it generally relates to national planning of policies for the sound management of chemicals. In addition, various types of non-governmental organizations are found which have a diversity of different activities at local, national, (sub) regional and global levels. Some are very small organizations with few resources, while some are rather important organizations or networks of organizations. Some undertake activities specifically at strengthening multi-stakeholders participation.

90. For the purposes of estimating a baseline data available was used from respondents to the interim reporting questionnaire which estimated approximately 49 percent of civil society respondents had participated in at least one national planning meeting.

Civil Society participation in planning meeting of national stakeholders		
	Number	%
Yes	19	48.72
No	14	35.90
NA	6	15.38
Total	39	100

Indicator 17: Number of civil society organizations with projects supported by the Strategic Approach's QSP Trust Fund

91. Information collected by the secretariat as part of their administration of the Strategic Approach QSP Trust Fund was used for this indicator. The collection of information focused on projects where civil society organizations were the project applicant. The data does not provide any quantification of the participation by non-governmental organizations, including those from civil society, in the implementation of QSP projects. This participation is known to be widespread and effective.

Number and value of civil society QSP projects (rounds I-V)			
Number	% projects	US \$	% US \$
7	7.07	1'149'049	8.43

2. Private sector organizations

92. Five private sector organizations reported on implementation activities at least one occasion during 2006-2008. While this number may appear small, it can be seen that the organizations involved are typically very large organizations made up of many member companies and associations. For example the ICCA which comprises 53 national member associations.

Private sector organizations with SAICM implementation plan			Private sector participation in national stakeholder meetings		
	Number	%		Number	%
Yes	4	80.00	Yes	4	80.00
No	0	0.00	No	1	20.00
NA	1	20.00	NA	0	0.00
Total	5	100	Total	5	100

93. Twenty-six private sector organizations participated in Strategic Approach meetings. A number of these would also have been members of international associations. Over 2006-2008, six private sector organizations had nominated a Strategic Approach focal point, 23 per cent of those participating in Strategic Approach meetings. .

94. All but one of the six organizations with official focal points submitted written reports of the activities undertaken to implement the Strategic Approach over the baseline reporting period. In these reports, four of the five responding private sector organizations reported having established an implementation plan.

95. In relation to indicator 11, four of the five responding private sector organizations have participated in a planning meeting of national stakeholders.

96. In addition to reporting using the secretariats interim reporting questionnaires, ICCA also prepared a preliminary baseline estimates report aligning the 20 adopted indicators with existing reporting mechanisms utilized as part of its Responsible Care Global Charter and Global Product Strategy initiatives. Summarising the results of this work ICCA reported on activities contributing to implementation of the Strategic Approach in member associations in Western Europe and Others Group, Central and Eastern Europe, Latin America and Caribbean and Asia-Pacific and the level of completed activities, those being updated, those in-development and those where no progress could be reported. Such information could be form a useful part of a complementary report, particularly if subject to periodic reporting over subsequent years.

C Baseline for inter-governmental organizations

Indicator 10: Number of organizations that have committed themselves to implementation of the Strategic Approach

97. Thirteen intergovernmental organizations (42 per cent) had nominated a Strategic Approach focal point over the period 2006-2008 including all but one of the participating organizations of the IOMC. As discussed earlier a larger group of 31 inter-governmental organizations participated in Strategic Approach regional meetings and 15 inter-governmental organizations provided a written report on their implementation activities. Eight organizations indicated having started the development of an implementation plan, while four answered that they had not started such a process and three did not provide any answer.

Intergovernmental organizations with SAICM implementation plan	
	Number
Yes	8
No	4
NA	3
Total	15

98. Significantly and in addition many intergovernmental organizations, particularly the participating organizations of the IOMC have expressed their commitments to the Strategic Approach through bringing information on their implementation actions to the attention of governing bodies (document SAICM/ICCM.2/INF/9 provides additional information). The wealth of information provided by inter-governmental organizations in their reports provided to the secretariat demonstrated a high level of activities, particularly by the participating organizations of the IOMC.

99. The relatively large number of intergovernmental bodies and groups participating in the Strategic Approach meetings but not nominating an official focal point might be explained by a lack of clarification in reporting arrangements, for example several appear to represent secretariats of conventions and other multilateral mechanisms with a number represented formally by UNEP. This may however illustrate an area where improved communication on activities that might contribute to Strategic Approach implementation could take place in the future and this could be facilitated by formal nomination of a focal point.

Indicator 11: Number of organizations with multi-stakeholders coordinating mechanism

Intergovernmental organizations participation in meetings of national stakeholders	
	Number
Yes	5
No	0
NA	10
Total	15

100. A high proportion (2/3) of intergovernmental organizations responded that the question about multi-stakeholder coordinating committee was not relevant to their situations. Noteworthy in this regard is the operation of the IOMC which is itself a mechanism for coordination among those intergovernmental organizations working in the UN system.

Indicator 17: Number of organizations with projects supported by the Strategic Approach's Quick Start Programme Trust Fund

101. While inter-governmental organizations can participate in QSP projects as executing agencies, this was not quantified as it was not considered to be part of the indicator.

V. Conclusions and discussion

A. Measures of progress

102. The purpose of a baseline is to develop a measurement against which progress over time can be compared. The paucity of comparable readily available information did not allow the establishment of such a baseline measure for all 20 indicators, but nevertheless for the first time the present report has succeeded in estimating a baseline for seven of the 20 adopted indicators.

103. In addition important information is provided on the level of participation in the Strategic Approach through reporting on progress in participation in meetings and nominating Strategic Approach focal points.

104. Paragraph 22 of the Overarching Policy Strategy mentions that implementation of the Strategic Approach could start with an initial planning phase to build capacity for sound management of chemicals. These activities are also the focus of the Quick Start Programme. As stated in its founding resolution (I/4), the goal of the fund is to “support initial enabling capacity-building and implementation activities in developing countries, least developed countries, small island developing states and countries with economies in transition.”

105. Therefore, progress in implementation of the Strategic Approach is first measured by the establishment or strengthening of a coherent and coordinated planning process in order to ensure efficiency and cost-effectiveness of the activities. This involves measures such as: the development of a plan or strategy for sound chemicals management and the strengthening of cross-sectoral and multi-stakeholder coordination.

106. In line with the strategic value of the Strategic Approach, the present report can be seen as providing a baseline on implementation of the Strategic Approach consistent with the above focus on initial steps towards the achievement of the sound management of chemicals, as stated in paragraph 22 of the Overarching Policy Strategy.

B. Baseline estimate findings

107. The amount of available information considered in preparing the baseline report was considerable. Over the period 2006–2009, a total of 166 reports and questionnaires were submitted by 103 Governments, together with 42 reports and questionnaires by 15 intergovernmental organizations and 62 reports and questionnaires by 44 non-governmental organizations.

108. The main challenge of this present exercise lay in translating the information provided in the qualitative reports submitted to the secretariat into data that could be used to populate the 20 indicators adopted. The information was diverse and rich in qualitative detail. Reducing it to a “yes” or “no” answer for quantitative purposes proved to be a subjective task. The information tended to emphasize new activities in the reporting period, with less emphasis laid on the status of preexisting work.

109. Overall, comparable information that was available for this assessment did not allow the development of a comprehensive baseline for all of the 20 indicators adopted at ICCM2 for reporting on progress on implementation of the Strategic Approach and baseline estimates were only possible for seven of the 20 adopted indicators. Annex IV provides a summary of this information.

110. In general, the baseline results for Governments with regard to these seven indicators provide a high estimate of baseline activity, particularly the level of official Strategic Approach focal points, the establishment of inter-sectoral and multi-stakeholders mechanisms, and the implementation of international priorities. These results however would need to be tempered by the fact that 2006–2008 in fact reflects the first three years of implementation of the Strategic Approach and not therefore a true “baseline” before the adoption of the Strategic Approach. Particularly noteworthy are the high baseline estimates for the number of official Strategic Approach focal points in Governments, established of inter-sectoral and multi-stakeholders mechanisms, and the implementation of international priorities.

111. Far less conclusive elements could be extracted from available information on non-governmental and intergovernmental organizations contribution to implementation of the Strategic Approach.

112. In addition to the lack of readily available information on the adopted indicators, two other factors are considered critical. The first is that the number and nature of non-governmental organizations engaged in implementation of the Strategic Approach is very diverse and includes organizations with various mandates, capacities and roles in implementation of the Strategic

Approach. The number of organizations participating in Strategic Approach meetings is used as a conservative proxy for estimating the target number of non-government organizations. It is not known whether this is a sound basis for future reporting work.

113. The second factor is that the indicators adopted at the second session of the Conference for measuring progress in implementation of the Strategic Approach seem more targeted to the Governments than for non-governmental and intergovernmental organizations. However the level of reporting from these groups and the total data available does not allow definitive conclusions in this regard. The tailoring of the information collected by organizations in their own baseline estimate report might be considered further in developing indicators and providing supplementary information.

C. Considerations for future reporting

114. In light of the results, the following considerations can be made for future reporting on progress.

115. The definition of a baseline for each of the 20 indicators is not completely possible from readily available information using the approach of the present report. For the majority of the indicators more reliable quantitative information will be obtained from the first progress report. Bearing in mind that several of the baseline results that this report has obtained provide indicate a high-level of activity a further refinement of the indicator may be useful in future reporting work. In this area it is understood that the first progress report will collect information on a range of activities for each indicator, providing a more sustainable reporting approach should one activity be completed early.

116. Clarifying the total number of organizations participating in the Strategic Approach could assist measuring progress in implementation of the Strategic Approach. In addition, knowledge of the potential Strategic Approach participants would be useful for both assessing and increasing implementation efforts.

117. As currently formulated, some indicators are more relevant for Governments than for other stakeholders. The wide array of activities that can be undertaken towards implementation of the Strategic Approach and the resulting diversity of organizations involved might justify tailoring the set of indicators to the different stakeholders e.g. civil society and private sector organizations, academia, the full range of intergovernmental organizations. This would facilitate stakeholders' reporting as well as interpretation of information for assessing progress in implementation of the Strategic Approach.

118. Clarifying the reporting status of umbrella organizations might also help improving the assessment of progress in implementation of the Strategic Approach. This would also clarify how to report for some organizations that are part of networks or federations.

Annex I

Indicators for reporting by stakeholders on progress in the implementation of the Strategic Approach²²

The following 20 indicators were adopted by the International Conference on Chemicals Management at its second session, in May 2009, along with guidance on the type of data to be collected from stakeholders. They are reproduced here from annex III of the report of that session, without the guidance.

A. Risk reduction

1. Number of countries (and organizations) implementing agreed chemicals management tools.
2. Number of countries (and organizations) with mechanisms to address key categories of chemicals.
3. Number of countries (and organizations) with hazardous waste management arrangements.
4. Number of countries (and organizations) engaged in activities that result in monitoring data on selected environmental and human health priority substances.
5. Number of countries (and organizations) having mechanisms in place for setting priorities for risk reduction.

B. Knowledge and information

6. Number of countries (and organizations) providing information according to internationally harmonized standards.
7. Number of countries (and organizations) that have specific strategies in place for communicating information on the risks associated with chemicals to vulnerable groups.
8. Number of countries (and organizations) with research programmes.
9. Number of countries (and organizations) with websites that provide information to stakeholders.

C. Governance

10. Number of countries (and organizations) that have committed themselves to implementation of the Strategic Approach.
11. Number of countries (and organizations) with multi-stakeholder coordinating mechanism.
12. Number of countries (and organizations) with mechanisms to implement key international chemicals priorities.

D. Capacity-building and technical cooperation

13. Number of countries (and organizations) providing resources (financial and in kind) to assist capacity-building and technical cooperation with other countries.
14. Number of countries (and organizations) that have identified and prioritized their capacity-building needs for the sound management of chemicals.
15. Number of countries (and organizations) engaged in regional cooperation on issues relating to the sound management of chemicals.
16. Number of countries where development assistance programmes that include the sound management of chemicals.
17. Number of countries (and organizations) with projects supported by the Strategic Approach's Quick Start Programme Trust Fund.
18. Number of countries (and organizations) with sound management of chemicals projects supported by other sources of funding (not Quick Start Programme funding).

²² Extracted from the Report of the International Conference on Chemicals Management on the work of its second session SAICM/ICCM.2/15

E. Illegal international traffic

19. Number of countries having mechanisms to prevent illegal traffic in toxic, hazardous and severely restricted chemicals individually.
20. Number of countries having mechanisms to prevent illegal traffic in hazardous waste.

Annex II

Reporting questionnaire

An example of one of the interim reporting questionnaires used over the 2006-2008 intersessional period of the International Conference on Chemicals Management

24 June 2008

Questionnaire for organizations on SAICM implementation for the information of the International Conference on Chemicals Management at its second session		Please return by 30 November 2008 to:	
		SAICM secretariat 11-13 chemin des Anémones CH-1219 Châtelaine, Geneva Switzerland Tel: +41 22 917 86 31 Fax: +41 22 797 34 60 E-mail: saicm@chemicals.unep.ch	
Organization:		Person submitting this questionnaire: Mr. ☐ Ms. ☐	
Address:		Is this person the SAICM national focal point? Yes ☐ No ☐	
		Functional Title:	
		Department / Section:	
Phone:	Fax:	Email:	

Please answer the following questions. If the space is insufficient, respondents are welcome to attach additional information.

1. Coordination arrangements a) Has a SAICM Focal Point been nominated? Yes ☐ No ☐ b) In the case of large organizations, have inter-divisional coordination arrangements been put in place? Yes ☐ No ☐ c) If yes, please describe (e.g. composition of a coordinating committee or working group):
2. Initial planning a) Has a planning meeting or meetings of stakeholders within your organization or constituency been convened? Yes ☐ No ☐ b) If yes, please elaborate (e.g. describe the nature of the meeting(s) and indicate which stakeholders participated): c) Has work commenced on preparing a SAICM implementation plan for your organization? Yes ☐ No ☐ d) If yes, please elaborate (e.g. indicate the timeframe for preparing the plan and note its relationship, if any, to previous plans; describe the outcomes of any capacity needs assessment and prioritization exercises undertaken):

24 June 2008

3. Assessment of progress

a) Indicate, below, each of the five categories of objectives set out in the SAICM Overarching Policy Strategy in which new and/or extended programmes, projects or activities been undertaken by your organization as part of SAICM implementation:

(i) ☐ Risk reduction. Describe:

(ii) ☐ Knowledge and information. Describe:

(iii) ☐ Governance. Describe:

(iv) ☐ Capacity-building and technical cooperation. Describe:

(v) ☐ Illegal international traffic. Describe:

b) If desired, please attach a breakdown of new and/or extended programmes, projects and activities in relation to the 36 work areas set out in the SAICM Global Plan of Action.

24 June 2008

Other comments on SAICM implementation:

Signature:

X

Date:

Annex III

List of Governments and organizations submitting initial reporting questionnaires over the period 2006-2008

Governments

The following 103 Governments submitted interim reporting questionnaires on at least one occasion over the period 2006-2008: Afghanistan, Albania, Argentina, Armenia, Australia, Austria, Bahrain, Belarus, Belgium, Belize, Bolivia, Botswana, Bulgaria, Burkina Faso, Burundi, Cambodia, Canada, Chad, Chile, Comoros, Costa Rica, Cyprus, Czech Republic, Democratic Republic of the Congo, Denmark, Egypt, Eritrea, Estonia, Finland, Former Yugoslav Republic of Macedonia, Gambia, Georgia, Germany, Ghana, Greece, Guatemala, Guinea, Guyana, Haiti, Hungary, Indonesia, Iraq, Jordan, Japan, Kenya, Kiribati, Kuwait, Kyrgyz Republic, Latvia, Lesotho, Liberia, Lithuania, Madagascar, Malawi, Malaysia, Mali, Mauritania, Mexico, Moldova, Mongolia, Morocco, Mozambique, Republic of Nepal, New Zealand, Nigeria, Norway, Oman, Pakistan, Panama, Paraguay, Peru, Philippines, Poland, Qatar, Republic of Korea, Romania, Rwanda, São Tomé and Príncipe, Senegal, Serbia, Sierra Leone, Slovakia, Slovenia, South Africa, Spain, Sri Lanka, St Vincent and Grenadines, Sudan, Sweden, Switzerland, Syria, Togo, Thailand, Uganda, Ukraine, United Arab Emirates, Ukraine, United Kingdom, United Republic of Tanzania, United States of America, Uzbekistan, Yemen, Zambia, and Zimbabwe.

Intergovernmental organizations

The following 14 intergovernmental organizations submitted interim reporting questionnaires on at least one occasion over the period 2006-2008: Asia-Pacific Economic Cooperation Chemical Dialogue; Basel Convention Regional Coordinating Centre for South-East Asia; Common Market for Eastern and Southern Africa (COMESA); Food and Agriculture Organization of the United Nations (FAO); Intergovernmental Forum on Chemical Safety (IFCS); Organisation for Economic Cooperation and Development (OECD); Organization of American states (OAS); Regional Activity Centre for Cleaner Production- Mediterranean Action Plan; United Nations Development Programme (UNDP); United Nations Environment Programme (UNEP); United Nations Industrial Development Organization (UNIDO); United Nations Institute for Training and Research (UNITAR); World Bank Group (WB); and World Health Organization (WHO).

Non-governmental organizations

Civil society

The following 39 civil society non-governmental organizations submitted initial reporting questionnaires on at least one occasion over 2006-2008: Armenian Women For Health & Healthy Environment (AWHE), Associated Labor Unions-Trade Union Congress Of The Philippines (ALU-TUCP), Association For Sustainable Human Development, Association Pour la Valorisation de l'Environnement et pour la Promotion d'une Gestion Rationnelle des Produits Chimiques (AVEPRC), Bangladesh Occupational Safety, Health and Environment Foundation (OSHE), Capetown University, Occupational and Environmental Health Research Unit, COLNODO Red de Desarrollo Sostenible, Community Development Association, Day Hospital Institute for Rehabilitation & Development (DHIRD), Ecological Restorations, ECOTOX Environment and Health NGO, Environmental Group FRI, Federacion Internacional de Sindicatos de Trabajadores de la Quimica, Energia, Minas e Industrias Diversas - ICEM America Latina Y Caribe, Golan Environment and Heritage Association (GEHA), Information Technology Common Initiative Group (Environmental Friendly Mechanical Workshop) Bamenda Cameroon (ITCIG), Informer, Sensibiliser et Eduquer sur les Pops (ISE-POP-CI), International Federation of Chemical, Energy, Mines and General Workers' Union (ICEM), International Trade Union Confederation (ITUC), JEA - The Ecological Youth Of Angola, Kenya Chemicals and Waste Management Network (KECAWMN), Les Amis de La Terre-Togo, Morocco Cleaner Production Centre (CMPP), National Cleaner Production Centre: Kenya, National Cleaner Production Centre: Zimbabwe, Occupational and Environmental Health Research Unit, Pesticide Action Network (PAN) International, Research And Education Centre For Development (CREPD), Safe Water African Community Initiatives, SLOVAKIA - Slovak Environmental Agency, Society Of Environmental Toxicology And Chemistry (SETAC), South African Chemical Workers Union, Suez Canal University, Sustainable Development Policy Institute (SDPI), Tanzanian Agricultural Workers Union, Union for the Defense of the Aral Sea and Amudarya, University Of Nairobi, Women in Europe for a Common Future (WECF), WWF(World Wide Fund For Nature), WWF Japan.

Private sector organizations

The following five private sector non-governmental organizations submitted initial reporting questionnaires on at least one occasion over 2006-2008: Organizations: Asociacion de Directivos y Técnicos Profesionales de la Industria del Petroleo "ADECO", Chemicals and Allied' Industries Association (CAIA), Croplife International, International Chamber of Commerce, and International Council of Chemical Associations (ICCA).

Summary of estimates for seven of the twenty adopted indicators for monitoring progress in SAICM implementation

Baseline estimates (2006-2008)

SAICM Objective	Indicator	Short indicator name	Baseline estimates			Comments	Source
			GOV	IGO	NGO		
Knowledge & Information	6	Provision of information to internationally harmonized standards	33%			GHS	ICCM2 doc
	9	Websites providing information on chemicals	16%			PRTR	Website
Governance	10	Commitment to implement SAICM	14%	53%	67%	SAICM Implementation Plan	Questionnaire
		Official focal point	86%	42%	36% ²³	Official focal point. NGO & IGO denominator number of orgs participating in meetings	
	11	Multi-stakeholder coordination mechanism	78%		49%		Questionnaire
	12	Implementation of international priorities	51%			7-8 specified instruments	ICCM2 doc
Capacity-building & technical cooperation	14	Priority-setting for capacity-building needs	49%			Average of NIPs and SC NIP	ICCM2 doc
	17	Capacity-building supported by the Quick Start Programme	47%				QSP Eligibility

²³ For civil society organizations the figure is 40 per cent and for private sector organizations the figure is 26 per cent.



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to International
Chemicals Management

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Item 4 (a) of the provisional agenda*

Implementation of the Strategic Approach:

**Evaluation of and guidance on the implementation, review and
updating of the Strategic Approach**

**Progress in implementation of the Strategic Approach to
International Chemicals Management for 2009 and 2010**

Note by the secretariat

The secretariat has the honour to circulate in the annex to the present a report on progress in implementation of the Strategic Approach to International Chemicals Management for 2009 and 2010. The report contains the results of the analysis of submissions provided by from 124 Strategic Approach stakeholders in Governments, intergovernmental and nongovernmental organizations. The conclusions and highlights of the analysis are included in document SAICM/ICCM.3/4. The present report is provided for the information of participants and has not been formally edited.

Annex

Progress in implementation of the Strategic Approach to International Chemicals Management for 2009-2010

Executive summary

The present report provides a summary of the data collected from 124 stakeholders in Governments, intergovernmental and non-governmental organizations on activities contributing to implementation of the Strategic Approach for 2009 and 2010. It is the first report of progress since adoption by the International Conference on Chemicals Management of the modalities it would use for periodic reporting including 20 quantitative indicators focusing on sections of the Overarching Policy Strategy of the Strategic Approach.

The present report is an update of the version considered by the first meeting of the Open-ended Working Group, Belgrade, 15-18 November 2011 in which the use of the online data collection tool, the results obtained from 110 stakeholders and the approach to the data analysis were described. In accordance with the decisions of the Open-ended Working Group, an additional call for information was made in order to complete the data available for the years 2010 and 2011 and the additional data obtained has been incorporated in the present report.

The analysis is focused on an estimation of progress according to the modalities of reporting adopted by the Conference. It provides estimates of the numbers of stakeholders contributing to the achievement of each of the adopted indicators and a series of pictures or snapshots enabling a comparison of the types of reported activities. The analysis is supplemented by information on the Strategic Approach website that downloaded or used for future reference. This includes excel spreadsheets that summarize results from all questions used in the online tool and the copies of each submission made from stakeholders containing further qualitative information, background references and weblinks.

To better understand the overall results some limited comparative analyses are included for different stakeholder groups, regional groups and categories of economic development.

The results are compared to the baseline estimates for 2006-2008 for seven indicators, where a baseline estimate has been possible.

Taken together the results show a considerable level of activity in relation to the adopted indicators and throws light on some of the areas where additional efforts may be beneficial in future. Positive progress from the baseline is demonstrated..

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The secretariat would like to acknowledge the contributions made by 124 Strategic Approach stakeholders in providing information for the present report, the work of Lesley Onyon and Slavena Georgieva in undertaking the analysis and preparation of the report, and the support from the WHO Department of Information Technology and Telecommunications including Anthony Armstrong, Liubov Bosova and Tormod Lundt in preparing and deploying the online data collection tool.

I. Introduction

1. The Strategic Approach to International Chemicals Management is a policy framework to guide efforts to achieve the 2002 Johannesburg Plan of Implementation goal that by 2020 chemicals are produced and used in ways that minimise significant adverse effects on human health and the environment.
2. The International Conference on Chemicals Management undertakes periodic reviews of the Strategic Approach and has two relevant functions¹ in this regard "to receive reports from all relevant stakeholders on progress in implementation of the Strategic Approach" and "to evaluate the implementation of the Strategic Approach with a view to reviewing progress against the 2020 target and taking strategic decisions, programming, prioritizing and updating the approach as necessary".
3. The International Conference on Chemicals Management decided to undertake a first evaluation of progress in implementation of the Strategic Approach at its third session in 2012 and requested the secretariat to solicit data using an online data collection tool in order to complete a first progress report for the period 2009 - 2011. At its first meeting from 15- 18 November 2011, the Open-ended Working Group decided that the first report of progress would cover the two-year period 2009-2010, with reports for three-year periods thereafter.
4. The present report provides the results of the data collection for 2009 and 2010. The information reported is the first time an online data collection tool has been utilised to collect information from stakeholders and the first time that it has been possible to make a quantitative report on progress.

II. Methodology

A. Questionnaire design

5. The International Conference on Chemicals Management at its second session adopted 20 indicators for evaluating progress in implementation of the Strategic Approach. These indicators address five categories of the Overarching Policy Strategy: risk reduction, knowledge and information, governance, capacity-building and technical cooperation and illegal international traffic (see annex I). In addition to adopting the 20 indicators the Conference also provided on the approach to data collection. This includes specific advice on the data to be collected on each indicator and general guidance including that a single set of indicators would be used for all stakeholders in Governments, intergovernmental and non-governmental organizations.
6. A draft questionnaire was designed to collect data based on the specific guidance provided by the Conference. In designing the questionnaire the secretariat took into account the experience of reviewing interim reporting questionnaires for the period 2006-2008 that had been undertaken in the preparation of a baseline estimates report². The questionnaire was structured in six parts corresponding to the five categories of indicators agreed by the second session of the Conference together with an introductory part that gathered information on the identity of the respondent.
7. Each part of the questionnaire contained a mixture of mandatory and optional questions. In order to maximize the comparability of the collected data at least one mandatory question for each indicator was included.
8. The mandatory questions were designed to take account of the voluntary nature of the Strategic Approach and the different instruments and processes that can be used to achieve the sound management of chemicals. Wherever possible at least one of the mandatory questions included a list of relevant activities alongside a series of "check-boxes". This approach was considered important as there was little comparable information on the types of activities being undertaken in many countries

¹ Paragraphs 24 (a) and 24 (b) of the Overarching Policy Strategy of the Strategic Approach to International Chemicals Management.

² OEWG.1/INF/1- Draft baseline estimates report for the period 2006-2008.

and a need to avoid assuming any one particular activity would apply in all circumstances. The text of the Overarching Policy Approach was used as the main reference for identifying relevant activities for inclusion, for example, in the risk reduction section, the groups of chemicals that might be prioritised for risk management are those already identified in the Overarching Policy Strategy.

9. Comments were invited on the draft questionnaire in early 2011 and the questionnaire was subsequently revised to take account of the comments received. The revision focused on identifying and resolving questions that appeared ambiguous and aligning the questionnaire further with the guidance provided by the second session of the Conference. A copy of the revised questionnaire used for the data collection tool is contained in annex II of the present report. This questionnaire was also made available in French and Spanish on the SAICM website³.

B. Data collection

1. Development of the online data collection tool

10. An online version of the questionnaire was created using *Datacol* an internet-based survey tool developed and supported by the Department of Information Technology and Telecommunications of WHO. Datacol is widely used in WHO for the collection of health-related information from member states, collaborating institutions, and WHO regional and country offices and staff. The tool has minimal technical specifications and so is suitable for use in a range of different computing environments and internet settings. The collected data was stored in an SQL database, backed-up and maintained by WHO database administrators.

11. A number of practical measures were taken in transforming the questionnaire into the online data tool, these included using pull-down lists to simplify data entry for commonly used terms and the use of hyperlinks to provide background references and guidance. Respondents were prompted to select one or multiple items in the questionnaire by checking applicable boxes. Text boxes provided the opportunity for addition of narrative comment and supporting documents could be uploaded and linked to the form. Each part of the form was created as a separate part of the online tool to avoid loss of data in the case of technical disruptions and improve the ease of use of the forms. Pilot testers were invited to test the usability of the online version of the questionnaire. The comments received are available on the SAICM website and were taken into account in finalising the tool.

2. Deployment of the online tool

12. A two step process was followed for deploying the online data collection tool. In the first step users needed to register for using the tool and obtain a password from the secretariat. The registration process itself simply required all those wishing to submit data to confirm their identification and email address. The secretariat pre-loaded the online tool with the email addresses of all Strategic Approach focal points so that passwords for data submission could be automatically be sent-out following registration. The registration function was needed to control access to the online tool and to enable users to save data in draft form for checking and later submission; for the secretariat to limit the number of submissions from each stakeholder to one; and for the secretariat to monitor use of the system and in the case of any problems or questions contact the registered user directly.

13. Collection of data began on 4 March 2011. All official focal points were contacted by e-mail and informed of the registration and data submission procedures and the deadlines for submitting information. A general call for data was also posted on the Strategic Approach website.

14. Regular reminders were sent by e-mail during the data collection period. During the data collection process, the secretariat monitored use of the online tool identifying all those who had not registered; those who had registered but not yet submitted data and those who had not submitted all parts of the online form. Regional focal points were kept regularly informed about the progress in submission of data from the countries in their regions and were asked to facilitate the reporting

³ For a French and Spanish translation of the questionnaire see the annex to document SAICM/RM/Afr.4/INF/2 [http://www.saicm.org/documents/meeting/afreg/Nairobi 2011/Meeting.doc](http://www.saicm.org/documents/meeting/afreg/Nairobi%2011/Meeting.doc) and <http://www.saicm.org/documents/meeting/grulac/Panama%202011/Meeting%20documents> respectively.

process by encouraging additional submissions. Reports on progress were made at all Strategic Approach regional meetings held over the reporting period⁴ and specific questions and needs for assistance were discussed at those meetings. All those submitting data were sent a copy of their submission for their records.

15. The secretariat originally set a deadline of 15 April 2011 for receipt of online data submissions. As at 18 April 2011, however, while over 130 stakeholders had registered to use the online tool only 36 had submitted completed questionnaires. The secretariat accordingly extended the deadline to 9 May 2011. The online data collection process was extended again to 9 July 2011 to allow further time for the finalization of a number of partially completed forms. The data collection system was closed on 11 July 2011. Over a total of 18 weeks 110 data submissions were received.

16. The first meeting of the Open-ended Working Group encouraged stakeholders who had not yet reported on progress by the time of its meeting, to be given an additional opportunity to report. The secretariat consequently re-opened the online reporting tool to enable collection of additional reports for a further 12 weeks from 5 December 2011 to 4 March 2012. An additional 14 submissions were made following the extension given by the Open-ended Working Group.

3. Use of secretariat data

17. The online questionnaire was not used to quantify the number of Strategic Approach focal points, the number of projects supported by the Quick Start Programme of the Strategic Approach or to categorize Government respondents into applicable regional or economic groups. In these cases, data held and maintained by the secretariat was used directly.

C. Data analysis

18. The collected data was exported from the online data tool into a CSV file for in depth analysis using Microsoft Excel. In accordance with the wishes of the Conference, the analysis of individual submissions was not carried out and instead the questionnaire answers were aggregated into applicable stakeholder groups (Government, intergovernmental or non-governmental organizations) and in regional grouping and categories of developmental assistance for Government respondents. A separate data table was created for each mandatory questions and these results can be downloaded from the Strategic Approach website. **Table 1** summarises how each of the questions and data tables correlates with the 20 indicators and sections of the online form. Copies of all submissions, including the narrative comments and qualitative information may also be downloaded from the Strategic Approach website.

19. For non-governmental organizations, data from private sector organizations was initially disaggregated from civil society organizations but given the small numbers of respondents involved it was not possible to analyse in disaggregated form. Similarly, data from the participating organizations of the IOMC was disaggregated from other intergovernmental organizations but due to the small number of other intergovernmental organizations reporting it has not been analysed in disaggregated form.

20. The online form collected information on progress with over 170 activities contributing to the 20 adopted indicators. Stakeholders could report on one or more than one activity and had the possibility to add “other” activities they assessed as relevant to the specific indicators. The following analyses were carried out:

- (a) **The number of stakeholders reporting at least one activity for each indicator.**
- (b) **The average number of activities reported on each indicator.** This average was expressed as a percentage of the total number of the maximum number of activities that could

⁴ Regional meetings where progress in the data collection was discussed: Fourth African meeting, Nairobi, 5, 7 and 8 April 2011; Third Latin American and Caribbean meeting, Panama City, 30 May–3 June 2011; Fourth Central and Eastern European meeting, Lodz, 27–29 June 2011; Third Asia-Pacific meeting, Beijing, 5–9 September 2011

Table 1: Correlation between the parts of the online data collection form, adopted indicators and detailed tabulated results

SAICM objective	Indicator	Short indicator name	Question numbers in tool/questionnaire ⁵							Tabulated results See SAICM website ⁶						
Identity of respondent Part 1		Sector of economy of interest	1.1.9													
		Information on SAICM Focal Point	1.2.1													
Risk Reduction Part 2	1	Use of chemical management tools	2.1							1	2					
	2	Key categories of chemicals subject to risk management	2.2							3						
	3	Hazardous waste management arrangements	2.3							4	5					
	4	Periodic monitoring	2.4							6	7					
	5	Setting priorities for risk reduction	2.5							8	9	10	11			
Knowledge and Information Part 3	6	Provision of information to internationally harmonized standards	3.1	3.2						12	13					
	7	Communication on risks to vulnerable groups	3.3							14						
	8	Research programmes	3.4							15						
	9	Websites providing information on chemicals	3.5							16						
Governance Part 4	10	Commitment to implement SAICM	4.1	Plus official SAICM focal points						17						
	11	Multi-stakeholder coordination mechanisms	4.2							18	19	20				
	12	Implementation of international priorities	4.3	4.4	4.5	4.6	4.7	4.8	4.9	21	22	23	24	25	26	27
Capacity building and technical cooperation Part 5	13	Bilateral capacity building and technical cooperation support	5.1	5.2						28	29					
	14	Priority setting for capacity-building needs	5.3							30						
	15	Regional cooperation on the sound management of chemicals	5.4							31						
	16	Development assistance programmes that include chemicals	5.5							32						
	17	Capacity-building projects supported by the QSP	Secretariat QSP database sources													
	18	Capacity building projects supported by other sources	5.6							33						
Illegal International traffic Part 6	19	Illegal international traffic in chemicals	6.1							34	35					
	20	Illegal international traffic in hazardous waste	6.2							36						

⁵ See annex II for a copy of the questionnaire used

⁶ The SAICM website contains copies of each table of results for each of the mandatory questions from the questionnaire under the section on Periodic Reporting

be reported for each indicator, providing an indicative level of achievement for that indicator. Both of the estimates (a) and (b) above were calculated for all stakeholders combined in an aggregated fashion, for each stakeholder group separately and for Governments according to regional groupings of the United Nations and by categories of development assistances as defined by the OECD Development Assistance Committee and by the listing of small island developing states of the United Nations.

(c) The number of stakeholders reporting the specific activities under each indicator.

For each question in the online tool there was generally a list of specific activities that respondents could report against. This approach was consistent with the spirit of the Strategic Approach in which stakeholders are invited to consider and implement activities as appropriate according to their applicability. Enumerating the responses for each activity for all respondents enables an overall picture or “snapshot” to be generated identifying those activities that were reported most and least. This is expressed as a minimum for the activities reported least and a maximum for those activities reported most. Where more than one question was applicable for any indicator an overall maximum and minima are recorded for all questions contributing data for that indicator. For example, indicator one on use of chemical management tools has two aspects i) the use of specified IOMC tools with a range of responses from 26 to 64 per cent, and ii) the publication of new tools and guidance by stakeholders with a range of responses from 22 to 39 percent. The overall range of responses for this indicator (22 to 64 per cent) combines the ranges of responses from both aspects of data collection.

(d) A graphical representation of the number of stakeholders reporting the specific activities in relation to each questions used in the survey. For this analysis a same approach to (c) above was followed but a graphical “snapshot” was created to show the number of responses for each question in the survey providing more detail on the specific activities being undertaken. For the present report the snapshots are provided using aggregated data for all stakeholders. The tabulated numerical excel spreadsheets that can be downloaded from the Strategic Approach website provide the data that can also enable the future exploration of the results for specific stakeholder group, Governments, intergovernmental and non-governmental organizations, regional and developmental group.

III. Results

A. Number of respondents using the electronic data collection tool

21. **Table 2** shows the number of respondents who registered and later submitted information using the online tool.

22. One hundred and six Governments (55 percent) registered to use the online tool and 78 (74 per cent) submitted complete responses to all six parts of the online form. The overall response rate for Governments was 40%. In comparison with other regional groups a high percentage of Governments in Africa and in Asia-Pacific did not proceed to submit data, although they had initially registered. These regions also had comparatively larger numbers of Governments who did not respond to follow-up or reminders from the secretariat. Consequently as shown in **figure 1**, Governments from Asia-Pacific and Africa are relatively under-represented compared with other regions. Developing-country Governments comprise 55 per cent of all Government respondents with comparable percentages among the different groups of development assistance categories as shown in **figure 2**.

23. Of the total 108 complete submissions, 72 per cent (78) were from Government, 10 per cent (11) from intergovernmental organizations and 18 per cent (19) were from non-governmental organizations including five private sector organizations. For intergovernmental and non-governmental organizations and overall response rate may be estimated from the numbers of official Strategic Approach focal points for these organizations. Accordingly the overall response rates for intergovernmental organizations is estimated to be 85 per cent (11 respondents) and 33 per cent (19 respondents) for non-governmental organizations respectively. Among the participating organizations of the Inter-Organization Programme for the Sound Management of Chemicals (IOMC) the response rate was 100 per cent.

24. The total time provided for making the submissions was 31 weeks: 18 weeks from 4 March to 9 July 2011; together with a 13 week supplementary period after the first meeting of the Open-ended

Working Group. Approximately 70% of the submissions were made within nine-weeks of the secretariats request.

1. List of Governments making submissions

25. The following 78 Governments fully completed the online questionnaire: Albania, Algeria, Argentina, Australia, Belarus, Belgium, Belize, Bulgaria, Burundi, Cambodia, Canada, Chile, Colombia, Costa Rica, Croatia, Cuba, Cyprus, Czech Republic, Denmark, Dominican Republic, Ecuador, Egypt, Finland, Gambia, Germany, Guatemala, Haiti, Honduras, Hungary, Iceland, India, Jamaica, Japan, Kenya, Latvia, Lesotho, Lithuania, Malaysia, Maldives, Mali, Mauritius, Mexico, Monaco, New Zealand, Niger, Nigeria, Norway, Palau, Panama, Peru, Philippines, Poland, Portugal, Republic of Korea, Romania, Saint Lucia, Saint Vincent and the Grenadines, Senegal, Serbia, Seychelles, Sierra Leone, Slovenia, Solomon Islands, South Africa, Spain, Sudan, Suriname, Sweden, Switzerland, Thailand, the former Yugoslav Republic of Macedonia, Uganda, Ukraine, United Republic of Tanzania, United States of America, Uruguay, Viet Nam, Zambia. The following 10 Governments partially completed the online questionnaire: Austria, Bahrain, Chad, Ghana, Liberia, Madagascar, Malawi, Marshall Islands, Qatar, Syrian Arab Republic.

2. List of inter-governmental organizations making submissions

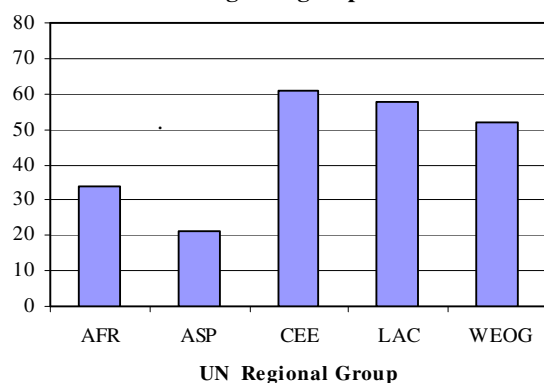
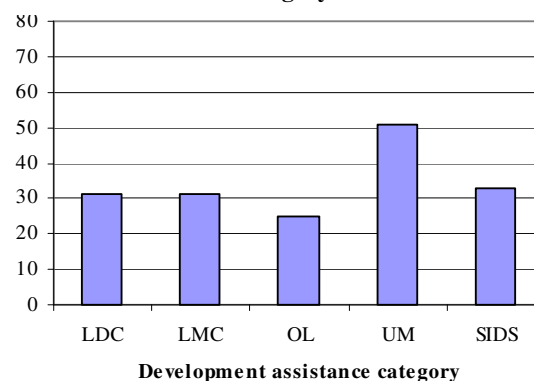
26. The following 11 intergovernmental organizations, including 6 participating organizations of IOMC, fully completed the forms: Central American Integration System, European Commission, Food and Agriculture Organization of the United Nations; International Labour Organization, Organization for Economic Cooperation and Development, the World Bank, United Nations Development Programme, UNEP, UNIDO, United Nations Institute for Training and Research, World Health Organization (WHO).

3. List of non-governmental organizations making submissions

27. The following 19 non-governmental organizations, including 6 private sector organizations, fully completed the forms: Armenian Women for Health and Healthy Environment, Associated Labor Unions - Trade Union Congress of the Philippines, Association for Environmental Education and the Protection of Birds in Morocco, Sustainable Development Network, CropLife International, Day Hospital Institute for Development and Rehabilitation, Environmental Ambassadors, Groundwork, Health Care Without Harm, International Council of Chemical Associations, International Council on Mining and Metals, International Society of Doctors for the Environment, International Trade Union Confederation (ITUC), ITUC Regional Organization for Africa, New Brunswick Partners in Agriculture, Occupational Knowledge International, Pesticide Action Network, Society of Environmental Toxicology and Chemistry and Turkish Chemical Manufacturers Association. The following 6 non-governmental organizations partially completed the forms, submitting one or more parts: Centre for Occupational and Environmental Health, University of Cape Town, Research and Education Centre for Development, Centre for Environment and Sustainable Development, Golan Environment and Heritage Association, International Union of Toxicology, Mediterranean Association for Sustainable Development.

Table 2: Number of registrations and submissions made using the online data collection

	Total number of countries	Number of registrations	No. of complete submissions	Different parts of the online data collection tool					
				Part 1	Part 2	Part 3	Part 4	Part 5	Part 6
Governments	194	106	78	88	80	79	81	81	81
Africa (AFR)	53	30	18	23	18	18	19	20	20
Asia & Pacific (ASP)	56	23	12	16	14	13	13	13	13
Central & Eastern Europe (CEE)	23	15	14	14	14	14	14	14	14
Latin America & Caribbean (LAC)	33	21	19	19	19	19	19	19	19
Western Europe & Others (WEOG)	29	17	15	16	15	15	16	15	15
Intergovernmental organizations			11	11	11		11	11	11
Non-governmental organizations			19						
Civil society			14	19	17	16	14	15	14
Private sector			5	6	5	6	6	5	5
Total complete submissions			108						

Figure 1: Percentage of Government respondents per total countries in each UN regional group**Figure 2: Percentage of Government respondents per total number assigned to each development category**

B. Results for each of the 20 indicators

28. The following sections of the report summarise the key results for each of the 20 indicators adopted by the second session of the Conference. For each mandatory question in the online reporting form, excel tables provide a summary of the responses for each question in the online tool are available on the Strategic Approach website.

1. Overview of results

29. **Table 3** provides a summary of the analysis of the data collected for the first progress report on implementation of the Strategic Approach for 2009-2010. The results have been aggregated for all SAICM stakeholders. Three additional tables are contained in annex III of the present report and show the results for different stakeholder groups (Governments, intergovernmental and non-governmental organizations), and for Governments in different UN regions and different categories of development assistance. Table 3 shows:

- (a) The number of stakeholders reporting at least one activity for each indicator;
- (b) The average number of activities reported on each indicator; and
- (c) The number of stakeholders reporting the specific activities under each indicator – reported as a percentage reporting the least frequently reported activity (minimum) and the most reported activity (maximum).

30. The number of stakeholders reporting at least one activity relevant to each of the indicators is high, in several cases exceeding 90 per cent of the total respondents, particularly for indicators relating to risk assessment. The number of stakeholders reporting at least one activity in relation to indicators on capacity-building and technical cooperation is considerably less than half of that for risk reduction.

31. Those indicators where the average number of reported activities per stakeholder were the greatest were indicators 2 and 5, namely the key categories of chemicals subject to risk management and setting priorities for risk reduction, both contributing the Overarching Policy Strategy objectives relating to risk reduction. Those indicators where the average number of reported activities were lowest were indicators 6 and 18 on provision of information to internationally harmonized standards and capacity-building support provided by sources other than the Strategic Approach Quick Start Programme.

32. The range of activities reported varied considerably within the same indicator. The highest rated activity in relation to indicator 2 was for the management of pesticides reported by 81 percent respondents. The lowest rated activity in relation to indicator 5 was access to funding from a multi-lateral convention trust fund. Section 3 of the present report provides the richness of the detail for each of the activities reported over this period in a series of “snapshots” of activities for each indicator.

33. Supplementary tables contained in annex III of the present report provide additional analysis of the average number of activities undertaken by different stakeholder groups (Governments, intergovernmental and non-governmental organizations). The results reflect the different responsibilities of these stakeholders particularly for hazardous waste management arrangements (indicator 3), provision of information to internationally harmonized standards (indicator 6), establishment of multi-stakeholder coordination mechanisms (indicator 11) and the two indicators relating to illegal international traffic in chemicals (indicators 19 and 20) where Governments reported a much higher average number of activities, than either intergovernmental or non-governmental organizations.

34. Supplementary analysis of the data provided by Governments in annex III explores differences in the results reported by Governments in different UN regional groups and categories of development assistance. Table ii) explores differences in the reporting results within different regional groups. Compared with the overall average number of activities reported by Governments, the Western European and Others Group reported the highest average activity for just over half of the indicators with the exception of commitment to implement the Strategic Approach and the establishment of multi-stakeholder coordination mechanisms for which Governments in the African region reported the highest average number of activities and Governments in the Asia-Pacific region who reported the

Table 3: Summary of the data analysis of the first progress report on implementation of the Strategic Approach: 2009–2010

Short indicator name	No. of stakeholders reporting at least one activity (a)	No. of activities assessed	Average number of reported activities (b)		Percentage range of responses on specific activities (c)	
			No.	%	Min	Max
Risk reduction						
1. Use of chemical management tools	112 (99%) *	20	7.46	37	23	67
2. Key categories of chemicals subject to risk management	110 (97%)*	11	5.71	52*	28	81*
3. Hazardous waste management arrangements	100 (88%)	14	5.21	37	35	73
4. Periodic monitoring	102 (90%)	7	2.79	40	41*	77
5. Setting priorities for risk reduction	106 (94%)	20	8.17	41*	32	75
Knowledge and information						
6. Provision of information to internationally harmonized standards	88 (79%)	12	2.36	20**	27	67
7. Communication on risks to vulnerable groups	91 (81%)	8	2.34	29	12**	59
8. Research programmes	78 (70%)	5	1.79	36	32	54
9. Websites providing information on chemicals	97(87%)	10	4.10	41*	22	59
Governance						
10. Commitment to implement the Strategic Approach	102 (89%)	8	2.53	32	22	45**
11. Multi-stakeholder coordination mechanisms	87 (76%)	15	4.44	30	6**	69
12. Implementation of international priorities	104 (91%)	24	6.62	28	23	88*
Capacity-building and technical cooperation						
13. Bilateral capacity-building and technical cooperation support	34 (30%) **	2	N/A	N/A	16	29
14. Priority setting for capacity-building needs	83 (74%)	5	1.31	26	20	40**
15. Regional cooperation on the sound management of chemicals	68 (61%)	6	2.06	34	23	51
16. Development assistance programmes that include chemicals	36(32%)**	1	N/A	N/A	N/A	N/A
17. Capacity-building projects supported by QSP	48	1	N/A	N/A	N/A	N/A
18. Capacity-building projects supported by other sources	77 (69%)	11	1.71	16**	3**	47
Illegal international traffic						
19. Illegal international traffic in chemicals	89 (80%)	8	2.81	35	31	57
20. Illegal international traffic in hazardous wastes	82 (74%)	8	2.26	28	27	57

* Highest reported result among all 20 indicators

** Lowest reported result among all 20 indicators

highest average number for priority-setting activities which assist in identifying capacity-building needs. According to the analysis carried out for the present report, Governments in Latin America and Caribbean reported the lowest number of average activities for a 14 of the 20 indicators with the exception of the use of sources outside of the Quick Start Programme for supporting capacity-building and technical cooperation.

35. Table iii) in annex III further explores the data from the perspective of the following categories of development assistance (Least Developed Countries, LDC; Lower Middle income Countries, LMC; Other Low income countries, OL; Upper Middle income countries, UM; and Small Island Developing States, SIDS). The average number of reported activities is compared for Governments allocated to different categories of development assistance and Governments not classified as developing countries. A variety of results were obtained. LMC and OL Governments reported a higher average number of activities for approximately half the indicators with Governments not classified as developing reporting the highest average number of activities for seven indicators. SIDS reported the lowest average number of activities for eight indicators, particular for indicators relating to Governance.

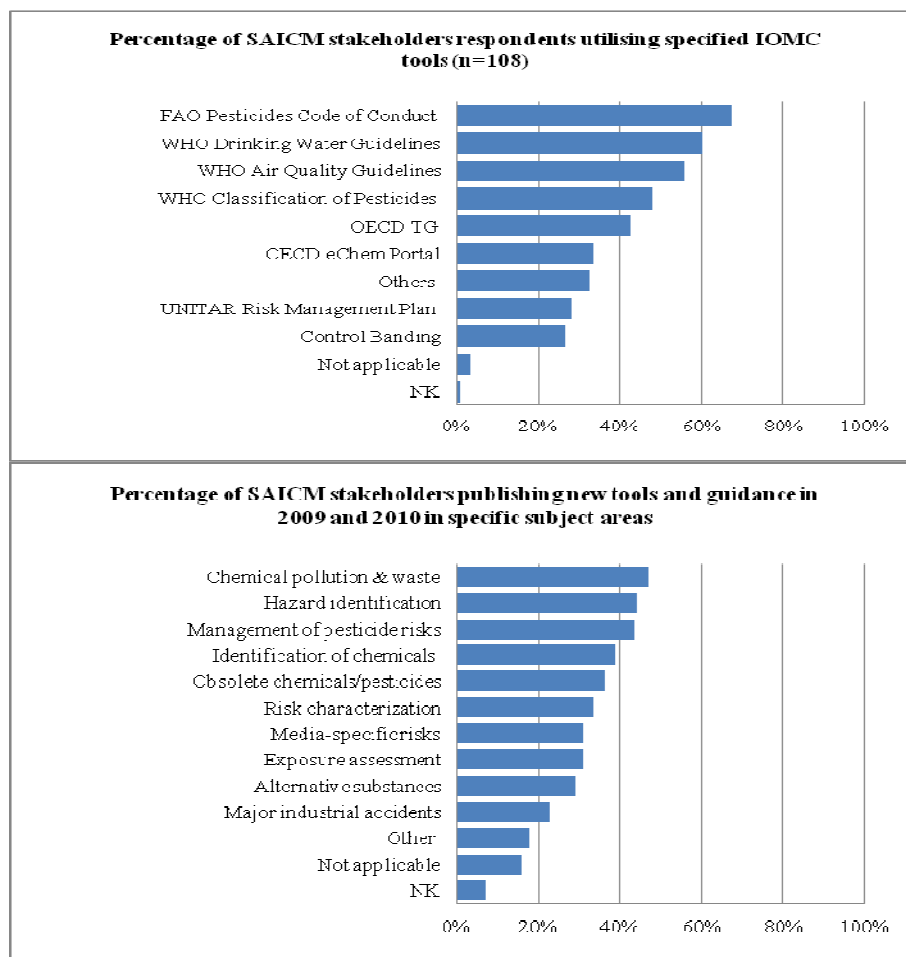
Section 2

Snapshots of activities undertaken contributing to achievement of each of the 20 indicators

1. Use of chemicals management tools

Indicator 1: Number of countries (and organizations) implementing agreed chemical management tools

Progress against this indicator was measured by taking into account data submitted by stakeholders on the use of agreed tools or guidance materials for risk reduction published by the Participating Organizations of the Inter Organization Programme for the Sound Management of Chemicals (IOMC); and on any new tools or guidance materials published by stakeholders in 2009-2010 to implement risk reduction in selected areas



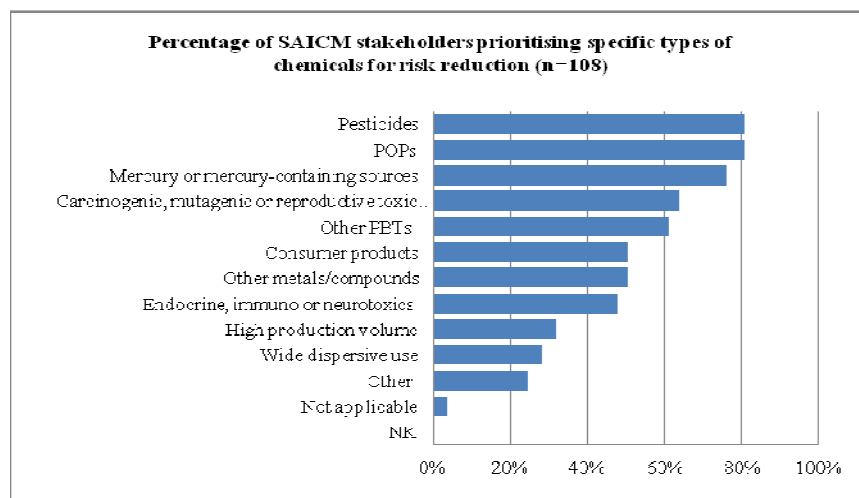
A range of responses from 27 to 67 per cent were obtained depending on the particular IOMC tools and guidance material utilised. The highest number of responses (67 percent, 76 respondents) utilized the FAO International Code of Conduct for the Distribution of Pesticides. On average Government respondents reported using four different IOMC tools and guidance documents in the period 2009-2010. Approximately one third of Governments reported using six or more of the named tools. 24 respondents said that specific tools published by the IOMC were referenced in legislation notably standards and guidelines published by WHO, and the Code of Conduct for the Distribution of Pesticides published by FAO, OECD Test Guidelines.

A lower range of responses, from 23 to 47 percent depending on the subject area, reported publishing their own new tools. The highest number of responses (47 percent or 53 respondents) concerned new tools and guidance materials for reducing risks from chemical pollution and waste. On average Government respondents reported publishing four new tools and guidance materials in the period 2009-2010, 21 per cent of Governments published 7 or more new tools over this period.

2. Key categories of chemicals subject to risk management

Indicator 2: Number of countries (and organizations) with mechanisms to address key categories of chemicals

Progress against this indicator was evaluated by taking into account data submitted by stakeholders on the categories of chemicals most frequently subject to risk management and any new initiatives or mechanisms implemented in 2009 and 2010 to address any specific categories.



A range of responses from 28 to 81 per cent were obtained depending on the type of chemicals of respondents prioritised for risk management. The highest number of respondents (81 per cent, 91 respondents) equally prioritized both pesticides and persistent organic pollutants.

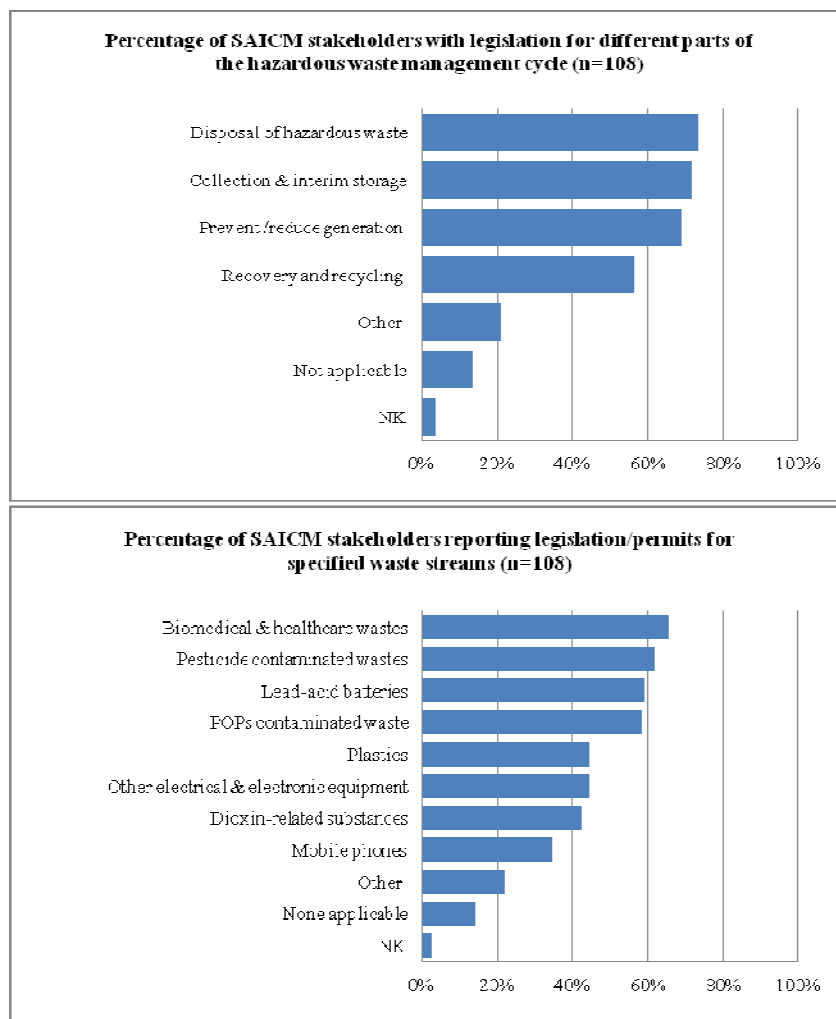
30 respondents reported on multiple new initiatives or mechanisms for managing risks on priority chemicals implemented in 2009-2010.

On average six of the named categories of chemicals for risk management were prioritized by stakeholders in the period 2009-2010, making this the highest level of activity of all 20 indicators

3. Hazardous waste management arrangements

Indicator 3: Number of countries (and organizations) with hazardous waste management arrangements

Progress against this indicator was evaluated by taking into account information submitted by stakeholders on the parts of the waste management cycle that were covered by legislation together with any waste management initiatives under development or planned in 2009 and 2010



A range of responses from 57 to 73 per cent were obtained depending on the particular part of the hazardous waste management cycle covered by legislation. The highest number of respondents (73 per cent, 83) addressed the disposal of hazardous waste in legislation. Similar response rates were reported for all parts of the hazardous waste management cycle except for the rate for recovery and recycling which was reported by 57% respondents.

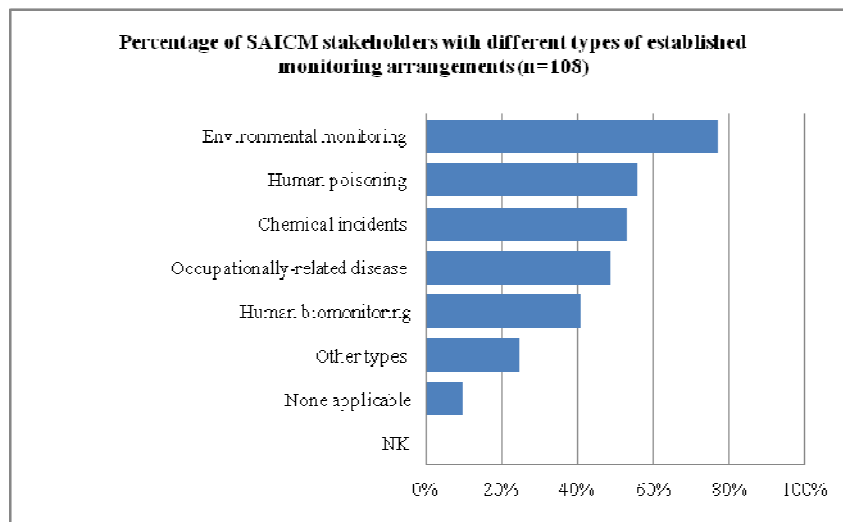
15 stakeholders reported that legislation was in development to address particular parts of the hazardous waste management cycle.

The range of responses on the specific waste stream addressed through legislation or permits ranged from 35 to 65 per cent. The highest number of responses obtained related to the disposal of biomedical and health care wastes which were reported by 65 per cent, (74) respondents. On average Governments reported that five of the named waste streams were addressed in legislation.

4. Periodic monitoring

Indicator 4: Number of countries (and organizations) engaged in activities that result in monitoring data on selected environmental and human health priority substances

Progress against this indicator was evaluated by taking into account data submitted by stakeholders on five types of established monitoring arrangements in place, by whether steps had been taken to establish monitoring programmes in 2009 and 2010 and cooperative work with other countries or regions to compare the results of periodic monitoring programmes



A range of responses from 41 to 77 per cent of respondents were obtained depending on the particular type of monitoring carried out. The highest number of responses (77 per cent, 87 respondents) reported that environmental monitoring was periodically carried out. On average Governments reported three of the named types of periodic monitoring were carried out over 2009-2010.

19 respondents reported that steps had been taken in 2009-2010 to establish monitoring arrangements.

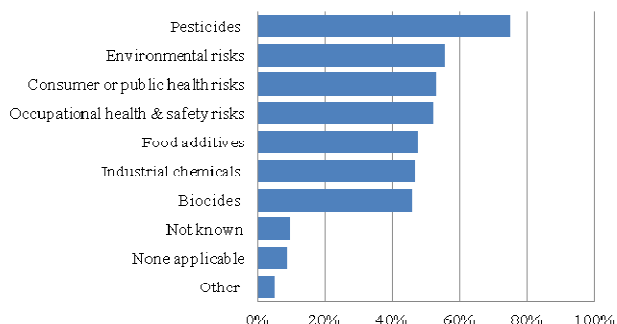
48 per cent (54 respondents) were engaged in cooperative work to compare the results of periodic monitoring with other countries or regions. 7 Governments reported that work was in development to establish cooperative monitoring programmes with other countries or regions.

5. Setting priorities for risk reduction

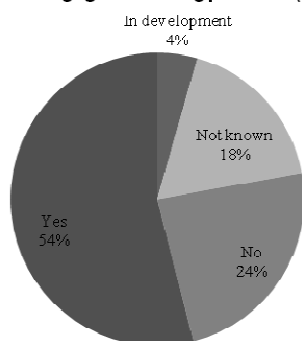
Indicator 5: Number of countries (and organizations) having mechanisms in place for setting priorities for risk reduction

Progress against this indicator was evaluated by taking into account data submitted by stakeholders on the types of chemicals and types of exposures subject to science-based assessment before chemicals are placed on the market; the engagement of scientific committees, bodies or institutes in this work, whether programmes were in place for the management of priority risks associated with different types of exposures in 2009 and 2010 and whether programmes for the management of risks have been in development or review in 2009 or 2010

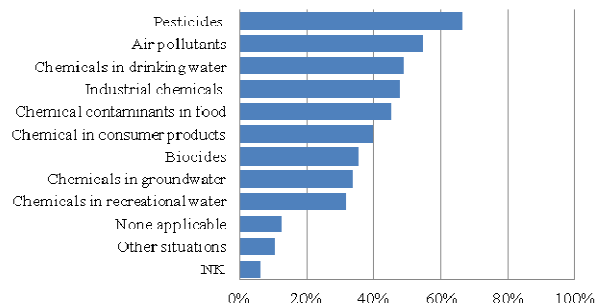
Percentage of SAICM stakeholders with science-based assessment for different types of chemical exposure (n=108)



Percentage of SAICM stakeholders with scientific committees, institutes engaged in setting priorities (n=108)



Percentage of SAICM stakeholders having risk management programmes for priority risks (n=108)



A range of responses from 47 to 75 per cent were obtained depending on the particular chemical subject to science-based assessment before marketing. The highest number of responses were obtained for science-based assessment of pesticides identified by 75 per cent (85 respondents). On average Governments conducted science-based assessments for 4.3 of the named types of chemicals and exposures. Thirty-nine per cent of Governments reported that they were addressing six or more of the seven named types of chemicals.

Fifty-four percent (61 respondents) reported that a scientific committee, body or institute was engaged in the scientific risk assessment work with a further 4 per cent (5 respondents) reporting that engagement with a scientific committee, body or institute was in development.

A range of responses from 32 to 66 per cent were obtained for risk management programmes in place depending on the type of risks. The highest number of responses (66 per cent or 75 respondents) concerned risk management programmes for pesticides.

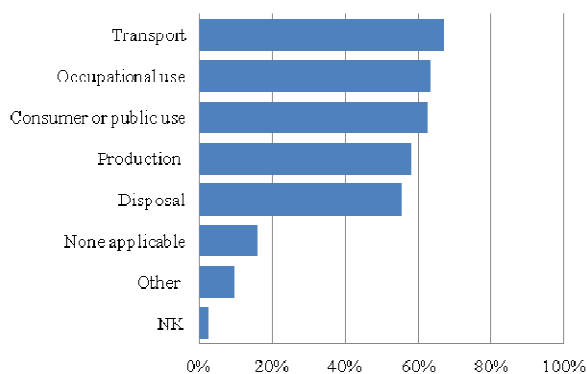
Forty-eight per cent (54 respondents) reported that programmes for the management of priority risks had been in development or under review in the period 2009-2010.

6. Provision of information according to internationally harmonized standards (incl. GHS)

Indicator 6: Number of countries (and organizations) providing information according to internationally harmonized standards

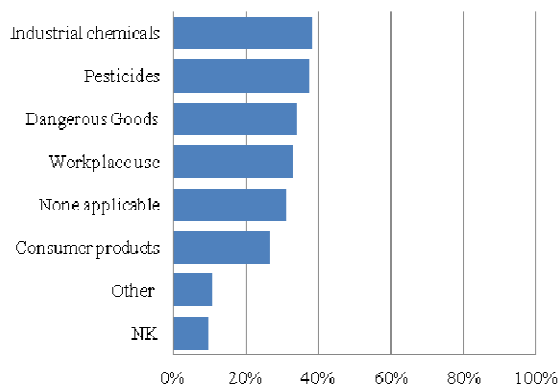
Progress against this indicator was evaluated by taking into account data submitted by stakeholders on provision of information in accordance with internationally harmonized standards and conformity with the Globally Harmonized System for the Classification and Labelling of Chemicals (GHS).

Percentage of SAICM stakeholders with labelling standards for different parts of chemical life-cycle (n=108)



A range of responses from 55 to 67 percent were obtained for the implementation of labelling standards for hazards and/or risks posed by chemicals. The labelling of chemicals in transport was identified most frequently in 67 percent of cases (75 respondents). On average Governments reported having labelling requirements or standards for four lifecycle stages.

Percentage of SAICM stakeholders reporting conformity with the GHS for different chemical types (n=108)



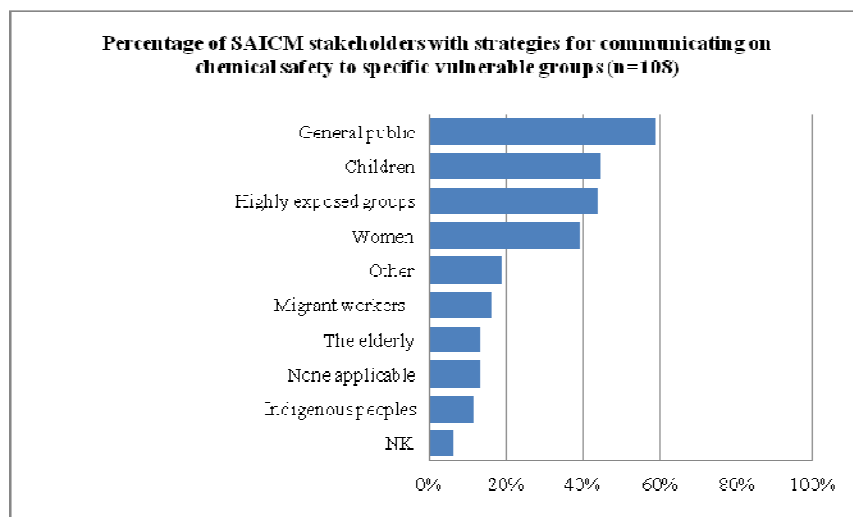
A range of responses from 27 to 38 per cent were obtained depending on the category of chemical judged to be in conformity with the requirements of the Globally Harmonized System of Classification and Labelling of Chemicals. Industrial chemicals were identified most frequently by 38 per cent (43 respondents).

On average conformity with the GHS was reported for two categories of chemicals.

7. Communication of risks to vulnerable groups

Indicator 7: Number of countries (and organizations) that have specific strategies in place for communicating information on the risks associated with chemicals to vulnerable groups

Progress against this indicator was evaluated by taking into account data submitted by stakeholders on activities undertaken to communicate chemical safety issues to vulnerable groups for example, through the publication of guidance, the conduct of training or by awareness-raising. Seven examples were given of vulnerable groups with the possibility of respondents adding their own "other" group.



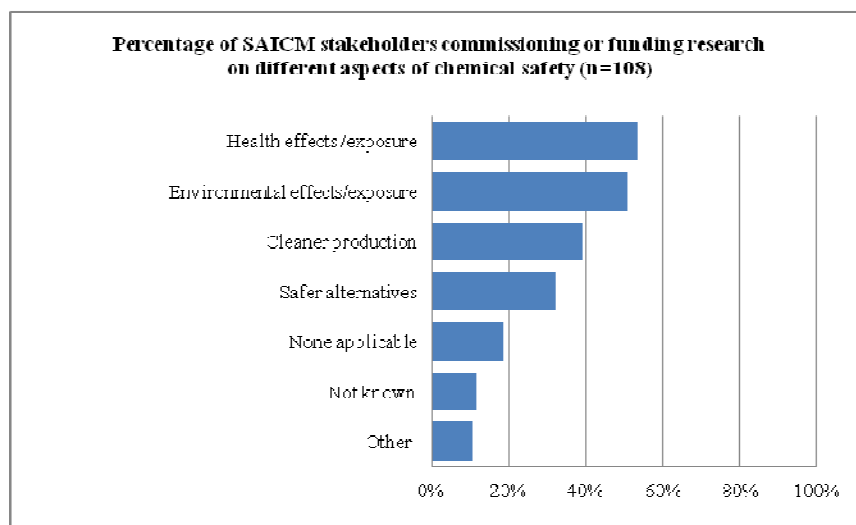
A range of responses from 12 to 59 per cent were obtained depending on the vulnerable group concerned. The general public was identified most frequently in 59 per cent (66 respondents) of cases as being the target for relevant activities or published guidance, training or awareness materials, children – several of the other identified groups had low response rates. On average respondents had on average 2.34 activities designed to communicate chemical safety representing 29% of the categories identified.

Other vulnerable groups targeted to received guidance and training included specific occupational groups, such as teachers, farmers and agricultural workers, scientists and health centre workers.

8. Research programmes

Indicator 8: Number of countries (and organizations) with research programmes

Progress against this indicator was evaluated by taking into account data submitted by stakeholders on research that had been commissioned or funded on selected areas of chemical safety during 2009 or 2010.

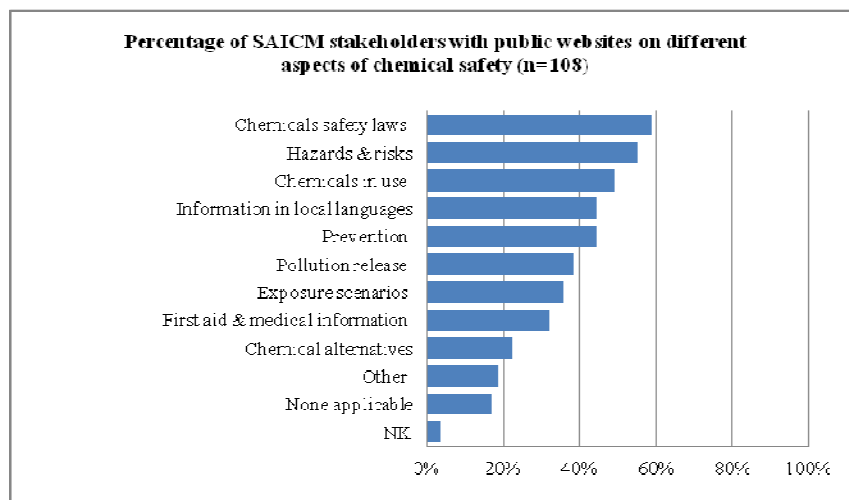


A range of responses were obtained ranging from 32 to 54 percent depending on different areas of chemical safety for which research had been commissioned or funded. The highest number of responses concerned research on human health effects or exposure, which was identified by 54 per cent of cases (60 of respondents). On average research was commissioned in 1.79 areas (36 per cent of total).

9. Websites providing information on chemicals

Indicator 9: Number of countries (and organizations) with websites that provide information to stakeholders

Progress against this indicator was evaluated by taking into account data submitted by stakeholders on publicly accessible websites providing information on a range of



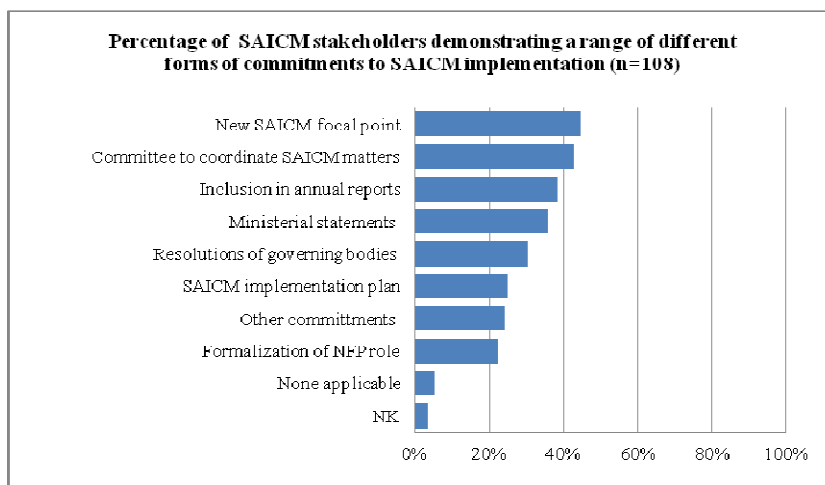
A range of responses from 22 to 59 per cent was obtained for the availability publicly accessible websites on chemical safety. The highest number of respondents (66 or 59 per cent) reported that information on chemical safety laws were available through websites. On average Governments reported that publicly accessible websites were available on four of the named topics included in the questionnaire.

13 respondents reported that mass media such as newspapers, television and radio were used as channels of public communication. Social media such as You-Tube, Twitter and blogs were mentioned by two respondents.

10. Commitment to implement SAICM

Indicator 10: Number of countries (and organizations) that have committed themselves to implementation of the Strategic Approach

Progress against this indicator was evaluated by taking into account data submitted by stakeholders on the types of commitment to implement SAICM that have been demonstrated in 2009 and 2010. The question took into account that there were a number of ways that stakeholders could demonstrate commitment.



A range of responses from 22 to 45 per cent was obtained for a range of different forms of expressing commitment to SAICM implementation. The highest response for new SAICM focal point indicates a high turnover of this position among stakeholders among Governments as well as new organizations joining the SAICM family in the case of intergovernmental and non-governmental organizations.

174 National Strategic Approach focal points had been nominated for 89 per cent of Governments at the end of 2010. The number of official focal points from intergovernmental organizations remained at 13 organizations, the same as in the baseline period of 2006-2008. The number of official focal points in nongovernmental organizations increased from 57 over the period 2006-2008 to 75 at the end of 2010.

Expressing the number of focal points for inter-governmental and non-governmental organizations as a percentage remains difficult because of the lack of reliable information on the number of organizations with interests in the area of chemical safety. Using the estimates developed for the draft baseline report these numbers for intergovernmental and non-governmental organizations might be estimated as 42 and 48 per cent

Twenty-eight respondents (25%) reported to have published a SAICM implementation plan, including 22 Governments (27%).

Forty-eight respondents (43%) had established a committee to coordinate SAICM matters including 40 Governments (49%). In some regions the existence of committee was higher. e.g. 74% in the case of Latin America and Caribbean and 63% in the case of Africa.

On average an average of 2.53 forms of commitment to the Strategic Approach named in the questionnaire, were reported or 32% of the total number.

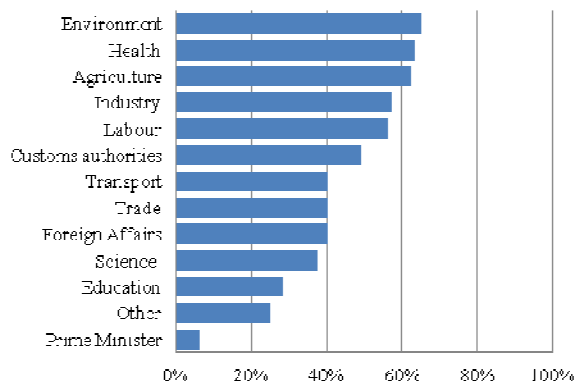
Additional forms of SAICM implementation were varied, several spoke about the signing of agreements among different ministries for implementation of Quick Start Programme projects, other forms mentioned included financial contribution to SAICM, inclusion of an item for SAICM implementation in annual budget and referencing in governmental plans. A number of respondents said that SAICM was not explicitly referenced, although several of the actions undertaken were consistent with Strategic Approach.

11. Multi-stakeholder coordination mechanisms

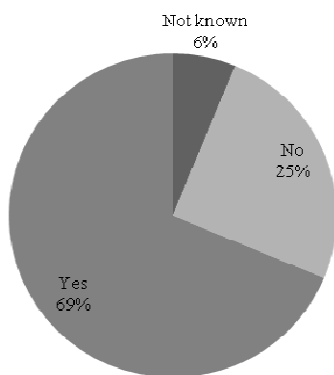
Indicator 11: Number of countries (and organizations) with multi-stakeholder coordination mechanisms

Progress against this indicator was evaluated by taking into account data submitted by stakeholders on whether there was a national committee or advisory group to coordinates with stakeholders on chemical safety matters including SAICM, and that reports to relevant ministers and/or decision-makers. Information was collected on the composition of any group including the nature of the participation of non-governmental organizations as a supplementary question.

Percentage of SAICM stakeholders with specific sectors engaged in multi-stakeholder coordination (n=108)



Percentage of SAICM stakeholders reporting NGO participation in multi-stakeholder coordination (n=108)



Seventy-six respondents (68 per cent) reported having a national committee or advisory group to coordinate chemical safety matters this included 61 Governments (75 per cent).

The ministry identified the most frequently as being involved in national committees or advisory committees was the environment ministry in 73 (65%) cases. Health, agriculture, industry and labour ministries were also reported as frequently involved in over 50% of cases.

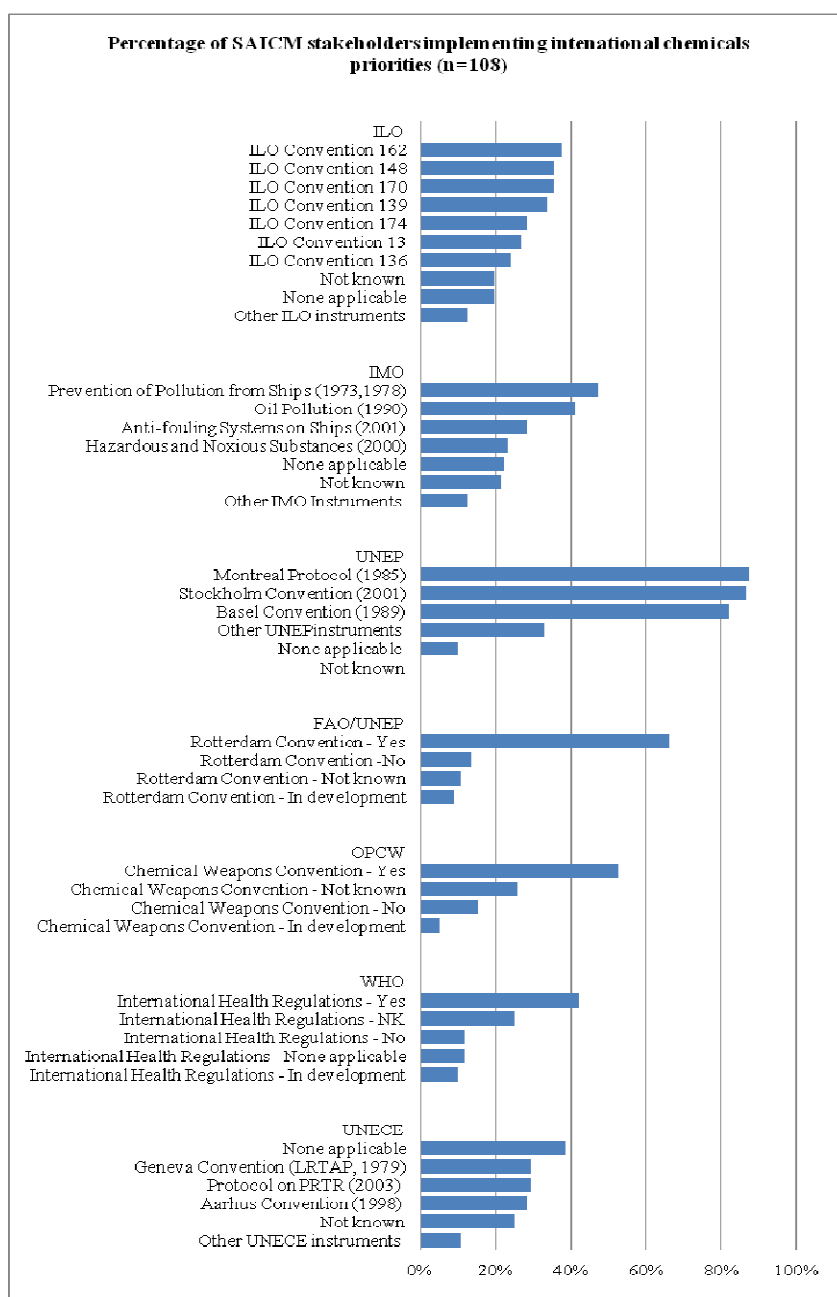
Governments reported that on average 8 ministries were engaged in multi-stakeholder committees. Seventy-seven respondents (69 per cent) reported that nongovernmental stakeholders were formally included in governmental committees or advisory groups that deal with Strategic Approach-related matters.

Comparing the data gathered for this indicator to that for indicator 10 – in approximately 20 per cent of cases the multi-stakeholder committee was estimated prior to 2009.

12. Implementation of international chemicals priorities

Indicator 12: Number of countries (and organizations) with mechanisms to implement key international chemicals priorities

Progress against this indicator was evaluated by taking into account data submitted by stakeholders on the implementation of a number of different international agreements and conventions that were relevant to chemicals safety. These included instruments of the International Labour Organization (ILO), the International Maritime Organization (IMO), the United Nations Environment Programme (UNEP), the Food and Agriculture Organization (FAO), the United Nations Environment Programme (UNEP), the Organisation for the Prohibition of Chemical Weapons (OPCW), the United Nations Commission for Europe (UNECE) and the World Health Organization (WHO). In total information was collected on 21 agreements and conventions.



A wide range of responses were obtained depending on the different convention and instrument. The responses ranged between 23 and 88 per cent. The implementation of the Montreal Protocol was reported most frequently by 98 respondents (88 per cent).

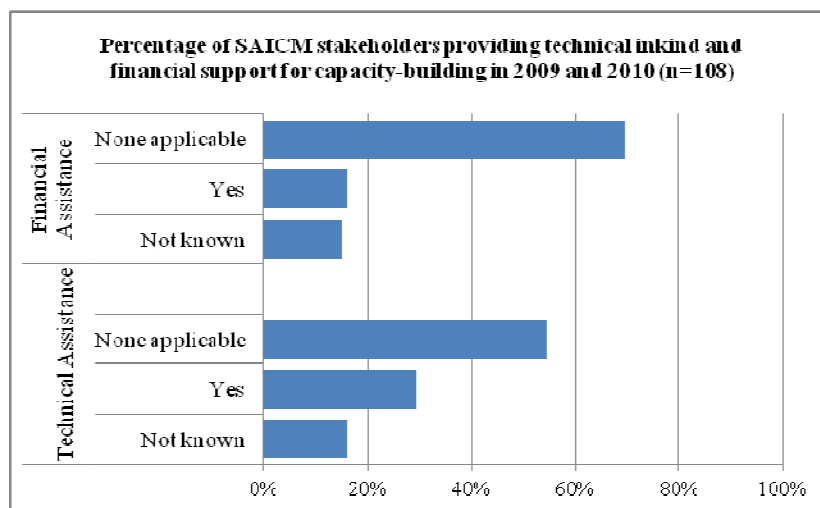
Responses for the implementation of instruments other than those of UNEP varied considerably for reasons which are not clear.

For implementation of the International Health Regulations, 2005 there was a relatively high response of "not known". Such a response is consistent with similar survey responses obtained by WHO that showed that fewer than 50% of reporting states had established mechanisms for intersectoral collaboration for chemical events and radio-nuclear events.

13. Bilateral capacity-building support

Indicator 13: Number of countries (and organizations) providing resources (financial and in kind) to assist capacity-building and technical cooperation with other countries

Progress against this indicator was evaluated by taking into account information submitted by stakeholders on bilateral financial assistance and bilateral technical cooperation over 2009 and 2010.



Thirty-three respondents (39 per cent) reported providing bilateral technical cooperation assistance to support other countries to improve their capacity for the sound management of chemicals in 2009-2010. Three respondents said that they had provided assistance to all countries, otherwise 181 countries were specifically identified with China, Chile. Egypt, Guatemala most frequently mentioned.

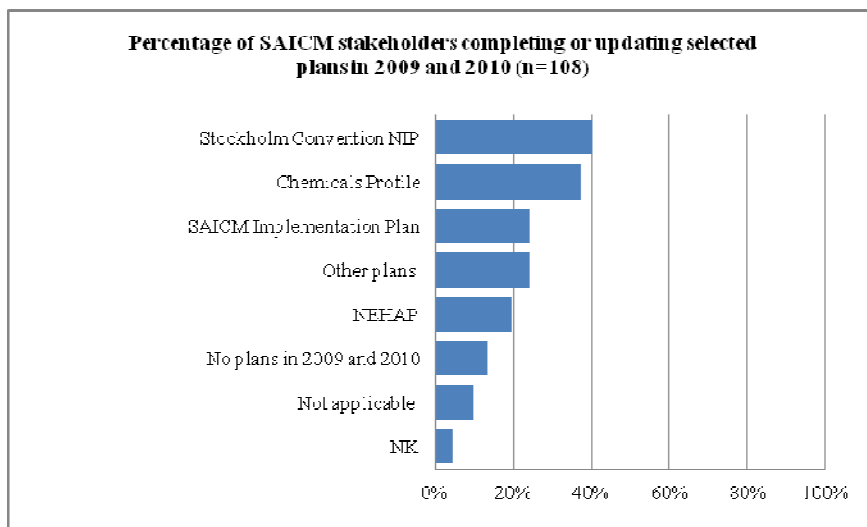
Eighteen respondents (16 per cent) reported providing bilateral financial resources to support other countries to improve their capacity for the sound management of chemicals in 2009-2010. Responses varied by region with 47 per cent of respondents in the Western Europe and Others Group indicating that bilateral financial support was provided in 2009 and 2010. Three respondents said that they provided financial assistance to all countries, otherwise 92 countries were specifically mentioned with China, Mexico, Chile, Nicaragua, Philippines and Thailand identified the most frequently.

Supplementary data from IOMC has reported on the number of countries supported through activities with one or more IOMC Participating organizations (see SAICM/ICCM.3/INF/9). 168 countries are identified in this matrix and specific projects identified.

14. Priority setting for capacity-building

Indicator 14: Number of countries (and organizations) that have identified and prioritized their capacity-building needs for the sound management of chemicals.

Progress against this indicator was evaluated by taking into account data submitted by stakeholders on the types of plans for identifying chemicals management priorities that were completed or updated in 2009 or 2010 and whether if no plans had been completed whether other activities had been completed or that were underway which would assist in identifying priorities.



A range of responses from 20 to 40 per cent were obtained depending on the type of plans undertaken to identify and prioritise capacity-building needs for the sound management of chemicals. Updates or completion of National Implementation Plans under the Stockholm Convention on Persistent Organic Pollutants were reported most frequently by 45 respondents (40 of the total).

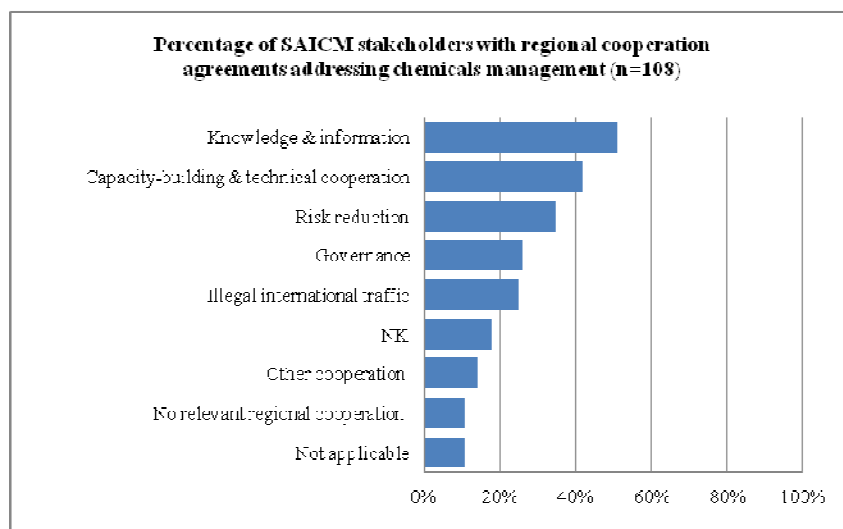
On average stakeholders reported on 1.31 different plans for assisting with priority setting. There were however wide variations in activity reported with 19 per cent of Governments reported the making of no plans and 7 per cent of Governments reported activity with four or more different plans. Twenty-seven respondents (24 per cent of the total) reported completion or updating of a Strategic Approach Implementation Plan including 21 Governments.

15. Regional cooperation on sound chemicals management

Indicator 15: Number of countries (and organizations) engaged in regional cooperation on issues relating to the sound management of chemicals.

Progress against this indicator was evaluated by taking into account data submitted by stakeholders on the types of regional cooperation undertaken in 2009 and 2010.

Information was also sought on the identity of the regional cooperation agreements involved and any regional cooperation in development.



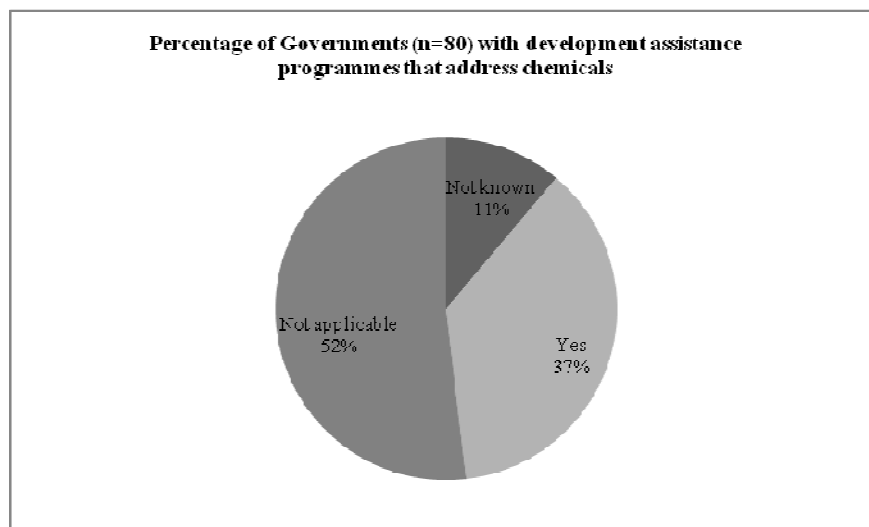
68 stakeholders identified at least one area of the listed sound management of chemicals that A range of responses from 25 to 51 per cent were obtained depending on the subject area of the Overarching Policy Strategy. Regional cooperation in the area of knowledge and information was reported most frequently by 57 respondents (51 per cent of the total). On average Governments reported regional cooperation in 1.97 different areas of the overarching Policy Strategy. Twelve per cent of Governments reported cooperation in five or more areas.

Regional cooperation arrangements including those under the South African Development Community (SADC), the Interstate Committee for Drought Control in the Sahel, Customs Unions of Belarus and Kazakhstan, and Association of South-East Asian Nations (ASEAN), Economic Community of West African States (ECOWAS), the European Union, Commission for Economic Cooperation of Canada, Mexico and the United States (CEC), Tripartite policy dialogues of China, Japan and Korea, regional conventions such as Waigani Convention and the Barcelona Convention for the Protection Of The Mediterranean Sea Against Pollution (Barcelona Convention), South Pacific Regional Environment Programme and regional activity centres of the Basel and Stockholm Conventions.

16. Development assistance plans that include sound chemicals management

Indicator 16: Number of countries (and organizations) where developmental assistance programmes include the sound management of chemicals.

Progress against this indicator was evaluated by taking into account information submitted by stakeholders on the number of national development plans addressed the sound management of chemicals in 2009 and 2010. Information was collected on the name of the relevant national development plan and the efforts underway to include chemicals management in such plans in the future.



The following thirty developing Government respondents (37 per cent) reported that priority needs for chemicals management were addressed in national development plans over 2009-2010, almost half of all developing countries responding : Albania, Algeria, Belize, Chile, Costa Rica, Cuba, Cyprus, Ecuador, Egypt, Guatemala, Honduras, India, Jamaica, Latvia, Lesotho, Lithuania, Maldives, Mexico, Panama, Peru, Philippines, Republic of Serbia, Romania, Saint Lucia, Slovenia, Syrian Arab Republic, Thailand, The Former Yugoslav Rep of Macedonia, Uganda, and the United Republic of Tanzania. The highest relative number were twelve Governments in the Latin America and Caribbean region.

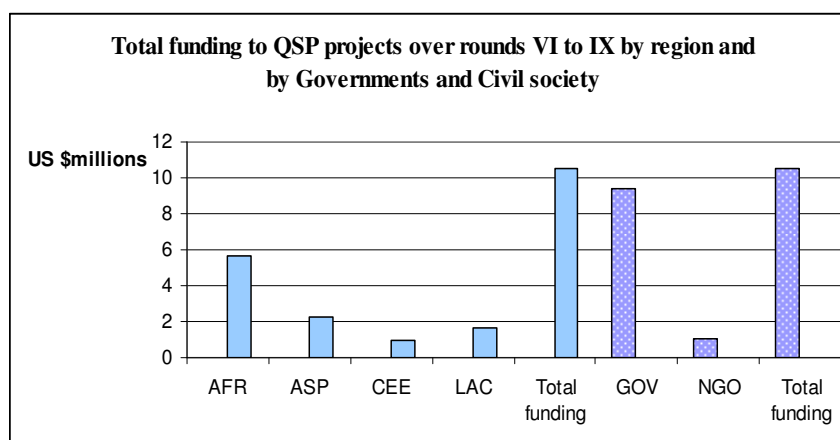
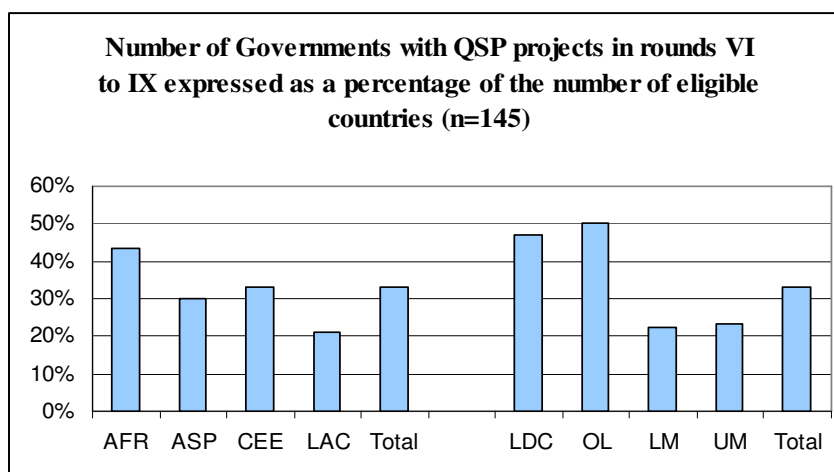
A further thirty developing country Governments reported that development assistance plans did not know whether priority needs for chemicals management were addressed for the period 2009-2010. 24 Governments responded that this question was not applicable or that the development plans did not address priority needs for chemicals management.

A number of stakeholders commented that work was underway to address chemicals management needs in broader planning initiatives and referred to SAICM QSP projects and also the work of UNDP and UNEP in this regard.

17. Capacity-building supported by Quick Start Programme

Indicator 17: Number of countries (and organizations) with projects supported by the Strategic Approach's Quick Start Programme.

Progress against this indicator was evaluated by examining the records kept by the secretariat of the Quick Start Programme on the number of countries having projects approved for support from the Quick Start Programme Trust Fund.

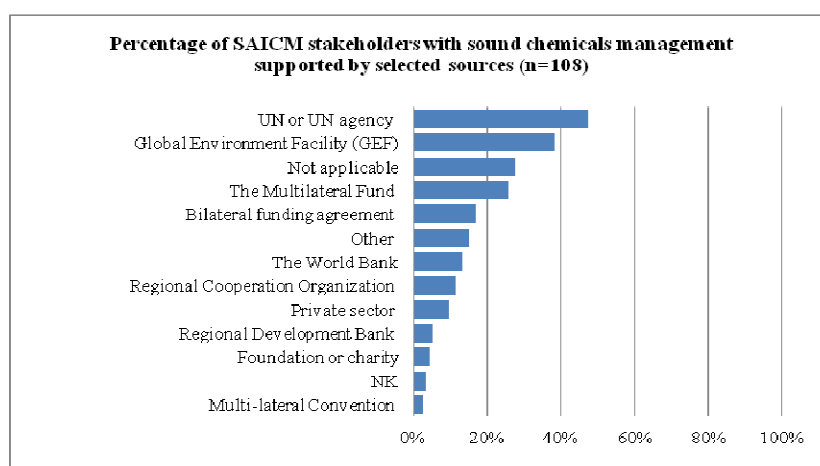


The data shown above has been taken from records of the Strategic Approach secretariat. It shows the number of countries awarded funding from the over four rounds (VI to IX) of the Quick Start Programme Trust Fund. A total of 48 eligible countries received funding support over this time (33 per cent of those eligible). These figures do not take into account the fact that countries may be involved in a number of different projects. The data shows that eligible countries in Africa received the highest number and total amount of funding support. Approximately 10 per cent of the total funds awarded over this period went to projects being implemented by five civil society non-governmental organizations. Current information presented to the seventh Executive Board on implementation of the Quick Start Programme Business Plan shows that the programme has met or exceeded business plan targets for outreach and equitable delivery of projects to developing countries and non-governmental organizations.

18. Sources of capacity-building support

Indicator 18: Number of countries (and organizations) with sound management of chemicals projects supported by other sources of funding (not Quick Start Programme funding).

Progress against this indicator was evaluated by taking into account information submitted by stakeholders on sources of funding utilized for capacity-building projects for the sound management of chemicals from a number of specified sources of financial assistance including the Global Environment Facility (GEF), the Multilateral Fund of the Montreal Protocol, the United Nations or a United Nations agency, regional cooperation organizations, regional development banks, the World Bank, multi-lateral environment convention trust funds, bilateral funding agreements, foundations or charitable bodies, and the private sector. Additional information on the identity of specific funding sources was also collected.



A range of responses from 4 to 47 per cent were obtained on different sources of funding used for supporting capacity-building activities for the sound management of chemicals in 2009-2010. Funding from the United Nations or a United Nations agency was reported most frequently by 53 respondents (47 per cent of the total). Very few respondents reported access to multiple sources and on average, 1.71 funding sources were utilized by respondents.

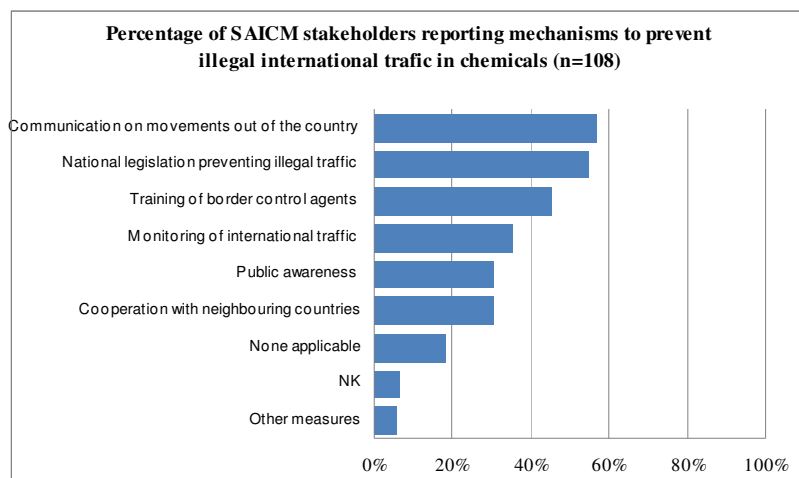
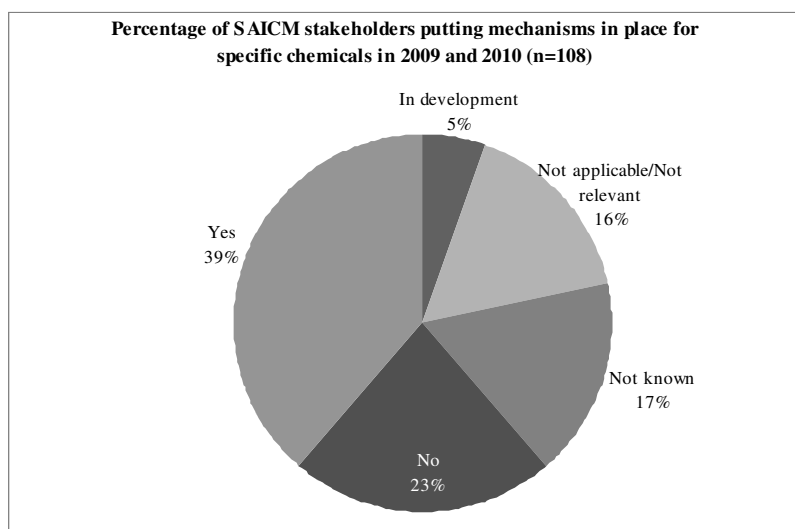
Some of the specific sources mentioned were national government departments such as the international development departments of the Governments of the United Kingdom, Denmark, Germany and Sweden, development banks for Africa, the Inter-Americas, regional cooperation organizations : Central American Commission on Environment and Development South African Development Community; European Union, Commission for Environmental Cooperation of North America and the charities Oxfam-Novib (Netherlands), and Rausing Trust Fund (UK). Private sector sources included national associations of chemical manufacturers such as the Kenya Association of Manufacturers, Japan Chemical Industry Association and international associations such as International Council of Chemical Associations (ICCA) and Association of International Chemical Manufacturers (AICM) and private companies including Unilever, Safaricom and Fabrigas.

Other sources mentioned included national government departments such as the US Environment Protection Agency, the Swedish Chemicals Agency (KEMI), Republic of Korea and Switzerland, research institutions.

19. Mechanisms to prevent illegal international traffic in chemicals

Indicator 19: Number of countries having mechanisms to prevent illegal traffic in toxic, hazardous and severely restricted chemicals individually.

Progress against this indicator was evaluated by taking into account data submitted by stakeholders on the types of activities undertaken in 2009 and 2010 to prevent illegal international traffic of hazardous chemicals and on whether any specific measures were put in place or developed during that time for specific hazardous chemicals.



A range of responses from 31 to 57 per cent were obtained on different activities in support of preventing illegal international traffic of hazardous chemicals. For Governments the most frequently reported activities were legislation and communication on movements out of the country.

Forty three stakeholders (39 per cent) reported that the illegal traffic of specific chemicals had been addressed over 2009-2010.

On average, 2.81 of the named types of activities were identified by Government respondents in their responses..

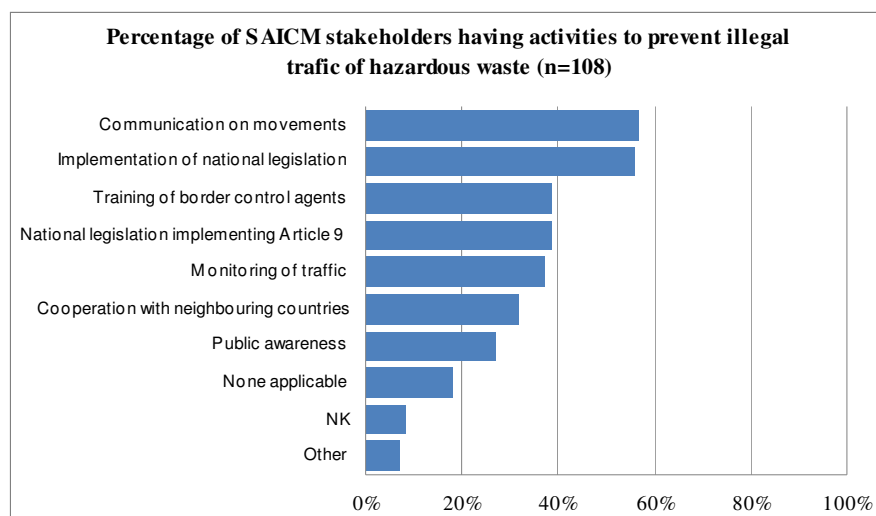
Specific chemicals mentioned included ozone depleting substances, chemicals subject to the Basel, Rotterdam and Stockholm Conventions, Dangerous Goods (recognized by transport regulations), asbestos, high-risk precursors, chemicals giving rise to security concerns, potential chemical weapons, banned and hazardous pesticides and new chemicals subject to national legislation.

A number of initiatives such as those associated with Green Customs were highlighted.

20. Mechanisms to prevent illegal international traffic in hazardous waste

Indicator 20: Number of countries having mechanisms to prevent illegal traffic in hazardous waste.

Progress against this indicator was evaluated by taking into account data submitted by stakeholders on the types of activities undertaken in 2009 and 2010 to prevent illegal international traffic of hazardous waste



A range of responses from 27 to 57 per cent were obtained depending on the activities being undertaken to address the illegal international traffic of hazardous waste. The implementation of national legislation preventing the illegal international traffic of hazardous waste was reported most frequently by 53 respondents (65 per cent of the total Governmental respondents). On average, Governments reported 3.43 different types of activities over 2009-2010.

C. Comparison with baseline estimates

36. The baseline estimates report prepared by the secretariat for 2006-2008 (SAICM/ICCM.3/INF/5) identifies seven indicators where some form of baseline can be estimated. The following section of the report compares the data gathered for 2009-2010 with these estimates.

1. Provision of information to internationally harmonized standards

37. For 2006-2008 a baseline estimate of 65 Governments (33% of the total of UN member States) was made for the number of countries providing information according to internationally harmonized standards. This was based on data presented to the second session of the Conference on implementation of the GHS as described in the website of the United Nations Economic Commission for Europe (UNECE)⁷. The first progress report collected information on standards or requirements for labeling and on progress with implementation of the Globally Harmonized System for the Classification and Labelling of Chemicals (the GHS) and specifically identifies those Governments who had conducted an assessment of conformity of labeling requirements with those of the GHS. 52 Governments reported the assessment of conformity for at least one category of chemicals. In addition for 2009-2010, 6 intergovernmental and 10 non-governmental organizations recorded that they had assessed at least one category of chemicals for conformity with the GHS. The most frequently reported assessment was for industrial chemicals and the least frequently reported was for consumer chemicals.

38. While absolute numbers appear similar, (52 first progress report compared with 65 in the baseline), comparing the specific countries listed on the UNECE website with the data collected using the online tool an additional 19 countries may be identified undertaking GHS conformity assessments to those identified from the UNECE website.

39. Eleven Quick Start Programme projects focusing on implementation of the GHS (ten in individual countries and one regional project in the Central and Eastern European region) were approved in 2009-2010. Five of these countries were not among those who reported progress during 2009-2010

40. *In conclusion, progress in 2009-2010 with GHS implementation was identified for approximately 52 countries, with 19 additional countries to those reported on the UNECE website. Taking into account the work being sponsored by the Quick Start Programme and the initiatives reported by intergovernmental and non-governmental organizations, positive progress in GHS implementation has been made.*

2. Websites providing information on chemicals

41. The baseline estimate for the number of websites providing information on chemicals was based on the proxy measure by the US EPA that at the start of 2009, 31 countries had an operational PRTR system. In its report for 2004-2006, the IFCS reported that 32 Governments had reported websites where national partners can gain access to chemical information sources⁸.

42. Specific information gathered through the online reporting system showed that at least one website was maintained by 71 Governments or 90% of respondents. 32 Governments reported that their websites contained information on pollution release. In addition 11 intergovernmental and sixteen non-governmental organizations reported that they maintained websites on at least one of the specified chemical topics. On average information on four different chemical-related topics were available on websites. The most frequently reported type of information available on websites was information on chemical safety laws, hazards and risks posed by chemicals, and the chemicals in use.

43. *Approximately twice the number of Governments reported that they had publicly accessible websites on a range of chemical topics when compared to the baseline estimate.*

3. Commitment to implement SAICM

a.) SAICM implementation plans

⁷ http://www.unece.org/trans/danger/publi/ghs/implementation_e.html

⁸ Intergovernmental Forum on Chemical Safety, Simple Indicators of Progress 2004-2005- Report of National Governments (http://www.who.int/ifcs/documents/standingcommittee/12april_sum_rep.doc)

44. In the baseline report, the extent of commitment to implement the Strategic Approach was estimated by the number of stakeholders who had commenced work on SAICM implementation plan. Over the baseline period these numbers were: 14 Governments, 8 intergovernmental organizations and 26 non-governmental organizations.

45. In comparison, 22 Governments reported that they had published a SAICM Implementation Plan in the period 2009-2010, along with one intergovernmental, 3 civil society and 2 private sector organizations. Twenty one Governments, 2 intergovernmental and 4 non-governmental organizations reported completing or updating of a SAICM implementation plan in the same period.

46. *Aggregating both of these estimates, 46 Governments reported either publishing a SAICM implementation plan or completing or updating such plans which shows a more than three-fold increase in activity in the first reporting period.*

b) Official focal point

47. The number of official focal points is maintained by the SAICM secretariat. At the end of the baseline period 164 Governments had nominated an official focal point along with 57 civil society organizations, 6 private sector organizations and 13 intergovernmental organizations. By the end of 2010 these numbers had increased to 174 for Governments (an increase from 87 to 89%) and to 75 for non-governmental organizations. The number of intergovernmental organizations nominating official focal points remained static since the baseline period. 21 Governments reported that they had formalized the role of the official focal point into organizational plans or duty stations during 2009-2010 showing the development of the role of focal point.

48. *Official Strategic Approach focal points continue to be maintained at high levels in Governments. Increases in non-governmental focal points of over 30 per cent occurred over the period 2009-2010. The number of focal points among inter-governmental organizations has remained static and does not reflect the full range of participation in Strategic Approach meetings, for example among convention secretariat, and regional cooperation organizations.*

4. Multi-stakeholder coordination mechanism.

49. For the baseline report 80 Governments (78% of the total) reported that during 2006-2008 they had held at least one planning meeting for chemicals safety and arrangements for implementing the Strategic Approach on an inter-ministerial or institutional basis had been initiated. About half the Governments noted that coordination arrangements had been put in place before the establishment of the Strategic Approach. 19 civil society organizations reported that they had participated in at least one national planning meeting. Five intergovernmental organizations reported that they had participated in meetings with national stakeholders. However a high proportion of intergovernmental organizational organizations indicated that such multi-stakeholder coordination mechanisms were not relevant to their situation.

50. Over the period 2009-2010, 61 Governments (75% of the total) reported that they had a national committee or advisory group that coordinates with stakeholders in Governments and other interested parties on chemical safety (including on SAICM). Forty Governments (49% of those responding) reported on the establishment of such a committee in 2009-2010 to coordinate SAICM matters. 72% of Governments reported that non-governments were formally included in the relevant committee. 6 intergovernmental organizations and 9 non-governmental organizations reported on the existence of such committees in 2009-2010. The number of ministries from different sectors involved in coordination mechanisms remained high with the average number exceeding 8 similarly to the baseline report.

51. *Multi-stakeholder coordination arrangements were established by 40 Governments in 2009-2010 building on a substantial amount of inter-ministerial and inter-institutional coordination in the baseline period.*

5. Implementation of international priorities

52. The number of Governments implementing 8 key international priorities was already estimated as high in the baseline period and remained so during 2009-2010. More than 62% of Governments reported implementing more than 8 instruments. The larger number of instruments included in the survey used for the first progress report (20 instruments) and the lower rates of implementation for a

number of the international instruments administered by organizations other than UNEP explain the lower average instruments reported in the first progress report. Of interest is the relatively high percentage of stakeholders, including Government respondents not knowing the status of implementation of several key international instruments, for example the International Health Regulations (2005) which is legally binding on all but two Member States.

53. *An increase in awareness, consultation and multi-sectoral engagement may be needed to properly reflect the level of implementation of the wide range on international instruments covered in survey underpinning the current report of progress.*

6. Priority setting for capacity-building needs

54. In the baseline report, information about the development of Stockholm Convention National Implementation Plans and National Chemicals Profiles was used to make an estimate of the number of countries that had identified and prioritized their capacity-building needs as 87 (45%) in the case of Stockholm NIPs and 102 (53%) in the case of National Chemicals Profiles, using information presented to the second session of the Conference which was itself drawn from information provided by UNITAR⁹. While these numbers are impressive, many would have been developed prior to 2006 as they were largely part of initiatives that took place in the late 1990's and early 2000's following publication of guidance by UNITAR for their development. The development of these plans was also a significant part of enabling activities sponsored under the Stockholm Convention.

55. Completing and updating National Chemical Profiles remains a significant activity in 2009-2010 with 36 Governments (44% of respondents) reported completing or updating a National Chemicals Profile in this period and 37 Governments reported completing or updating Stockholm Convention NIPs. There were distinct patterns between different regions in the use of these tools, the later being relatively more common in the CEE region with National Chemicals Profiles being more common in Africa, Asia-Pacific and Latin America and Caribbean regions. 30 Governments (37 % of the total) reported on completing at least one plan including 15 completing or updating National Environmental Health Action Plans over the first progress period. There were wide variations in activity with 19% of Governments making no plans, mostly in the Western Europe and Others Group and 7% of Governments reporting activity with four or more different plans.

56. *Continued high levels of priority-setting activities continues to be carried out.*

7. Capacity-building supported by the Quick Start Programme

57. In the baseline period 2006-2008, a little under half of the eligible Governments (47%) had at least one Quick Start Programme (QSP) project approved (69 countries). Over the period of the first project report, 48 eligible countries had at least one project approved showing a sustainable level of funding support enabling the QSP business plan targets to be met overall.

58. *Capacity-building activities supported by the QSP are meeting the business plan for the programme and are further reported in the mid-term review of the QSP Programme.*

D. Feedback on the online tool

59. Feedback on the use of the online data collection tool was generally positive, notwithstanding some initial technical problems with one of the forms and the need for some additional guidance for persons wishing to complete the form on behalf of official focal points and on how to print copies of submissions. Several Governmental respondents remarked that they had had insufficient time to consult stakeholders.

60. From the perspective of the secretariat, the design of the tool with check-boxes and mandatory questions worked well and enabled a preliminary quantitative analysis to be made. The tool's optional free-text boxes for adding comments and further explanation were widely used. Judging by the responses received, a small number of questions might be improved; and these are identified in annex IV. It is suggested that depending on the approach to future periodic reporting.

⁹ <http://www2.unitar.org/cwm/nphomepage/np3.aspx>

IV. Conclusions and discussion

61. Overall, for the biennium 2009–2010, the highest level of activity reported by all stakeholders was for indicators relating to risk reduction, for which more than 90 per cent of stakeholders reported at least one activity towards the achievement of these indicators. Lower overall levels of activity were reported for indicators on knowledge and information and capacity-building and technical cooperation, although in the latter group the indicators were not wholly applicable to all stakeholders

1. Risk reduction

62. The highest number of reported activities related to the use or implementation of agreed chemical management tools and activities to reduce risk on key categories of chemicals. Particularly noteworthy was the substantial use of tools and guidance published by the participating organizations of IOMC, which confirmed the important role of these organizations in achieving the implementation of the Strategic Approach. Significant levels of activity on risk reduction on pesticides, persistent organic pollutants (as defined under the Stockholm Convention) and mercury or mercury-containing sources were also recorded, with comparatively less activity being reported for chemicals with wide-dispersive uses or high production volume chemicals, perhaps because these terms have relevance only in certain jurisdictions. The associated high level of activity for implementation of the Stockholm Convention, under the set of indicators related to governance, may have influenced the high level of reported activity on persistent organic pollutants and, similarly, the current international focus on mercury may have contributed to the high level of activity reported on mercury.

63. For hazardous waste management arrangements, the overall aggregated analysis does not reflect the comparatively high level of activity reported by Governments.

2. Knowledge and information

64. Compared to indicators relating to risk reduction and governance, a lower overall level of activity was recorded for indicators relating to knowledge and information. While the low number of stakeholders commissioning or funding research on chemical safety is not surprising in a period of economic stringency, the average number of reported activities and the numbers of specific activities reported for provision of information on internationally harmonized standards, including the Globally Harmonized System for the Classification and Labelling of Chemicals (GHS), and the results for communicating information on the risks associated with chemicals to vulnerable groups were lower than might have been expected. Additional progress in implementation of the Strategic Approach could be expected to assist in both of these areas as several projects supported under the Quick Start Programme address implementation of the Globally Harmonized System at both the national and regional levels, work on emerging issues, such as the elimination of lead paint and chemicals in products, has a particular focus on awareness-raising and communication and some of the actions in the Strategic Approach proposed health sector strategy include an increased level of awareness-raising among professionals with duties of care to these vulnerable groups.

3. Governance

65. The highest range of reported activities related to implementation of key international chemicals priorities, notably international conventions and agreements on chemicals. Responses varied considerably depending on the specific convention or agreement. The highest level of reported activity was for three conventions administered by the United Nations Environment Programme (UNEP), namely the Montreal Protocol on Substances that Deplete the Ozone Layer to the Vienna Convention on the Protection of the Ozone Layer (1985), the Stockholm Convention on Persistent Organic Pollutants (2001) and the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal (1989). Stakeholders were not aware of the status of implementation of some conventions and instruments, as exemplified by the results for implementation of the International Health Regulations (2005), highlighting the value of stronger future intersectoral collaboration. Consideration of work that builds on and extends the concept of synergies being addressed by the three chemicals and wastes conventions may be helpful in raising awareness and fostering cooperative work in this area.

66. Commitment to the implementation of the Strategic Approach remains high. Considerable progress has been achieved since the baseline period with a continued increase in the number of

national focal points among Governments and non-governmental organizations and the use of multi-stakeholder committees to coordinate matters relating to the Strategic Approach and chemicals safety. The network of focal points in intergovernmental organizations has remained static since the baseline period and might be enhanced by the recruitment of focal points from additional regional cooperation organizations and financial institutions, particularly given the need for further work to strengthen the long-term financial arrangements for the Strategic Approach.

4. Capacity-building and technical cooperation

67. The reported activities on capacity-building and technical cooperation showed a mixed level of achievement. Support provided by the Quick Start Programme Trust Fund to enabling activities designed to implement the Strategic Approach has been notable with the programme exceeding its business plan targets for least developed countries and countries on the OECD Development Assistance Committee list.³ A comparable number of countries were supported by the Quick Start Programme Trust Fund as from the Multilateral Fund of the Montreal Protocol or the Global Environment Facility, indicating the complementarity of this funding source for sound chemicals management.

68. Access to other sources of funding during the biennium 2009–2010 is significantly lower. Support from the United Nations, including United Nations agencies, was recorded as the most common source of funding, a finding supported by complementary analysis carried out by IOMC providing an overview of where individual IOMC-participating organizations are working on chemicals issues in countries.⁴ On average, less than two different funding sources were accessed by respondents, with access to funding through bilateral funding agreements, the World Bank, regional cooperation agreements, the private sector, regional development banks, foundations, charities and multilateral conventions reported only very infrequently.

69. The level of activity related to mainstreaming, specifically whether national development plans addressed priority needs for chemicals, was limited to about one third of respondents, with the highest relative number being in Latin America and the Caribbean. A larger group of developing countries reported that the question on development plans was either not relevant or not applicable to them or they did not know the answer. The level of activity on other planning processes for identifying capacity-building needs was more positive, but focused predominantly on updating or completion of national chemical profiles and national implementation plans for the Stockholm Convention. About a quarter of respondents reported completing or updating Strategic Approach implementation plans during 2009–2010.

70. About two thirds of respondents identified at least one relevant regional cooperation effort on different aspects of chemical safety, notably activities relating to sharing knowledge and information and capacity-building and technical cooperation. This form of cooperation appeared to be strongest in the Western European and other countries group, although the work of regional cooperation organizations in Africa and Latin America and the Caribbean was also mentioned.

5. Illegal international traffic

71. There was little distinction in the levels or nature of activities reported on illegal international traffic in chemicals or in hazardous wastes, with the focus of both on the communication of information on movements of chemicals or wastes out of a country and the establishment of national legislation for dealing with the problem. For hazardous wastes, the level of activity on public information on and awareness of levels and cases of illegal trade and remedial actions being undertaken was reported least frequently. A number of new and strengthened initiatives, such as those involving the Basel Convention and its regional centres, the Partnership for Action on Computing Equipment, the United Nations Industrial Development Organization (UNIDO), relevant sections of industry, non-governmental organizations and relevant networks, such as the European Union Network for the Implementation and Enforcement of Environmental Law and the International Network for Environmental Compliance and Enforcement, promise additional work in this area in future years.

³ See SAICM/EB.7/2/Rev.1.

⁴ See www.who.int/iomc/activity/poactivities/en/index.html.

Annex I

List of indicators for reporting progress in implementation of the Strategic Approach

The following 20 indicators were adopted by the International Conference on Chemicals Management at its second session, in May 2009, along with guidance on the type of data to be collected from stakeholders.

A. Risk reduction

1. Number of countries (and organizations) implementing agreed chemicals management tools.
2. Number of countries (and organizations) with mechanisms to address key categories of chemicals.
3. Number of countries (and organizations) with hazardous waste management arrangements.
4. Number of countries (and organizations) engaged in activities that result in monitoring data on selected environmental and human health priority substances.
5. Number of countries (and organizations) having mechanisms in place for setting priorities for risk reduction.

B. Knowledge and information

6. Number of countries (and organizations) providing information according to internationally harmonized standards.
7. Number of countries (and organizations) that have specific strategies in place for communicating information on the risks associated with chemicals to vulnerable groups.
8. Number of countries (and organizations) with research programmes.
9. Number of countries (and organizations) with websites that provide information to stakeholders.

C. Governance

10. Number of countries (and organizations) that have committed themselves to implementation of the Strategic Approach.
11. Number of countries (and organizations) with multi-stakeholder coordinating mechanism.
12. Number of countries (and organizations) with mechanisms to implement key international chemicals priorities.

D. Capacity-building and technical cooperation

13. Number of countries (and organizations) providing resources (financial and in kind) to assist capacity-building and technical cooperation with other countries.
14. Number of countries (and organizations) that have identified and prioritized their capacity-building needs for the sound management of chemicals.
15. Number of countries (and organizations) engaged in regional cooperation on issues relating to the sound management of chemicals.
16. Number of countries where development assistance programmes that include the sound management of chemicals.
17. Number of countries (and organizations) with projects supported by the Strategic Approach's Quick Start Programme Trust Fund.
18. Number of countries (and organizations) with sound management of chemicals projects supported by other sources of funding (not Quick Start Programme funding).

E. Illegal international traffic

19. Number of countries having mechanisms to prevent illegal traffic in toxic, hazardous and severely restricted chemicals individually.
20. Number of countries having mechanisms to prevent illegal traffic in hazardous waste.

Annex II

Questionnaire used in the online reporting tool

Welcome to the online tool for reporting on progress in SAICM implementation in 2009- 2010

This online tool is to be used for collecting information on the status of progress in implementation of the Strategic Approach to International Chemicals Management (SAICM). In the first phase data will be collected for 2009 and 2010 and this will be aggregated and presented to the meeting of the Open-ended Working Group of the International Conference on Chemicals Management, Belgrade, 29 August to 2 September 2011.

The online tool is made up of six parts. The first part (part 1) collects information to confirm the identity of the country or the organization submitting the response. The five parts that follow contain a series of questions to gather information on each of the indicators of progress agreed by the second session of the International Conference on Chemicals Management, 11-15 May 2009. The questions are organized in parts which correspond to the categories of objectives contained in the Overarching Policy Strategy (OPS) of the Strategic Approach. Each part of the form collects information relevant to indicators in each specific category of the OPS namely: Risk reduction (part 2 of the form); Knowledge and information (part 3 of the form); Governance (part 4 of the form); Capacity-building and technical cooperation (part 5 of the form) and Illegal international traffic (part 6 of the form).

Each part of the form should be completed by all stakeholders whether in Government, intergovernmental organizations or non-governmental organizations. Guidance is given in the online form as to which questions are mandatory (and must be completed) and which are optional (providing supplementary information). Mandatory questions are marked with an asterisk (*). In general there is one mandatory question for each indicator. The mandatory question is usually a series of check-boxes. These are followed by optional fields where additional and supplementary narrative information may be given if wished.

It is not possible to submit any form if mandatory questions are left unaddressed and the system will provide prompts to identify missing answers if an attempt to submit an incomplete form is made. To safeguard loss of information while completing a form a partial save can be made.

Online forms

The six parts of the online tool can be accessed by clicking on the following links. At the end of the questions in each part there is an option either to "Submit the form" in this case the information submitted will be conveyed to the secretariat or to "Save partially completed form", in this case the information will be saved for completion at another login session. On submission of the form, an on-screen message will acknowledge receipt and provide an option to print the information submitted for future reference. The automatic message confirming that the submission has been successfully provides additional quick links to other parts of the form without the need for a separate login.

The following links are to each part of the form

- Part 1: Identity
- Part 2: Risk reduction
- Part 3: Knowledge and information
- Part 4: Governance
- Part 5: Capacity building and technical cooperation
- Part 6: Illegal international traffic

If changes are needed to the responses following submission please contact saicm@unep.org. In exceptional cases the submission process can be reversed and a replacement submission made. Please make full use of the "save partially completed form" button and the print function following submission of the completed form. There is an automatic logout if there has been no activity on the form for approximately 30 minutes. In these cases any information that is entered will be lost up to the time of the last partial save.

Part 1: Identity of respondent

This first part of the online contains a series of questions to verify the identity of the respondent and also to identify the country/organization that the collected information relates to. The secretariat will aggregate all of the information collected according to official regional groupings and according to the applicable stakeholder group (e.g., Governments, non-governmental organizations and intergovernmental organizations).

Contact information is requested to be provided so that in the case of any ambiguous answers or errors, the secretariat can make direct contact with the respondent.

1.1. Information about the respondent

1.1.1. Name of respondent1.

1.1.2. Email address of respondent *

1.1.3. Direct telephone number

1.1.4. Title of Government ministry or organization *

1.1.5. Address *

1.1.6. Country *

1.1.7. Which type of SAICM stakeholder group do you belong to *

1.1.8 If you have selected other SAICM stakeholder, please use the space provided to describe the type

1.1.9. Sector of economy or interests * (Please select from the following list the sector that most closely describes your sphere of activities or interests)

1.2. Information on SAICM Focal Point

1.2.1. Have you nominated a SAICM Focal Point? *

1.2.2. If you answered yes above, please provide the name of the SAICM Focal Point

1.2.3. For Government focal points, please select from the list opposite the ministry where you are located (Sector where Government-based focal points are located)

1.2.4. If you have selected “other” for question 1.2.3. in the above list, you may wish to describe further in the space below

Part 2: Risk reduction

Risk reduction is one of five categories of objectives that form the Overarching Policy Strategy of the Strategic Approach to International Chemicals Management. This second part of the online form collects information that will help to evaluate progress on the five indicators relevant to risk reduction that were selected by the second session of the International Conference on Chemicals Management namely:

- Use of chemicals management tools;
- Mechanisms to address key categories of chemicals;
- Hazardous waste management arrangements;
- Monitoring activities for selected environmental and health priorities; and
- Mechanisms for setting priorities for risk reduction.

2.1. Use of agreed tools of guidance materials for risk reduction

2.1.1 Which of the following tools or guidance materials for risk reduction published by the Participating

Organizations of the Inter-Organization Programme for the Sound Management of Chemicals (IOMC) are used by your Government/organization? *

- FAO International Code of Conduct for the Distribution and Use of Pesticides
- IPCS International Chemical Control Toolkit (Control Banding)
- OECD eChem Portal
- OECD Guidelines for the Testing of Chemicals
- UNITAR Guidance on Developing a Risk Management Plan for Priority Chemicals
- WHO Air Quality Guidelines
- WHO Drinking Water Quality Guidelines
- WHO Recommended Classification of Pesticides by Hazard
- Others (please specify in the space below)
- None/Not applicable/Not relevant
- Not known

2.1.2 If you have selected "Others" to question 2.1.1. you may wish to use the space below to provide additional information.

2.1.3. Please use the space below if you wish to provide additional information or comments relevant to question 2.1.1. You may also wish to use this space to provide links or references to relevant activities cited or to provide additional information in the case the question is considered 'not applicable' or 'not relevant'.

2.1.4 If any specific tools published by the participating organizations of the IOMC have been referenced in legislation or have been useful in the process of establishing legislation, you may wish to use the space below to provide the name of the tool or guidance document.

2.1.5. Over 2009 and 2010, has your Government or organization published any new tools or guidance materials to implement risk reduction in the following subject areas. *

- Identification of chemicals in use
- Hazard identification
- Exposure assessment
- Risk characterization
- Management of pesticide risks
- Management of obsolete chemicals or pesticides
- Prevention and control of chemical pollution and waste
- Management of media-specific risks (e.g., water quality, air quality)
- Identification and use of less hazardous alternative substances
- Major industrial accidents
- Others (please specify in the space below)
- None of the above/Not applicable/Not relevant
- Not known

2.1.6. If you have selected "other" to question 2.1.5. you may wish to use the space below to provide additional information.

2.1.7. Please use the space below if you wish to provide additional information or comments relevant to question 2.1.5. You may also wish to use this space to provide links or references to relevant activities cited or to provide additional information in the case the question is considered 'not applicable' or 'not relevant'.

2.2. Categories of chemicals subject to risk management

2.2.1. Which of the following categories or groups of chemicals does your country or organizations prioritize for risk management? *

- Persistent organic pollutants (as listed under the Stockholm Convention)
- Other Persistent, bioaccumulative and toxic substances
- Carcinogenic, mutagenic or reproductive toxic substances
- Endocrine, immuno or neurotoxic substances
- Mercury or mercury-containing sources
- Other metals or their compounds
- Chemicals produced in high volume
- Chemicals subject to wide dispersive uses
- Pesticides
- Chemical contaminants in consumer products
- Other chemicals of national concern (please specify in the space below)
- None of the above categories/Not applicable/Not relevant
- Not known

2.2.2. If you have checked "Other chemicals of national concern" or if there are other categories of chemicals your country or organization subjects to risk management arrangements, please identify them in the space below.

2.2.3. You may wish to use the space below to identify any new initiatives or mechanisms implemented in 2009 and 2010 to address any of the selected categories of chemicals.

2.2.4. Please use the space below if you wish to provide additional information or comments relevant to question 2.2.1. You may also use this space if you wish to provide links or references to relevant activities cited or to provide additional information in the case the question is considered 'not applicable' or 'not relevant'.

2.3. Hazardous waste management

2.3.1. Which of the following parts of the waste management cycle are covered by legislation? *

- Prevention/reduction in generation of hazardous waste
- Collection and interim storage of hazardous waste
- Disposal of hazardous waste
- Recovery and recycling of hazardous waste
- Other (please specify in the space below)
- None of above /Not applicable/Not relevant
- Not known

2.3.2. If you have answered "Other "to question 2.3.1, please identify them in the space below.

2.3.3. If none of the above applied, were any of the activities listed above for hazardous waste management under development in either 2009 or 2010?

- Yes, under development
- No, not planned
- Not known

2.3.4. Do you address through legislation or permits any of the following specific waste streams? *

- Plastics
- Lead-acid batteries
- Biomedical & healthcare wastes
- Mobile phones
- Other electrical & electronic equipment
- Persistent organic pollutants contaminated waste
- Dioxin-related substances
- Pesticide contaminated wastes
- Other (please specify below)
- None/Not applicable/Not relevant

- Not known

2.3.5. If you checked "other", please use the space below to identify the other chemicals-containing waste streams addressed.

2.3.6. Do you address any of the specific waste streams identified in question 2.3.4. through stewardship projects or other policy tools? If so please use the space below to provide brief information.

2.3.7. Please use the space below if you wish to provide additional information or comments relevant to questions 2.3.1. and 2.3.4. on hazardous waste management arrangements. You may also use this space if you wish to provide links or references to relevant activities cited.

2.4. Periodic monitoring activities

2.4.1. For which of the following types of monitoring does your country or organization have established arrangements in place for the periodic collection of monitoring data? *

- Environmental monitoring e.g., air, water, environmental species
- Human biomonitoring, e.g., blood, serum, urine
- Cases of human poisoning with chemicals
- Cases of occupationally-related disease linked to chemical exposure
- Chemical incidents involving chemicals
- Other types of monitoring carried out
- None of the above/Not applicable/Not relevant
- Not known

2.4.2. If you have selected "other" as part of your response to the question 2.4.1., please identify the type of monitoring programme to which you refer

2.4.3. If no programmes are established, have any steps been taken in 2009 and 2010 to establish such programmes in the future?

- Yes
- No
- Not known

2.4.4. If you indicated work is in development to establish monitoring arrangements, please use the space below to provide a short description.

2.4.5. Are you involved in any cooperative work with other countries or regions to compare the results of periodic monitoring programmes? *

- Yes
- No
- In development
- Not known

2.4.6. If you answered either, "yes" or "in development" please use the space below to provide a short description.

2.4.7. Please use the space below if you wish to provide additional information or comments relevant to question 2.4.1. You may also use this space if you wish to provide links or references to relevant activities cited or to provide additional information in the case the question is considered 'not applicable' or 'not relevant'.

2.5. Setting priorities for risk reduction

2.5.1. Which of the following types of chemicals and types of exposures are taken into account through a science-based assessment before chemicals are placed on the market? *

- Industrial chemicals
- Pesticides
- Biocides
- Food additives
- Occupational health and safety risks
- Environmental risks
- Consumer or public health risks
- Other situations not listed above (please specify below)
- None of the above/Not applicable/Not relevant
- Not known

2.5.2. If you checked "other situations not listed above" to answer question 2.5.1, please use the space below to provide a description of the other types of chemicals or exposure situations.

2.5.3. Is there a scientific committee, body or institute engaged in the scientific risk assessment work identified in question 2.5.1? *

- Yes
- No
- In development
- Not known

2.5.4. If you have responded in your answer to question above that there is a scientific assessment committee/body or institute involved in risk assessment work, you may wish to use the space below to provide additional information.

2.5.5. Do you have programmes in place (2009 and 2010) for the management of priority risks associated with exposures to any of the following: *

- Industrial chemicals already in use
- Pesticides already in use
- Biocides already in use
- Chemical contaminants in food
- Chemical contaminants in consumer products
- Chemical contaminants in drinking water
- Chemical contaminants in recreational water
- Chemical contaminants in groundwater
- Air pollutants
- Other situations not listed above (please specify below)
- None of the above/Not applicable/Not relevant
- Not known

2.5.6. If you checked "other situations not listed above", please use the space below to describe the other types of exposures which are prioritized for risk management.

2.5.7. Have any programmes for the management of priority risks been in development or under review in either 2009 or 2010? *

- Yes
- No
- Not known

2.5.8. If you indicated activities were either in development or under review, please use the space below to provide a short description.

2.5.9. Please use the space below if you wish to provide additional information or comments relevant to the questions in this section on setting priorities for risk reduction. You may also use this space if you wish to provide links or references to relevant activities cited or to provide additional information in the case the question is considered 'not applicable' or 'not relevant'.

Part 3: Knowledge and information

Knowledge and information is one of five categories of objectives that form the Overarching Policy Strategy of the Strategic Approach to International Chemicals Management. This third part of the online form collects information that will help to evaluate progress on the four indicators relevant to knowledge and information selected by the second session of the International Conference on Chemicals Management namely:

- Provision of information according to internationally harmonized standard.
- Communication of risks to vulnerable groups.
- Research.
- Websites providing information to stakeholders.

3.1. Provision of information in accordance with internationally harmonized standards

3.1.1. Do you have standards or requirements in your country or organization for labelling the hazards and/or risks posed by all chemicals at the following stages in a chemical's life-cycle? *

- Production
- Occupational use
- Consumer or public use
- Transport
- Disposal
- Other (please specify below)
- None of the above/Not applicable/Not relevant
- Not known

3.1.2. If you checked "other" and there are other parts of the chemical life-cycle covered by labeling requirements, please identify them in the space below.

3.1.3. Please use the space below if you wish to provide additional information or comments relevant to question 3.1.1 or to provide additional information in the case the question is considered 'not applicable' or 'not relevant'. You may also use this space if you wish to provide links or references to any relevant activities cited.

3.2. Conformity with the GHS

3.2.1. Has your Government or organization conducted an assessment of the conformity of labeling requirements with those of the Globally Harmonized System for the Classification and Labelling of Chemicals (the "GHS") for any of the following categories of chemicals? *

- Dangerous Goods
- Pesticides
- Consumer products
- Occupational health and safety/Workplace use
- Industrial chemicals
- Other (please specify below)
- None of the above/Not applicable/Not relevant
- Not known

3.2.2. If you checked "other" and there are other labelling regimes for which you have assessed conformity with the GHS, please identify them in the space below.

3.2.3. Please use the space below if you wish to provide additional information or comments relevant to question 3.2.1. You may also use this space if you wish to provide links or references to any relevant activities cited or to provide additional information in the case the question is considered 'not applicable' or 'not relevant'.

3.3. Communication to vulnerable groups

3.3.1. In 2009 or 2010, have you undertaken activities or published guidance, training or awareness materials designed to communicate chemical safety issues to any of the following vulnerable groups? *

- Women
- Children
- The elderly
- Workers not speaking official national languages
- Indigenous peoples
- Highly exposed groups
- The general public
- Other (please specify below)
- None of the above/Not applicable/Not relevant
- Not known

3.3.2. If you checked "other" and there are other vulnerable groups you have targeted with information or training, please identify them in the space below.

3.3.3. Please use the space below if you wish to provide additional information or comments relevant to question 3.3.1. You may also use this space if you wish to provide links or references to any relevant activities cited or to provide additional information in the case the question is considered 'not applicable' or 'not relevant'.

3.4. Research programmes

3.4.1. Has your country or organization commissioned or funded research during 2009 or 2010 in any of the following areas of chemical safety? *

- Human health effects or exposure
- Environmental effects or exposure
- Safer alternatives
- Cleaner production technologies
- Other (please specify below)
- None of the above/Not applicable/Not relevant
- Not known

3.4.2. If you checked "other" and research has been commissioned or funded in other areas of chemical safety, please identify them in the space below.

3.4.3. Please use the space below if you wish to provide additional information or comments relevant to question 3.4.1. You may also use this space if you wish to provide links or references to any relevant activities cited or to provide additional information in the case the question is considered 'not applicable' or 'not relevant'.

3.5. Websites giving publicly accessible information about chemicals

3.5.1. Do you maintain any websites in your country or organization that provide publicly available information on any of the following topics? *

- Chemicals in use
- Chemicals safety laws that apply in the country
- Hazards and risks associated with specific chemicals
- Exposure scenarios or risks associated with specific uses
- Guidance on how to prevent exposure
- First aid and medical information for selected chemical risks
- Pollution release information
- Chemical safety information in local languages
- Chemical alternatives/substitutes
- Other (please specify below)
- None of the above/Not applicable/Not relevant
- Not known

3.5.2. If you checked "other" and your country or organization maintains other websites that are available to the public providing chemical safety information, please identify them in the space below.

3.5.3. Have you regularly used other channels of public information (e.g., newspapers, television, radio) in either 2009 or 2010 to communicate on chemicals safety-related topics? If so, you may wish to provide information below.

3.5.4. Please use the space below if you wish to provide additional information or comments relevant to the questions on websites for chemical safety. You may also use this space if you wish to provide links or references to any relevant activities cited or to provide additional information in the case the question 3.5.1. is considered 'not applicable' or 'not relevant'.

Part 4: Governance.

Governance is one of five categories of objectives that form the Overarching Policy Strategy of the Strategic Approach to International Chemicals Management. This fourth part of the online form collects information that will help to evaluate progress on the three indicators relevant to Governance that have been selected by the second session of the International Conference on Chemicals Management namely:

- Commitments to implementation of the Strategic Approach.
- Multi-stakeholder coordination.
- Implementation of key international chemicals agreements.

4.1. Commitment to SAICM implementation

4.1.1. A number of forms of expressing the commitment to implement SAICM are shown by countries and organizations. Which of the following expressions of commitment have been demonstrated by your country or organization in 2009 and 2010? *

- Ministerial statements expressing support for SAICM
- Resolutions of governing bodies that refer to SAICM (e.g., by an Executive or management board)
- Nomination of a new SAICM focal point
- Formalization of the role of national focal point in organizational plans or duty statements
- Publication of a SAICM implementation plan or national/regional equivalents
- Inclusion of information on progress in SAICM implementation in annual reports
- Establishment of a committee to coordinate SAICM matters
- Other commitments not identified above (please specify)
- None identified/Not applicable/Not relevant
- Not known

4.1.2. If you have checked "Other commitments not identified above", please use the space below to describe the form of commitment given.

4.1.3. Please use the space below if you wish to provide additional information or comments relevant to question 4.1.1. You may also use this space if you wish to provide links or references to relevant activities cited.

4.2. Multistakeholder coordination

4.2.1. Does your country or organization have a national committee or advisory group that coordinates with stakeholders in governments and other interested parties on chemical safety including SAICM and that reports or provides information to relevant ministers/decision-makers? *

- Yes
- No
- In development
- Not known

4.2.2. If you have answered "yes" to the previous question, please identify the stakeholders including the different government ministries and agencies participate.

- Agriculture
- Customs authorities
- Education
- Environment
- Foreign Affairs
- Health
- Industry
- Labour
- Prime Minister
- Science
- Trade
- Transport
- Other

4.2.3. If other ministries participate and have not been identified above, please use the space below to identify them.

4.2.4. Are non-governmental stakeholders formally included in any governmental committees or advisory groups that deal with SAICM-related matters? *

- Yes
- No
- Not known

4.2.5. If other stakeholders participate, please identify them in the space below.

4.2.6. Please use the space below if you wish to provide additional information or comments relevant to multi-stakeholder coordination. You may also use this space if you wish to provide links or references to relevant activities cited.

4.2.7. If you are responding on behalf of a non-governmental or intergovernmental organization, did you have active coordination in 2009 and 2010 with other non-governmental organizations or other intergovernmental organizations?

- Yes
- No
- In development

4.2.8. For non-governmental or intergovernmental organizations, you may wish to use the space below to describe the main forms of coordination in 2009 and 2010.

4.3. Implementation of international chemicals instruments of the International Labour Organization (ILO)

4.3.1. Which of the following international chemicals instruments of the ILO were being implemented by your country or organization, through the enacting of legislation, equivalent existing law or through relevant policies? *

- ILO Convention 13: Use of White Lead in Painting (1921)
- ILO Convention 136: Protection Against Hazards of Poisoning Arising from Benzene (1971)
- ILO Convention 139: Prevention and Control of Occupational Hazards caused by Carcinogenic Substances and Agents (1974)
- ILO Convention 148: Protection of Workers against Occupational Hazards in the Working Environment due to Air Pollution, Noise and Vibration (1977)
- ILO Convention 162: Safety in the Use of Asbestos (1986)
- ILO Convention 170: Safety in the Use of Chemicals at Work (1990)
- ILO Convention 174: Prevention of Major Industrial Accidents (1993)
- Other ILO Conventions or instruments applying to chemicals (please specify)

- None of the above/Not applicable/Not relevant
- Not known

4.3.2. If your Government was actively developing in 2009 and 2010 legislation or relevant policies to enable future implementation, please identify the relevant instruments/activities below.

4.3.3. If other ILO Conventions or Instruments has been checked above, please identify the relevant instrument in the space below.

4.3.4. Please use the space below if you wish to provide additional information or comments relevant to question 4.3.1. on ILO international chemicals instruments. You may also use this space if you wish to provide links or references to relevant activities cited or to provide additional information in the case the question is considered 'not applicable' or 'not relevant'.

4.4. Implementation of international chemicals instruments of the International Maritime Organization (IMO)

4.4.1. Which of the following international chemicals instruments of the IMO were being implemented by your country or organization through the enacting of legislation, equivalent existing law or through relevant policies? *

- IMO Convention for the Prevention of Pollution from Ships (1973,1978)
- IMO Convention on Oil Pollution Preparedness, Response and Cooperation (1990)
- IMO Protocol on Preparedness, Response and Cooperation to Pollution Incidents by Hazardous and Noxious Substances (2000)
- IMO Convention on the Control of Harmful Anti-fouling Systems on Ships (2001)
- Other IMO Conventions or Instruments (please specify)
- None of the above/Not applicable/Not relevant
- Not known

4.4.2. If your Government was actively developing in 2009 and 2010 legislation or relevant policies to enable future implementation, please identify the relevant instruments/activities below.

4.4.3. If you have selected "Other IMO Conventions or Instruments" to question 4.4.1., please identify the relevant instrument in the space below.

4.4.4. Please use the space below if you wish to provide additional information or comments relevant to question 4.4.1. on international chemicals instruments of the IMO. You may also use this space if you wish to provide links or references to relevant activities cited or to provide additional information in the case the question is considered 'not applicable' or 'not relevant'.

4.5. Implementation of international chemicals instruments of the United Nations Environment Programme (UNEP)

4.5.1. Which of the following international chemicals instruments of UNEP were being implemented by your country or organization, through the enacting of legislation, equivalent existing law or through relevant policies? *

- Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (1989)
- Stockholm Convention on Persistent Organic Pollutants (2001)
- Montreal Protocol on Substances that Deplete the Ozone Layer (1985) under the Vienna Convention on the Protection of the Ozone Layer (1985)
- Other UNEP Conventions and binding instruments applying to chemicals (please specify)
- None of the above/Not applicable/Not relevant
- Not known

4.5.2. If your Government was actively developing in 2009 and 2010 legislation or relevant policies to enable future implementation, please identify the relevant instruments/activities below.

4.5.3. If you have selected "Other UNEP Conventions or Instruments" in the answer to question 4.5.1., please identify the relevant instrument in the space below.

4.5.4. Please use the space below if you wish to provide additional information or comments relevant to question 4.5.1. on international chemicals instruments of UNEP. You may also use this space if you wish to provide links or references to relevant activities cited or to provide additional information in the case the question is considered 'not applicable' or 'not relevant'.

4.6. Implementation of the Rotterdam Convention on the Prior informed consent procedure for certain hazardous chemicals and pesticides in international trade (1998, FAO and UNEP)

4.6.1. Has your Government implemented through the enacting of legislation, equivalent existing law or relevant policies, the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade? *

- Yes
- No
- In development
- Not known

4.6.2. Please use the space below if you wish to provide additional information or comments relevant to question 4.6.1. on the Rotterdam Convention. You may also use this space if you wish to provide links or references to relevant activities cited or to provide additional information in the case the question is considered 'not applicable' or 'not relevant'.

4.7. Implementation of the convention on the prohibition of the development, production, stockpiling and use of chemical weapons and their destruction (1992, OPCW)

4.7.1. Has your Government implemented through the enacting of legislation, equivalent existing law or relevant policies, the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and their Destruction (1992) *

- Yes
- No
- In development
- Not known

4.7.2. Please use the space below if you wish to provide additional information or comments relevant to question 4.7.1. on the Chemicals Weapons Convention. You may also use this space if you wish to provide links or references to relevant activities cited or to provide additional information in the case the question is considered 'not applicable' or 'not relevant'.

4.8. Implementation of the International Health Regulations (2005) of the World Health Organization (WHO)

4.8.1. Have you implemented in 2009 and 2010 through the enacting of legislation, equivalent existing law or relevant policies the International Health Regulations (IHR, 2005). *

- Yes
- No
- In development
- Not known
- Not applicable/not relevant

4.8.2. Please use the space below if you wish to provide additional information or comments relevant to question 4.8 on the IHR. You may also use this space if you wish to provide links or references to relevant activities cited or to provide additional information in the case the question is considered 'not applicable' or 'not relevant'.

4.9. Implementation of conventions and legally binding instruments of the United Nations Economic Commission for Europe (UNECE)

4.9.1. Which of the following international chemicals instruments of the UNECE were being implemented by your Government through the enacting of legislation, equivalent existing law or through relevant policies? *

- Aarhus Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (1998)
- Protocol on Pollutant Release and Transfer Registers (2003) under the Aarhus Convention
- Geneva Convention on Long-range Transboundary Air Pollution (LRTAP, 1979)
- Other UNECE Conventions or legally binding instruments (please specify)
- None of the above/Not applicable/Not relevant
- Not known

4.9.2. If your Government was actively developing in 2009 and 2010 legislation or relevant policies to enable future implementation, please identify the relevant instruments/activities below.

4.9.3. If you have selected "Other UNECE Conventions or legally binding instruments" in your answer to question 4.9.1., please identify the relevant instrument in the space below.

4.9.4. Please use the space below if you wish to provide additional information or comments relevant to question 4.9.1. You may also use this space if you wish to provide links or references to relevant activities cited or to provide additional information in the case the question is considered 'not applicable' or 'not relevant'.

Part 5: Capacity-building and technical cooperation

Capacity-building and technical cooperation is one of five categories of objectives that form the Overarching Policy Strategy of the Strategic Approach to International Chemicals Management. This fifth part of the online form collects information the following five of the six indicators relevant to capacity-building and technical cooperation selected by the second session of the International Conference on Chemicals Management. This online form does not include questions about support from the SAICM Quick Start Programme Trust Fund. Information on this indicator will be compiled from information sources held by the secretariat. The five indicators relevant to part six of the form are:

- Financial and in-kind resources to assist capacity-building and technical cooperation.
- Identification and prioritization of capacity-building needs.
- Regional cooperation on sound chemicals management.
- Development assistance programmes that include sound chemicals management.
- Other sources of funding for capacity-building.

5.1. Financial bilateral support for capacity-building

5.1.1. In 2009 and 2010 has your Government or organization provided bilateral financial assistance to other Governments to improve their capacity for the sound management of chemicals? *

- Yes
- No/Not applicable/Not relevant
- Not known

5.1.2. If yes, please select from the adjacent list those countries that have been supported?

5.2. Bilateral technical cooperation for capacity-building

5.2.1. In 2009 and 2010 has your Government or organization provided bilateral technical cooperation assistance to other Governments to improve their capacity for the sound management of chemicals? *

- Yes
- No/Not applicable/Not relevant
- Not known

5.2.2. Over the period 2009-2011, to which countries has your country provided bilateral technical assistance to improve their capacity for the sound management of chemicals?

5.3. Identifying chemicals management priorities for capacity-building

5.3.1. Which of the following types of plans, relevant for identifying chemicals management priorities, were completed or updated in 2009 or 2010? *

- National Chemicals Profile
- National SAICM Implementation Plan
- National Implementation Plan for Stockholm Convention
- National Environmental Health Action Plan
- Other plans completed or updated in 2009 or 2010 (please specify)
- No plans have been completed or updated in 2009 and 2010
- Not applicable or not relevant
- Not known

5.3.2. If you have selected "Other plans have been completed or updated" or other plans that have been used to identify chemicals management priorities, please identify them in the space below.

5.3.3. If no plans have been completed or updated, are any other activities underway that will assist in identifying capacity-building needs for the sound management of chemicals?

- Yes
- No
- Not known

5.3.4. Please use the space below if you wish to provide additional information or comments relevant to this section on identifying priorities for capacity-building. You may also use this space if you wish to provide links or references to relevant activities cited or to provide additional information in the case the question is considered 'not applicable' or 'not relevant'.

5.4. Regional cooperation on sound chemicals management

5.4.1. Please indicate whether cooperative work on any of the following subjects has been undertaken under the auspices of regional cooperation agreements in 2009 or 2010? *

- Risk reduction
- Knowledge and information
- Governance
- Capacity-building and technical cooperation
- Illegal international traffic
- Other areas of cooperation (please specify below)
- No relevant regional cooperation on the topics identified
- Not applicable/not relevant
- Not known

5.4.2. If you have checked any of the responses above, please use the space below to provide the names of the regional cooperation agreements that are applicable in the space below.

5.4.3. If you checked "Other areas of cooperation" in the answer to question 5.4.1., please identify the subject area concerned in the space below.

5.4.4. If no regional cooperation has been carried out in 2009 and 2010 but there are areas where such cooperation is under development, please describe details below.

5.4.5. Please use the space below if you wish to provide additional information or comments relevant to the question on regional cooperation. You may also use this space if you wish to provide links or references to relevant activities cited or to provide additional information in the case the question is considered 'not applicable' or 'not relevant'.

5.5. Development assistance programmes

5.5.1. Does your country have a national development plan that covers the years 2009 and 2010 and that addresses priority needs for the sound management of chemicals? *

- Yes
- No/Not applicable/Not relevant
- Not known

5.5.2. If priority needs for the sound management of chemicals are addressed in a national development plan, please provide the name(s) of the relevant development plan(s) in the space below.

5.5.3. If chemicals management needs are not reflected in national development plans, please use the space below to describe any efforts undertaken in 2009 and 2010 to include such matters in future plans.

5.5.4. Please use the space below if you wish to provide additional information or comments relevant to this section of questions on development assistance programmes. You may also use this space if you wish to provide links or references to relevant activities cited or to provide additional information in the case the question is considered 'not applicable' or 'not relevant'.

5.6. Capacity-building projects for sound chemicals management supported by sources other than SAICM Quick Start Programme

The questions in this section aim to gather information about sources of funding utilized in 2009 and 2010 for capacity-building projects for the sound management of chemicals. While sometimes chemicals-related activities may be only a small part of a project, please consider the question as broadly as possible if the activity contributes to improving the sound management of chemicals.

This section should not be used to document use of SAICM Quick Start Programme (QSP) funding. The secretariat will use its own records to provide comparative data on funding under the SAICM QSP.

5.6.1. Have any of the following sources provided financial support for capacity-building activities in your country or organization for the sound management of chemicals in either 2009 or 2010? *

- Global Environment Facility (GEF)
- Multilateral Fund for the Montreal Protocol
- # United Nations or United Nations Agency (e.g., ILO, FAO, UNDP, UNEP, UNIDO, UNITAR, WHO)
- # Regional Cooperation Organization
- # Regional Development Bank
- The World Bank
- # Multi-lateral Environment Convention Trust Fund
- Bilateral funding agreement with another country
- # Foundation or charitable body
- # Private sector or company
- Other type of funding source not listed above (please specify)
- None/Not applicable/Not relevant
- Not known

5.6.2. For those answers prefixed with the symbol # above, please use the space below to describe which specific organizations have provided funding support for chemicals management activities, e.g., which regional development bank.

5.6.3. If you have selected the answer "Other source of financial support" not listed above", please identify them in the space below.

5.6.4. Please use the space below if you wish to provide additional information or comments relevant to this question. You may also use this space if you wish to provide links or references to relevant activities cited or to provide additional information in the case the question is considered 'not applicable' or 'not relevant'.

Part 6: Illegal international traffic

Illegal international traffic is one of five categories of objectives that form the Overarching Policy Strategy of the Strategic Approach. This sixth part of the online form asks questions relevant to two indicators relevant to illegal international traffic that were selected by the second session of the International Conference on Chemicals Management:

- Illegal traffic in toxic, hazardous and severely restricted chemicals.
- Illegal traffic in hazardous waste.

6.1. Illegal international traffic of chemicals

6.1.1. Which of the following activities in support of preventing illegal international traffic of hazardous chemicals were in place in 2009 and 2010 in your country or organization? *

- Implementation of national legislation preventing illegal traffic of hazardous chemicals
- Communication of information on movements of hazardous chemicals out of the country to neighbouring countries
- Public information and awareness on levels and cases of illegal trade and remedial actions undertaken
- Specific training of border control agents
- Cooperation and/legal agreements with neighbouring countries
- Monitoring of international traffic in hazardous chemicals
- Other measures not stated above (please specify)
- None of the above/Not applicable/Not relevant
- Not known

6.1.2. If you have selected "Other measures not stated above" to your answer to question 6.1.1., please use the space below to identify these measures

6.1.3. Please use the space below to provide any comments or additional information that you wish to provide that is not reflected in the answers you have given to this question on international traffic of hazardous chemicals. You may also wish to use this space for providing links or references to relevant activities and legislation cited or to provide additional information in the case the question is considered 'not applicable' or 'not relevant'.

6.1.4. Did your country or organization put any measures in place in 2009 and 2010 for preventing illegal international traffic of specific individual hazardous chemicals? *

- Yes
- No
- Not known
- In development
- Not applicable/Not relevant

6.1.5. Please use the space below to identify the specific chemicals and measures, if you have indicated that measures exist or that such measures are in development.

6.2. Illegal international traffic of hazardous waste

6.2.1. Which of the following activities in support of preventing illegal international trade in hazardous waste were in place in your country or organization in 2009 and 2010? *

- Implementation of national legislation preventing illegal traffic of hazardous waste
- Communication of information on movements of hazardous waste out of the country to neighbouring countries
- Public information and awareness on levels and cases of illegal trade remedial actions undertaken
- Specific training of border control agents
- Cooperation and/legal agreements with neighbouring countries
- Monitoring of international traffic in hazardous waste

- National legislation implementing Article 9 of the Basel Convention concerning illegal traffic
- Other measures not stated above
- None of the above/Not applicable/Not relevant
- Not known

6.2.2. If you have checked "Other measures not stated above", please use the space to identify these measures

6.2.3. Please use the space below to provide any comments or additional information that you wish to provide that is not reflected in the answers you have given. You may also wish to use this space for providing links or references to relevant activities and legislation cited or to provide additional information in the case the question is considered 'not applicable' or 'not relevant'

Annex III

Additional tables showing summary of the data analysis of the first progress report on implementation of the Strategic Approach: 2009–2010

List of additional tables

- i) Summary of the average number of activities undertaken by Governments, intergovernmental and non-governmental organizations
- ii) Summary of the average number of activities undertaken by Government respondents in different UN regional
- iii) Summary of the average number of activities undertaken by Government respondents in different categories of development assistance compared with Governments not listed as recipients of development assistance

Table i): Summary of the average number of activities undertaken by Governments, intergovernmental and non-governmental organizations

Short indicator name	Max number of activities	Aggregated average number of responses for all stakeholders		Average number of responses from different stakeholder groups					
				GOVS		IGO		NGO	
		No.	%	No.	%	No.	%	No.	%
Risk reduction									
1. Use of chemical management tools	20	7.46	37	7.85	39	8.09	40	6.95	35
2. Key categories of chemicals subject to risk management	11	5.71	52	6.29	57	5.00	45	5.76	52
3. Hazardous waste management arrangements	14	5.21	37	8.65	62	3.91	28	4.14	30
4. Periodic monitoring	7	2.79	40	3.99	57	2.64	38	2.26	32
5. Setting priorities for risk reduction	20	8.17	41	10.20	51	5.27	26	8.61	43
Knowledge and information									
6. Provision of information to internationally harmonized standards	12	2.36	20	5.86	49	1.45	12	1.05	9
7. Communication on risks to vulnerable groups	8	2.34	29	2.47	31	2.18	27	2.35	29
8. Research programmes	5	1.79	36	1.87	37	1.73	35	1.79	36
9. Websites providing information on chemicals	10	4.10	41	4.00	40	4.09	41	4.16	42
Governance									
10. Commitment to implement SAICM	8	2.53	32	2.74	34	2.09	26	2.64	33
11. Multi-stakeholder coordination mechanisms	15	4.44	30	8.11	54	3.00	20	3.32	22
12. Implementation of international priorities	24	6.62	28	11.11	46	5.27	22	5.05	21
Capacity building and technical cooperation									
13. Bilateral capacity building and technical cooperation support	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
14. Priority setting for capacity-building needs	5	1.31	26	1.54	31	1.55	31	1.07	21
15. Regional cooperation on the sound management of chemicals	6	2.06	34	1.97	33	2.73	45	1.77	29
16. Development assistance programmes that include chemicals	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
17. Capacity-building projects supported by the QSP	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
18. Capacity-building projects supported by other sources	11	1.71	16	1.80	16	2.82	26	1.10	10
Illegal international traffic									
19. Illegal international traffic in chemicals	8	2.81	35	3.21	40	2.73	34	2.64	33
20. Illegal international traffic in hazardous waste	8	2.26	28	3.43	43	1.82	23	1.90	24

Table ii): Summary of the average number of activities undertaken by Government respondents in different UN regional groupings

Short indicator name	Max number of activities	Average number of responses from Governments in different UN regional groupings										All Government respondents	
		AFR		ASP		CEE		LAC		WEOG			
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Risk Reduction													
1. Use of chemical management tools	20	7.50	38	8.57	43	7.71	39	5.95	30*	9.53	48**	7.85	39
2. Key categories of chemicals subject to risk management	11	5.33	48	6.50	59	6.57	60	4.74	43*	8.33	76**	6.29	57
3. Hazardous waste management arrangements	14	7.44	53	8.79	63	10.21	73	5.95	42*	10.87	78**	8.65	62
4. Periodic monitoring	7	3.00	43	3.86	55	5.21	74	2.89	41*	5.00	71**	3.99	57
5. Setting priorities for risk reduction	20	8.44	42	9.93	50	10.14	51	7.63	38*	14.87	74**	10.20	51
Knowledge and information													
6. Provision of information to internationally harmonized standards	12	4.83	40	5.23	44	7.21	60	3.84	32*	8.20	68**	5.86	49
7. Communication on risks to vulnerable groups	8	2.50	31	2.69	34	1.86	23	2.42	30*	2.87	36**	2.47	31
8. Research programmes	5	1.83	37	1.62	32	1.93	39	1.37	27*	2.60	52**	1.87	37
9. Websites providing information on chemicals	10	2.56	26*	4.08	41	5.14	51	2.63	26*	5.60	56**	4.00	40
Governance													
10. Commitment to implement SAICM	8	3.42	43**	3.08	38	2.86	36	2.37	30*	2.00	25	2.74	34
11. Multi-stakeholder coordination mechanisms	15	10.37	69**	9.08	61	6.57	44	8.53	57	6.00	40	8.11	54
12. Implementation of international priorities	24	8.16	34*	10.00	42	15.07	63	8.16	34*	14.19	59	11.11	46
Capacity building and technical cooperation													
13. Bilateral capacity building and technical cooperation support	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
14. Priority setting for capacity-building needs	5	1.60	32	2.15	43**	1.64	33	1.53	31	0.80	16	1.54	31
15. Regional cooperation on the sound management of chemicals	6	1.60	27	2.15	36	1.93	32	1.32	22*	2.87	48**	1.97	33
16. Development assistance programmes that include chemicals	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
17. Capacity-building projects supported by the QSP	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
18. Capacity-building projects supported by other sources	11	2.20	20	2.08	19	1.36	12	3.32	30**	0.07	1*	1.80	16
Illegal international traffic													
19. Illegal international traffic in chemicals	8	2.90	36	3.62	45	4.07	51**	2.21	28*	3.27	41	3.21	40
20. Illegal international traffic in hazardous waste	8	2.90	36	3.31	41	4.50	56	1.89	24*	4.53	57**	3.43	43

* Lowest average response per indicator

** Highest average response per indicator

Table iii): Summary of the average number of activities undertaken by Government respondents in different categories of development assistance compared with Governments not listed as recipients of development assistance

Short indicator name	Max number of activities	Average number of responses per indicator Governments in different categories of development assistance										Average number of responses per indicator (Non-developing countries)	
		LDCs		LMC		OL		UM		SIDS			
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Risk reduction													
1. Use of chemical management tools	20	6.53#	33	9.80	49 **	7.67	38	5.20#	26	4.64#	23*	9.15	46
2. Key categories of chemicals subject to risk management	11	5.07#	46 *	5.33#	48	5.67	52	5.10#	46	5.43#	49	8.11	74**
3. Hazardous waste management arrangements	14	6.40	46	9.20	66	10.33	74	6.15	44	5.36	38	10.67	76**
4. Periodic monitoring	7	2.47#	35*	3.67#	52	4.33	62	3.30#	47	2.86#	41	5.19	74**
5. Setting priorities for risk reduction	20	6.33#	32	8.93#	45	14.33	72**	7.85#	39	5.64#	28*	13.78	69
Knowledge and information													
6. Provision of information to internationally harmonized standards	12	3.20#	27	5.67#	47	5.00#	42	4.60#	38	3.14#	26*	8.15	68**
7. Communication on risks to vulnerable groups	8	2.20	28	3.20	40**	1.00	13 *	1.95	24	1.36#	17	2.77	35
8. Research programmes	5	1.00#	20*	2.07	41	2.67	53**	1.40#	28	1.00#	20*	2.46	49
9. Websites providing information on chemicals	10	1.47#	15*	4.67#*	47	2.67#	27	2.55#	26	1.64#	16	5.92	59**
Governance													
10. Commitment to implement SAICM	8	2.38	30	4.13#	52	6.00#	75**	2.35	29	2.08	26*	2.11	26
11. Multi-stakeholder coordination mechanisms	15	8.75	58	10.27	68**	8.33	56	8.50	57	5.85	39*	7.11	47
12. Implementation of international priorities	24	6.69#	28	10.53#	44	11.00	46	8.30#	35	5.92#	25*	15.33	64**
Capacity building and technical cooperation													
13. Bilateral capacity building and technical cooperation support	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
14. Priority setting for capacity-building needs	5	1.47	29	2.33	47**	1.00	20*	1.65	33	1.31	26	1.08	22
15. Regional cooperation on the sound management of chemicals	6	1.47	25	1.73#	29	1.67	28	1.75	29	1.46	24*	2.46	41**
16. Development assistance programmes that include chemicals	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
17. Capacity-building projects supported by the QSP	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
18. Capacity-building projects supported by other sources	11	1.47*	13*	2.47#	22	5.33#	48**	3.30#	30	2.38#	22	0.38	3
Illegal international traffic		3.53	22	6.25	39	10.67	67	5.63	35	4.38	27	8.54	53
19. Illegal international traffic in chemicals	8	1.82#	23*	3.31	41	5.00	63**	2.95	37	2.00#	25	3.77	47
20. Illegal international traffic in hazardous waste	8	1.71#	21*	2.94#	37	5.67	71**	2.68#	34	2.38*	30	4.77	60

* Lowest average response per indicator ** Highest average response per indicator

statistically significant at $p \leq 0.05$

Annex IV

Feedback on the online tool

Based on an analysis of the preliminary data collected for 2009-2010 the following questions may need to be re-worked or omitted if used for subsequent periodic reporting..

Part 1: Identity of respondent

This section was generally only used for confirming the identity of the respondent and could be modified to include additional general questions to assist in characterizing non-governmental organizations.

- **Question 1.1.9 Sector of economy or interests.** The use of a pull-down list allowing multiple selections did not produce meaningful results. A multitude of answers were given particularly for civil society organizations. The question might be modified to better collect information from civil society and to allow a categorisation of the type of groups engaged in implementation of the Strategic Approach.

Part 2: Risk reduction

- **Question 2.5.3 Scientific committee, body or institute.** This question was unnecessarily limited to scientific bodies and risk assessment work of chemicals prior to marketing and use. Asked more generally about the whether scientific bodies were engaged would have provided a richer set of data.

Part 4: Governance

- **Question 4.11.** Commitments to SAICM implementation.. The checkbox "Nomination of a new SAICM focal point" proved confusing and should be deleted since information about SAICM focal points is collected in Part 1

Note: The checkbox "Publication of a SAICM Implementation plan" duplicates the question in Part 5 - about completing or updating a SAICM Implementation Plan in Part 5 - Question 5.3.1. Quite divergent answers were obtained which could not be explained.

Part 5: Capacity-building and technical cooperation

- **Question 5.1 Financial bilateral support for capacity-building and Question 5.2 on Bilateral technical cooperation** both included drop-down lists for the number of countries supported. These drop-down lists proved awkward to use, and led to technical problems. As a consequence the data obtained was not reliable and could not be easily compared. It is suggested that if respondents are able to provide additional details or to identify countries being supported that they use a free-text box to provide this information.

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International Conference on Chemicals Management

Third session

Nairobi, 17–21 September 2012

Item 4 (a) of the provisional agenda*

**Implementation of the Strategic Approach to
International Chemicals Management: Evaluation of
and guidance on implementation and review and update
of the Strategic Approach**

**Submission by the International Council of Chemicals
Associations on progress in implementing the Strategic
Approach**

Note by the secretariat

1. The secretariat has the honour to circulate, for the information of participants, in the annex to the present note the second update report of the International Council of Chemicals Associations for the UN SAICM Implementation Indicators, released in August 2012.
2. The information is presented as submitted and has not formally been edited.

Annex

ICCA 2nd UPDATE REPORT for the UN SAICM Implementation Indicators
AUGUST 2012

EXECUTIVE SUMMARY

The International Council of Chemical Associations (ICCA) herein presents the 2nd ICCA SAICM Update Report for reporting its progress on the official 20 SAICM indicators since the Baseline Estimate Report (BER) published in July, 2010. This report provides background regarding ICCA's reporting mechanism on the key indicators as well as comparison between the 2nd Update and the BER data by SAICM Key Elements, Indicators and UN SAICM Regions. By comparing and matching the results of its Responsible Care® Global Charter (RCGC) and Global Product Strategy (GPS) initiatives, ICCA is able to monitor and report the status of the chemical industry's progress on the SAICM objectives.

The results and conclusions presented in this report are still relatively preliminary since this is only the third time that this set of data has been collected and there is only 24 – 30 months between the 2 data sets. Methodologies will be continuously reviewed for further improvement, and it is anticipated that accuracy will improve over time. There is subjectivity/qualification as well as objectivity/quantification in collecting this data. ICCA believes that it is still early to attempt to analyze trends by Indicator, by region and by future actions; however, in the future as data quality and quantity improves, ICCA expects to rely upon the results to identify areas of focus to achieve improvements. It is expected that over the SAICM lifecycle there will be a trend towards lower percentages of "No Progress" and higher percentages of "Complete" and "Updating" implementation which measure the progress of the chemical industry versus the SAICM objectives.

Recognizing the still early phase of this ICCA reporting project it may be said that on a global level significant progress has already been made in implementing all SAICM key indicators. Further to the BER, the new status demonstrates a positive trend in implementation in the "Complete" and "Updating" categories. However, the "No Progress" and "In Development" are still very significant which demonstrates that there is still a considerable amount of progress to be made during the remainder of the SAICM lifecycle.

Comparing the results regionally it can be noted that the Western Europe and Others Group (WEOG) profile of SAICM Implementation at this time would seem to continue to be the most advanced according to the 2nd Update Report, followed by notable improvements by the Central and Eastern European (CEE) and the Asian-Pacific (APAC) regions, with the Latin American and Caribbean (LAC) region being relatively static at this time (see charts in Annex I).

However, the "No Progress" status was also significant for some key indicators in all regions, providing a clear view of where performance improvement possibilities exist. Since in the African (AFR) region the ICCA is represented in only two countries (South Africa and Morocco) a thorough evaluation of the progress in this region is not yet possible but presents a challenging opportunity for future progress.



BACKGROUND

Adopted by the International Conference on Chemicals Management (ICCM) on 6 February 2006 in Dubai, United Arab Emirates, the **Strategic Approach to International Chemicals Management (SAICM)** is a policy framework to foster the sound management of chemicals. As an integral part of the process, reporting on SAICM implementation will be a key tool in assessing progress towards the achievement of the Johannesburg Plan of Implementation's goal of sound management of chemicals by 2020. It will also help assess progress on the individual objectives set out in the SAICM texts.

The global chemicals industry through its national and regional associations and the global organization, ICCA, is committed to measuring and reporting progress on the implementation of SAICM for the continuous improvement in the sound management of chemicals throughout the life cycle. Since the introduction of the Responsible Care® program in 1985 national associations, based on input from their member companies, have been measuring and reporting annually a range of metrics related to the production of chemicals and the impact on the environment and human health.

At the first International Conference on Chemicals Management (ICCM-1) ICCA launched the Responsible Care® Global Charter (RCGC) and the Global Product Strategy (GPS). The Responsible Care Global Charter commits companies and chemical trade associations to practice and promote the safe management of chemicals, while improving quality of life, through the benefits of chemical products directly and indirectly through their use in the value chain to produce articles, and therefore positive contributions to the communities in which they operate. Alongside the Global Charter, ICCA launched its Global Product Strategy (GPS), which works within the context of Responsible Care to focus on enhanced product stewardship throughout the value chain. GPS highlights the chemical industry's commitment to defining safe use conditions for chemicals in commerce, applying safe and environmentally sound management practices, and making relevant information publicly available.

ICCA emphasized these voluntary initiatives as a way to improve chemicals management throughout the entire lifecycle of chemicals, at the global level. During the inter-sessional activities related to the Modalities of Reporting for SAICM implementation, ICCA proactively engaged in the process, including the pilot assessment of the Canadian proposal for reporting progress on SAICM objectives.

As a result of the decision on the Modalities of Reporting at the Open-Ended Legal and Technical Working Group in Rome, 2008 and the proposed 20 Indicators covering the 5 Strategic Elements of the Overarching Policy Strategy (OPS), ICCA decided to correlate the measurements that ICCA is using to track implementation of the Responsible Care Global Charter and the Global Product Strategy, to the SAICM indicators.

A total of 52 ICCA measures covering environmental and human health elements were selected and matched for impact, relevance and priority to the 20 SAICM indicators. Only those with a high relevancy were included in the correlation to ensure a workable concept. Details of the matching procedure and a tool for SAICM reporting were presented by ICCA at the second International Conference on Chemicals Management (ICCM-2) in May 2009. The tool can be downloaded (<http://www.icca-chem.org/en/Home/ICCA-events/Events-Archive/International-Conference-on-Chemicals-Management-ICCM-2/SAICM-Reporting/>) and more information about ICCA's activities at

ICCM-2 can be found on the internet (<http://www.icca-chem.org/en/Home/ICCA-events/Events-Archive/International-Conference-on-Chemicals-Management-ICCM-2/SAICM-Reporting/>).

In gathering the data from the national associations, a survey was developed which has 4 stages of implementation of the 52 selected metrics namely: NO PROGRESS (NP); IN DEVELOPMENT (ID); COMPLETE(C); UPDATING IMPLEMENTATION (U). The collection system is a web-based electronic tool into which the national associations report. The Global Charter and GPS implementation data are then transposed to demonstrate SAICM implementation progress through their correlation (or match table) previously established. The program also allows direct display of the data visually e.g through bar charts. No weighting of the data has been applied and a simple summation of the responses and statistical presentation as percentages is used. The results can be presented at a global level for the 20 SAICM Indicators, at a United Nations SAICM Regional level e.g WEOG, Asia-Pacific etc., or at the national level.

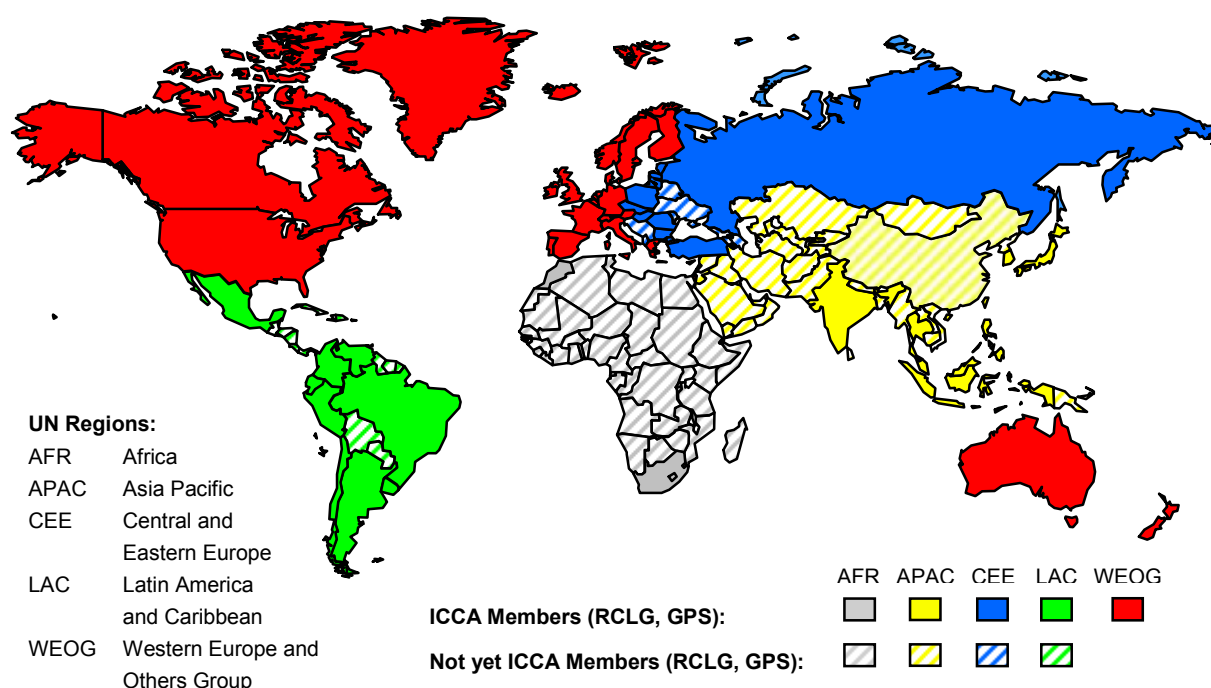


Fig. 1: Countries/geographies in the 5 UN regions and their participation in ICCA's programs (RCLG, GPS) as of the start of reporting for the Baseline Estimate Report published in 2010.

It is worth noting that there are some aspects in the approach which demonstrate the potential limitations of the system and the conclusions which might be drawn. First, there are 53 national associations currently part of the ICCA Responsible Care initiative at the time of establishing the Baseline Estimate Report in 2009 and therefore reflected in this data, versus the 192 countries that are part of the United Nations, subsequently increasing recently to 193. These associations are focused on countries/geographies that have significant chemical production. Specifically in the African Region there are only 2 countries whose national associations are Responsible Care members; therefore, at this time, it is not meaningful to present an African Regional view.



REPORTING RESULTS OF THE SECOND ICCA UPDATE REPORT (Based on 2010 data collected in 2011/12)

Global Level:

The Charts presented below are based on the Baseline Estimate Report (BER) published in July, 2010 on the ICCA website

http://www.icca-chem.org/ICCADocs/2010-06_ICCA_BaselineEstimateReport.pdf

and input data collected in 2011/2012 for the period of 2010 from the 53 National Associations which participated in the BER. A total of 43 National Associations actively provided data and for those which did not meet the official deadline for including their updated information, the data which they had reported for 2009 in 2010/2011 was carried forward into the 2nd Update Report based on 2010 data. Specifically if an Association had reported “No Progress” (NP) on a given Responsible Care or Global Product Strategy measurement in the 1st Update Report then it was maintained at NP for the 2nd Update Report or if a measurement had been reported as “Completed” (C) in the 1st Update Report it was maintained as “C” in the 2nd Update Report.

It must be noted that this 2nd Update Report covers an assessment made in a timeframe of some 24 – 30 months since the assessment for the Baseline Estimate Report, which is relatively short to expect major changes to have occurred in the context of the ca. 14 year time span for SAICM implementation between 2006 and 2020. This is also the reason why the data of the 1st Update report given by ICCA in 2011 based on 2009 data is not shown in the graphical representations for the global indicators or in Annex I for the regional indicators. Actually the normal statistical variation from one year to another would not allow drawing conclusions from comparing the results every year. Therefore the longer period of comparing 2010 data with 2008 data has been chosen in order not to distract the reader from the long-term trends. Nevertheless the commitment of ICCA, the Regional and National Associations and their member companies to continuously measure and report progress, or the lack thereof, is sufficient justification for the publishing of this 2nd Update Report and subsequently publishing a further 3rd Update Report latest July 2013.

Charts

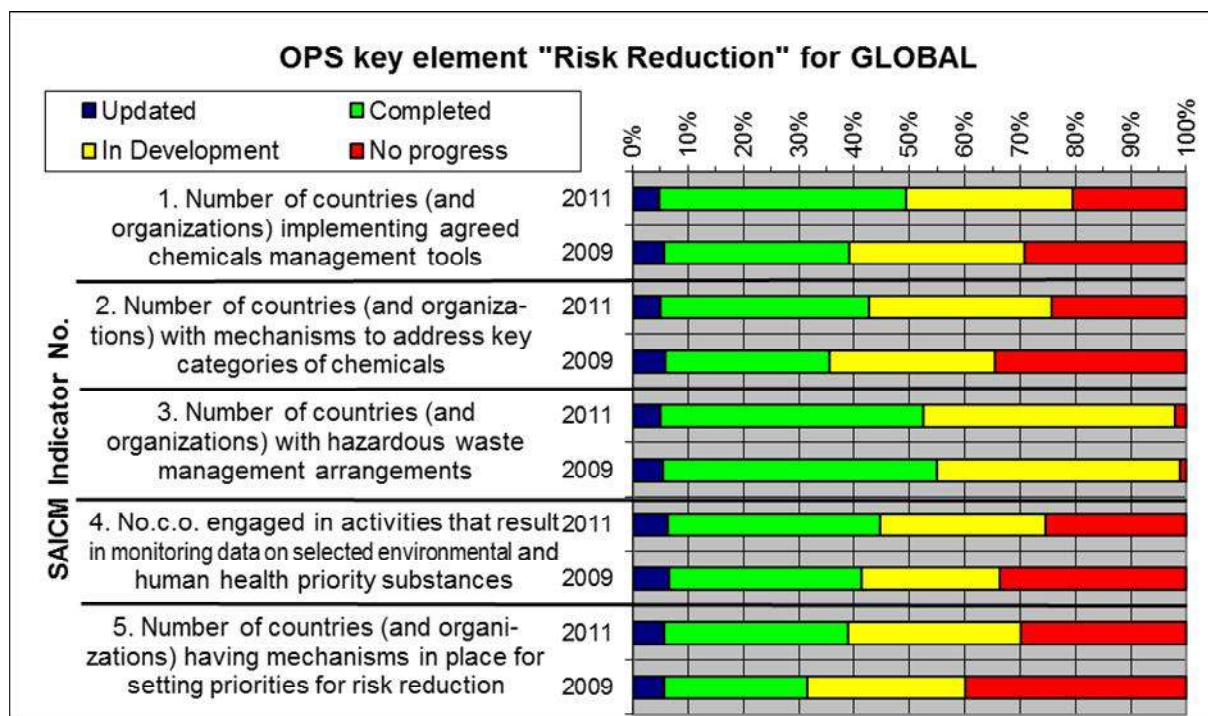


Chart 1: Comparison of the 2nd Update results (2011) vs. the BER results (2009) for the OPS key element "Risk reduction"; Region: GLOBAL
("No.c.o." = "Number of countries (and organizations)")

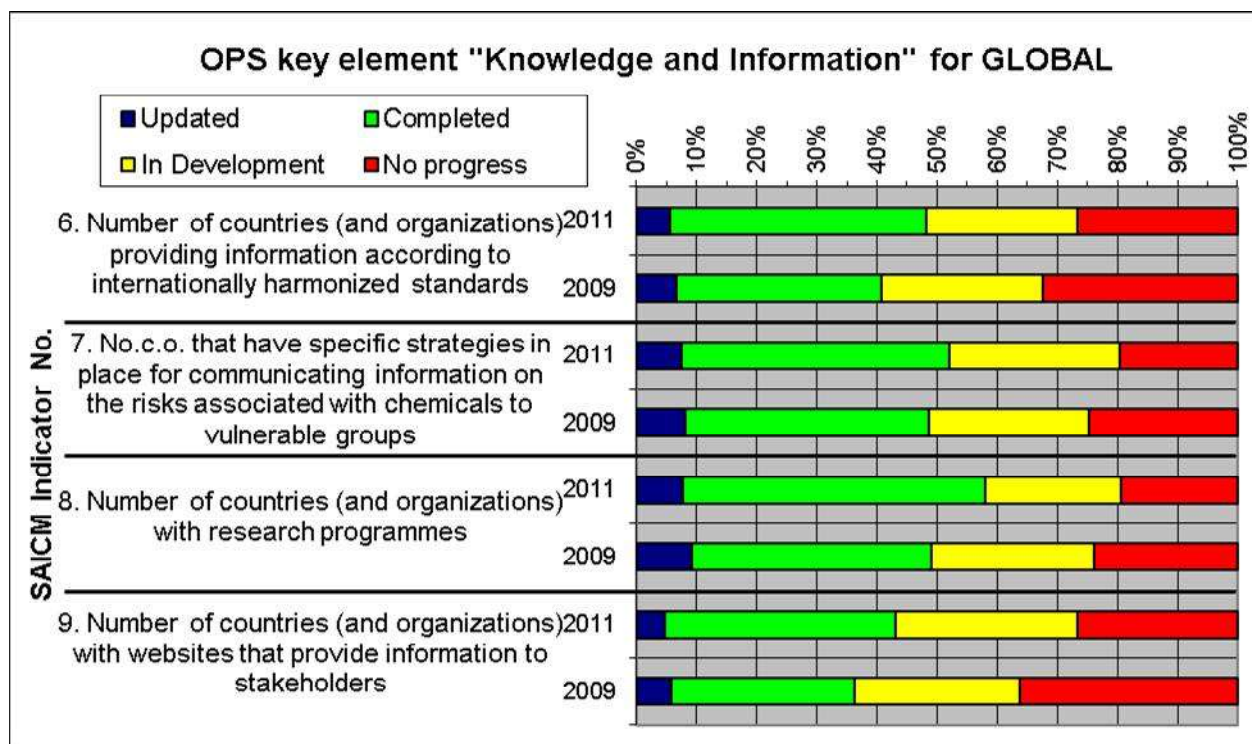


Chart 2: Comparison of the 2nd Update results (2011) vs. the BER results (2009) for the OPS key element "Knowledge and information"; Region: GLOBAL
("No.c.o." = "Number of countries (and organizations)")

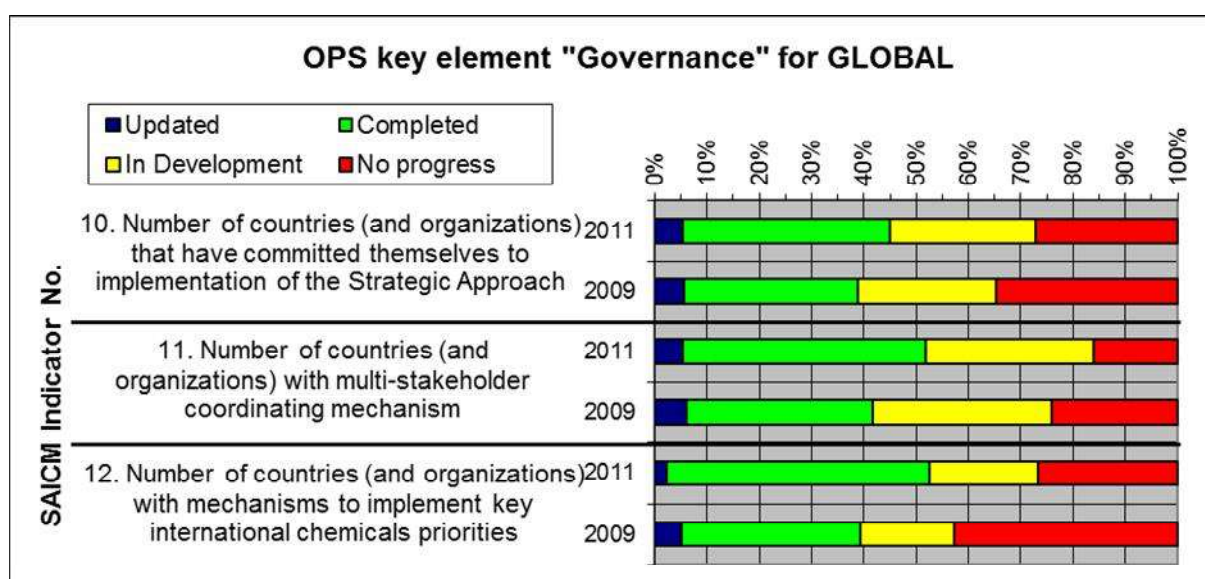


Chart 3: Comparison of the 2nd Update results (2011) vs. the BER results (2009) for the OPS key element "Governance"; Region: GLOBAL

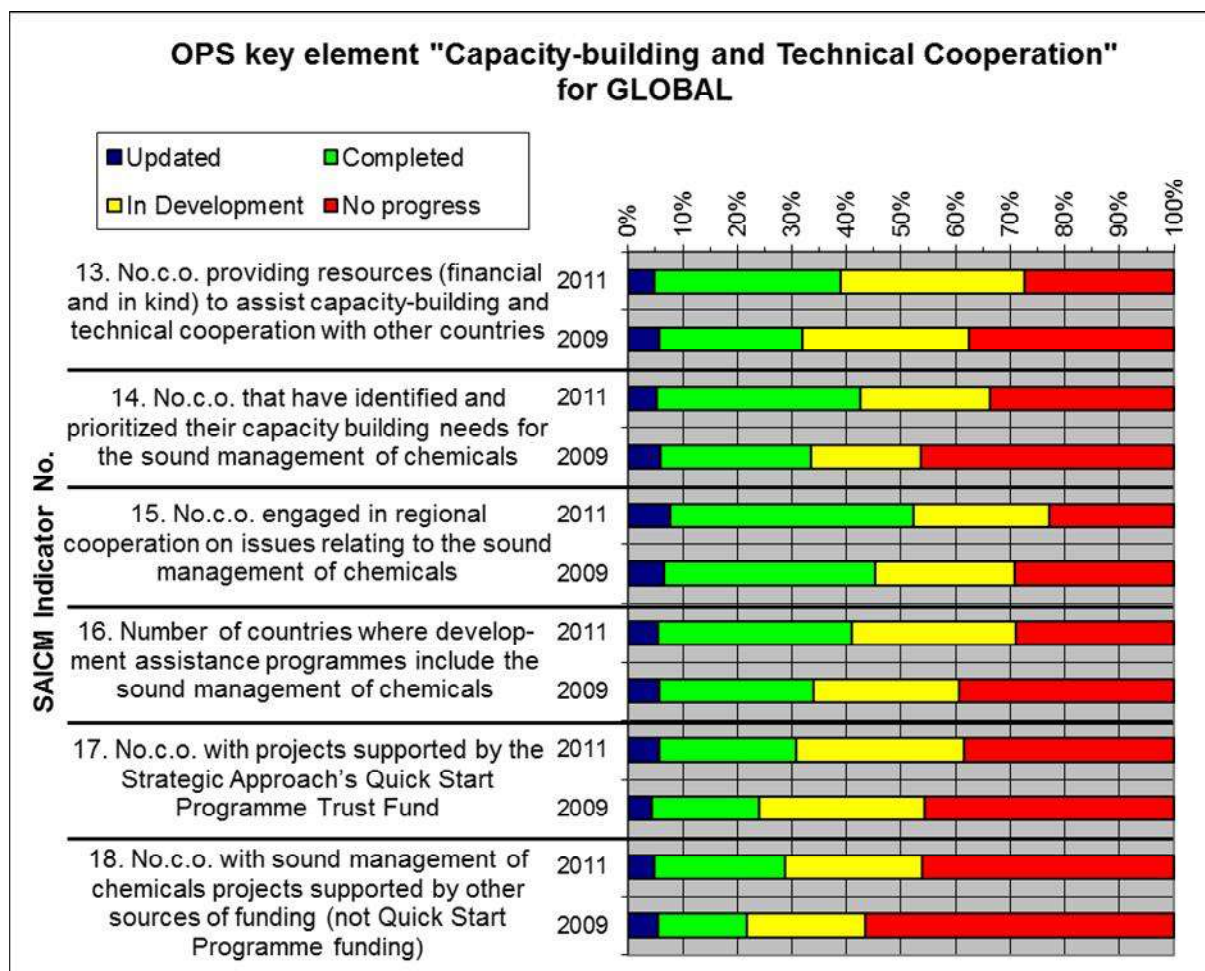


Chart 4: Comparison of the 2nd Update results (2011) vs. the BER results (2009) for the OPS key element "Capacity Building and Technical Cooperation"; Region: GLOBAL
("No.c.o." = "Number of countries (and organizations)")



Chart 5: Comparison of the 2nd Update results (2011) vs. the BER results (2009) for the OPS key element "Illegal international traffic"; Region: GLOBAL

SUMMARY OF RESULTS on the Global Level:

In reviewing the 5 charts covering the SAICM Key Elements with a total of 20 official Indicators using the 4 stages of implementation, the overall impression is that the changes represent trends rather than recognizing major breakthroughs. As noted earlier, in view of the short time of measuring and reporting against the SAICM indicators this should not necessarily be surprising.

Considering that the combination of the 3 implementation stages of “Updated” (U), “Completed” (C) and “In Development” (ID) reflects positive activity and achievements towards the implementation of SAICM, it is significant to note that in 19 of the 20 Indicators under the 5 Key Elements the summation of “U” + “C” + “ID” is greater for 2011 2nd Update compared with the 2009 data (BER) and the 20th (SAICM Indicator No. 3) is virtually identical. The improvement therefore varies from 0% to ca. 15%. Assessed in another way, the “No Progress” category has tended to improve, i. e. reduce, for 19 of the 20 Indicators. Of particular note is the Key Element of “Capacity Building and Technical Cooperation” where improvements for all the 6 indicators has been achieved which could be related to the substantial efforts of ICCA in organizing numerous Capacity Building Workshops specifically in Developing Countries and Countries with Economies in Transition during the last 2 years as a result of the ICCA programme to share best practices within member associations.

Averages for each of the SAICM 5 Key Elements of the Baseline Estimate Report and the 2nd Update Report are compared in the following chart and graphically the results reinforce the general conclusions drawn above, namely a general trend in improvement.

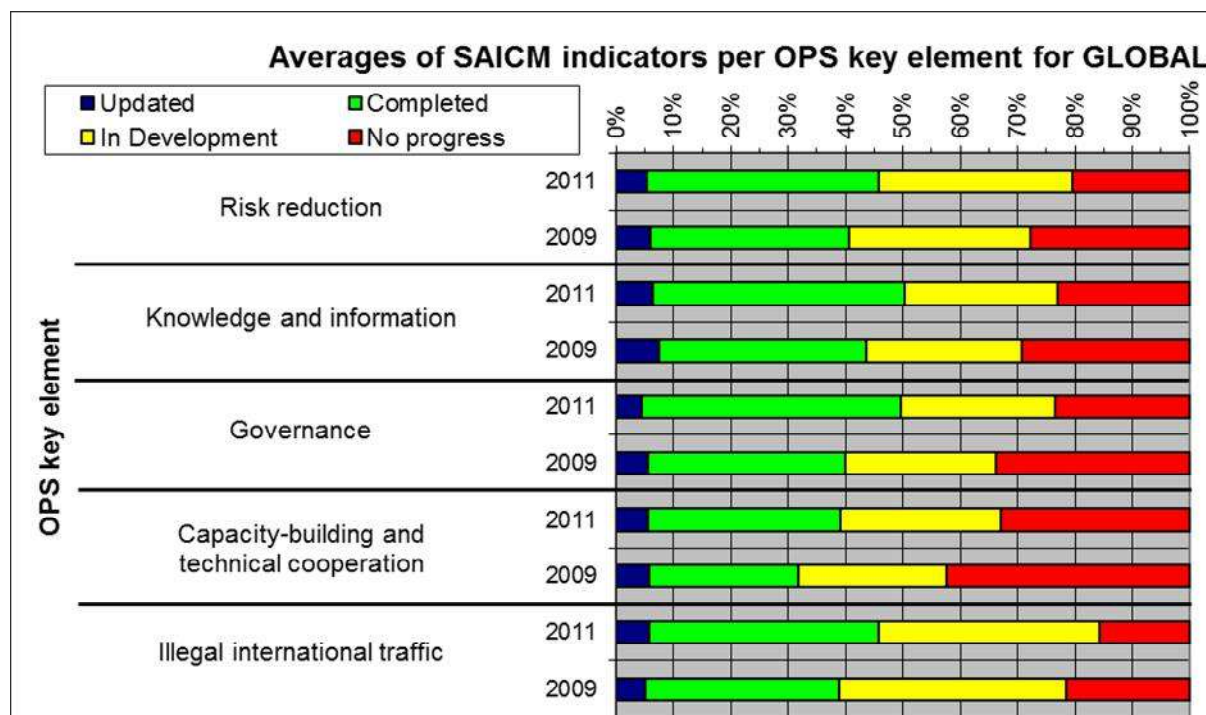


Chart 6: Comparison of the 2nd Update results (2011) vs. the BER results (2009) for the OPS key element averages; Region: GLOBAL

However, it should be stressed that the use of such statistical analysis of the available data over the short time frame has limitations and should rather be used to try to identify trends rather than becoming highly specific in the conclusions at the global level.

United Nations SAICM Regional Level (see charts in Annex I):

There are also some apparent differences in progress among the SAICM regions, as expected. However, great care needs to be exercised in interpreting the results, especially making cross-regional comparisons without noting specific circumstances. Such specific circumstances are for instance:

- The number of countries/geographies in a region that participate in the ICCA system (e. g. 2 for Africa, but 21 for the Western Europe and Others Group (WEOG))
- All countries/geographies are counted with equal weight and averages are calculated as simple arithmetic averages without considering factors that influence the importance of the result (e. g. economic strength of the chemical industry in different geographies, size of chemical production and handling, state of industrial development, etc.)
- The coverage of the ICCA system vs. the necessary coverage: Presently 53 countries/geographies are participating in the ICCA Responsible Care initiative compared to 192 countries acknowledged in the UN at the start of the ICCA SAICM reporting approach. However, not all geographies might need to participate, for instance if there is not a significant chemical industry, or they do not produce or use chemicals in considerable amounts.

As a general comment in overviewing all 20 Indicators for the 4 SAICM regions that could be evaluated there are still opportunities for improvement in SAICM implementation both by region and by Key Elements. Reasons why the Africa region could not be evaluated as a region but only for 2 countries are presented at the end of this chapter. Specifically and as noted in the Baseline Estimate Report, the Western Europe and Others Group (WEOG) remain more advanced in the overall implementation as indicated by low levels of “No Progress”, which were static and not improved, and increased levels of “Completed” in particular but also of “In Development” and “Updated”. All five of the Key Elements indicate opportunities for further improvement.

For the Central and Eastern Europe region (CEE) it is gratifying to note that the overall results after 2 years reporting still indicate a reduction in the levels for “No Progress” which pertains to almost every indicator of each of the 5 Key Elements. Accordingly there are increases in the levels for “In Development”, “Completed” and “Updated” which has no doubt resulted from the increased activities for and attention to the SAICM implementation by the National Associations and their member companies in the region through implementation of the ICCA Global Product Strategy (GPS) and the Responsible Care Global Charter (RCGC). However there is cause to be vigilant as detailed analysis by country is addressed to ensure on-going and continuous improvement-

For the Asia and Pacific (APAC) region it is also gratifying to note that the overall results after 2 years reporting indicate a reduction in the levels for “No Progress” which pertains to every indicator of each of the 5 Key Elements. At this time it can be tentatively concluded that the decrease of “No



Progress” for most of the SAICM indicators is the largest in the APAC region for all regions. Accordingly there are increases in the levels for “In Development”, “Completed” and “Updated” which has no doubt resulted from the increased activities for and attention to the SAICM implementation by the National Associations and their member companies in the region through implementation of the ICCA Global Product Strategy (GPS) and the Responsible Care Global Charter (RCGC) through Regional and National multi-stakeholder workshops and trainings.

The Latin American and Caribbean (LAC) region would appear to remain static in this update report with trends to improvement being minimal based on their feedback to the Responsible Care and Global Product Strategy questionnaire of ICCA. A regional and country analysis would offer the opportunity to identify the key area for improvements and to design an action plan to address the needs through different mechanisms including trainings and workshops which seem to have been successful in the APAC region. The CP&H Capacity Building Task Force should consider this information in designing their future activity programmes for the LAC region.

As noted earlier under WEOG, there are still many opportunities for further improvement across all the 5 Key Elements in the continued implementation of SAICM. In all the 4 regions where it has been possible to do a meaningful analysis of the updated data it appears that there is a trend to noticeable improvement which correlates with increased Capacity Building Workshops and Trainings regionally, particularly in the Developing Countries.

The Africa regional data has purposely not been included in this regional report or in the analysis since at this time only 2 African countries participate in the ICCA Responsible Care initiative. Therefore it is not possible to take the results as representative for the whole region of Africa. The limited country participation in Africa is understandable in terms of the fact that in the countries which are not members of the ICCA Responsible Care program, there is relatively small chemical production so far, however, there is a strategic decision within ICCA to significantly increase interactions and activities within the African region. Crop Protection chemicals are not always covered by this report, however, they are clearly important in these largely agricultural societies.

Further insights will be available through the examination of the national-level data, however, this will be done on a confidential basis between the national association and the authorized local organizations such as the various involved Government Ministries.

ANNEX I

This Annex provides more details by Key Elements and the Indicators for the United Nations SAICM Regions, comparing the data obtained for the 2nd Update Report (2011) to that of the Baseline Estimate Report (2009).

53 countries/geographies presently are participating in ICCA's programs for the ICCA SAICM reporting approach. Out of these 53 unfortunately only 43 responded in time with new data to the Responsible Care questionnaire for 2010 and thus could be utilized to update this report. However, the non-responding countries/geographies have not been excluded, but for those which did not meet the official deadline for including their updated information, the data which they had reported for the period 2009 was carried forward into the 2nd Update Report. Specifically if an Association had

reported “No Progress” (NP) on a given Responsible Care or Global Product Strategy measurement in the 1st Update Report then it was maintained at “NP” for the 2nd Update Report or if a measurement had been reported as “Completed” (C) in the BER it was maintained as “C” in the 2nd Update Report.

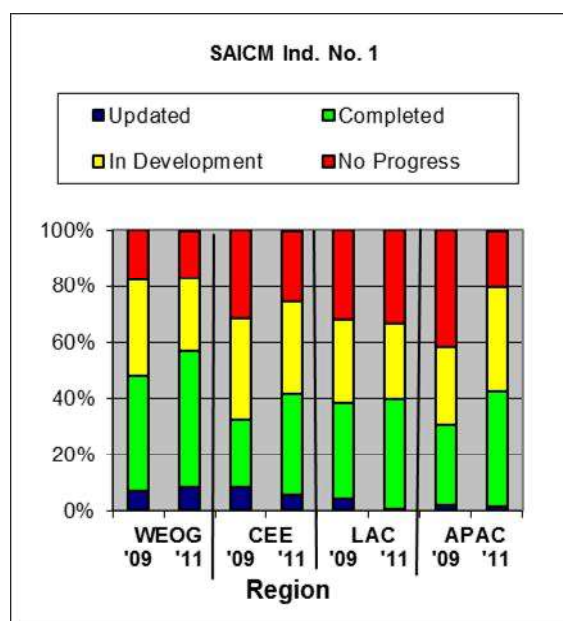
Results for the different regions:

The following charts show the results for the 4 UN regions namely; Western Europe and Others Group (WEOG), Central and Eastern Europe (CEE), Latin America and Caribbean (LAC), and Asia-Pacific (APAC).

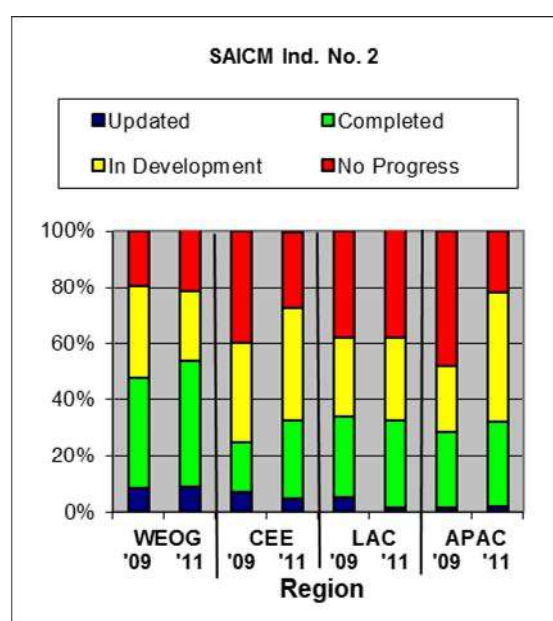
The 5th region Africa (AFR), is not shown, because of the limitations mentioned in the report: At this time only 2 African countries (Morocco and South Africa) participate in the ICCA Responsible Care initiative. Therefore it is not possible to take the results as representative for the whole region of Africa. The limited country participation in Africa is understandable in terms of the fact that in the countries which are not members of the ICCA Responsible Care program, there is relatively small chemical production so far. Crop Protection chemicals are not covered by this report, however, is clearly important in these largely agricultural societies.

The charts are grouped by the 5 elements of the Overarching Policy Strategy (OPS) and the 20 SAICM indicators.

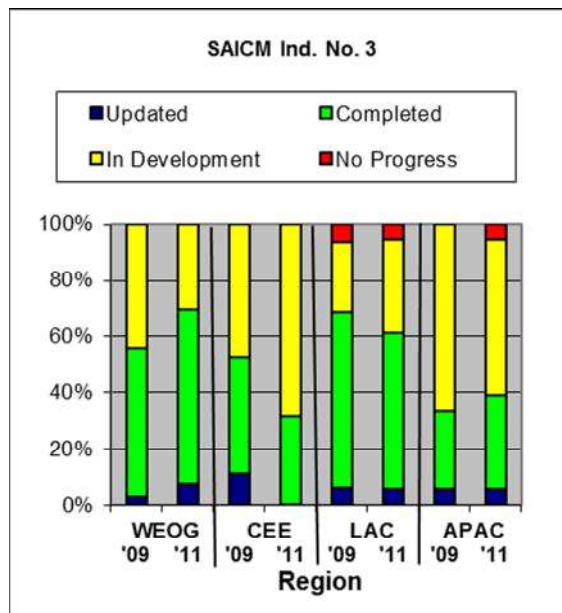
RISK REDUCTION (SAICM indicators 1 - 5)



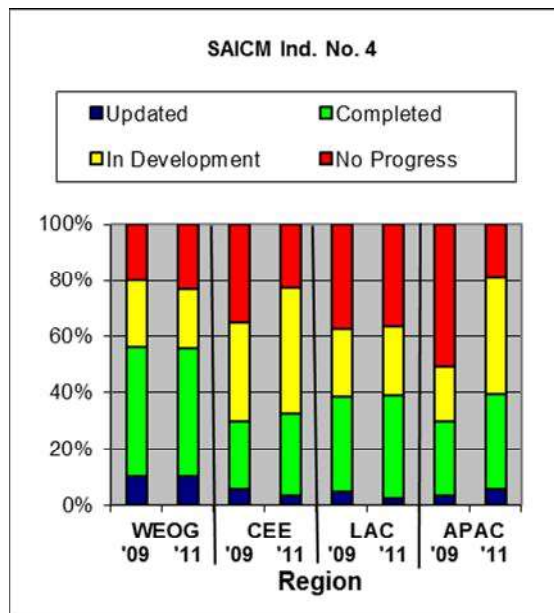
SAICM Ind. 1: Number of countries (and organizations) implementing agreed chemicals management tools



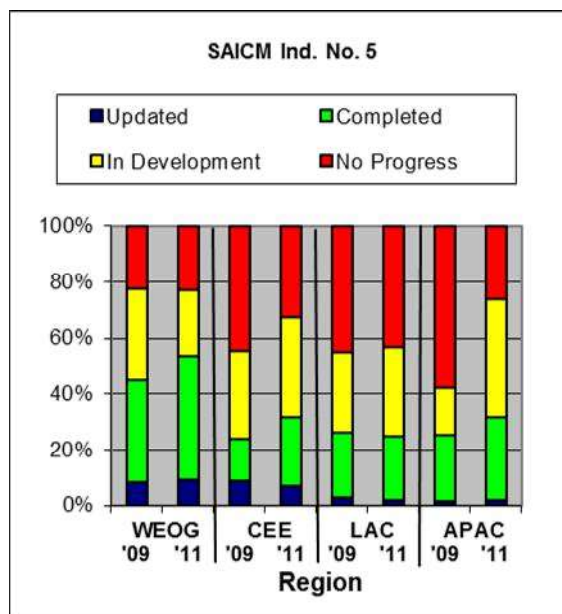
SAICM Ind. 2: Number of countries (and organizations) with mechanisms to address key categories of chemicals



SAICM Ind. 3: Number of countries (and organizations) with hazardous waste management arrangements

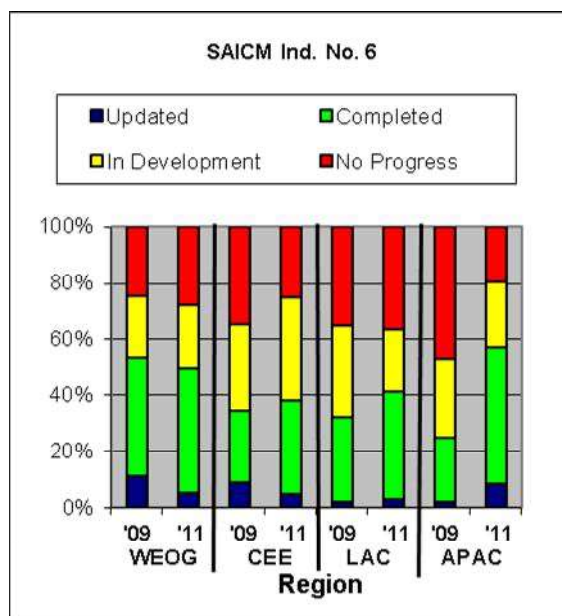


SAICM Ind. 4: Number of countries (and organizations) engaged in activities that result in monitoring data on selected environmental and human health priority substances

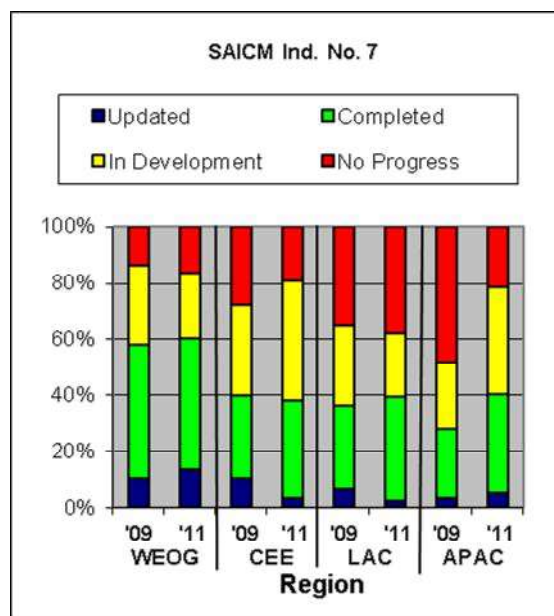


SAICM Ind. 5: Number of countries (and organizations) having mechanisms in place for setting priorities for risk reduction

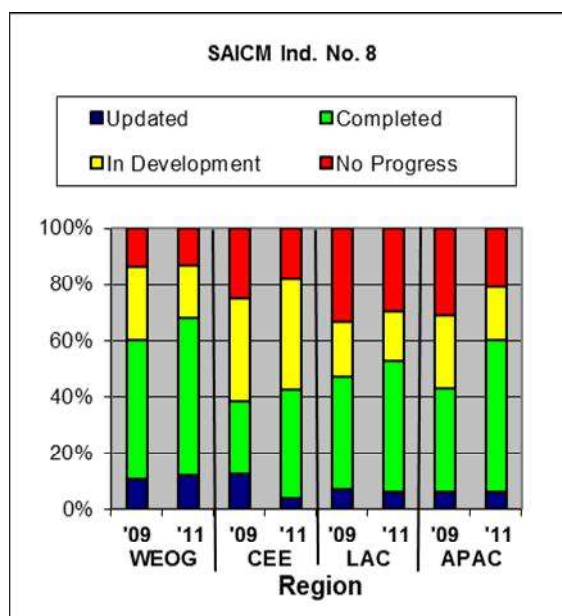
KNOWLEDGE AND INFORMATION (SAICM indicators 6 - 9)



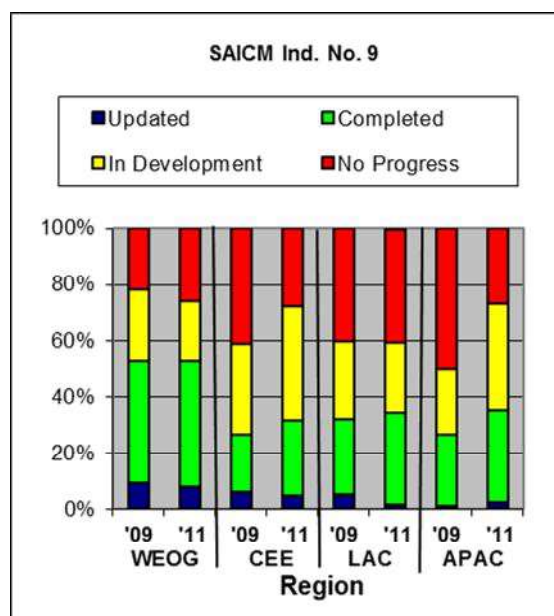
SAICM Ind. 6: Number of countries (and organizations) providing information according to internationally harmonized standards



SAICM Ind. 7: Number of countries (and organizations) that have specific strategies in place for communicating information on the risks associated with chemicals to vulnerable groups

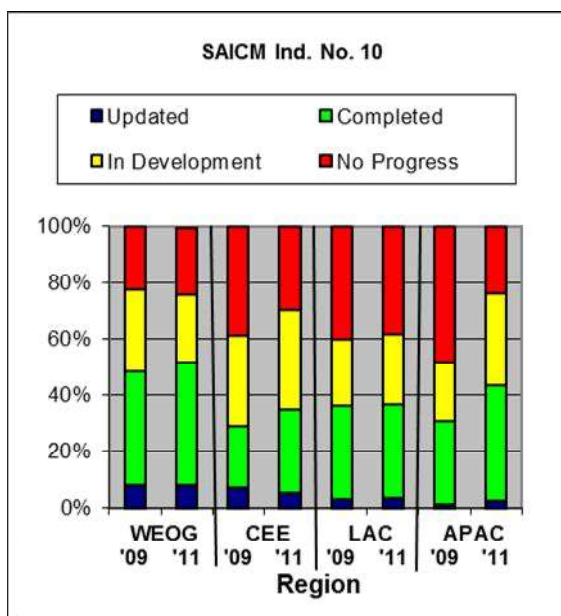


SAICM Ind. 8: Number of countries (and organizations) with research programs

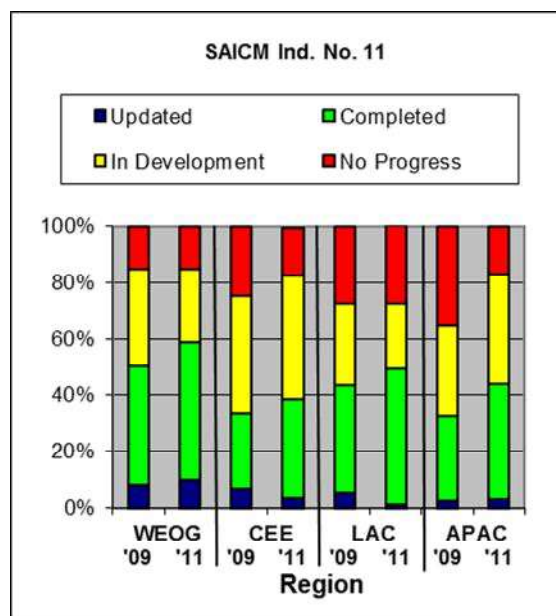


SAICM Ind. 9: Number of countries (and organizations) with websites that provide information to stakeholders

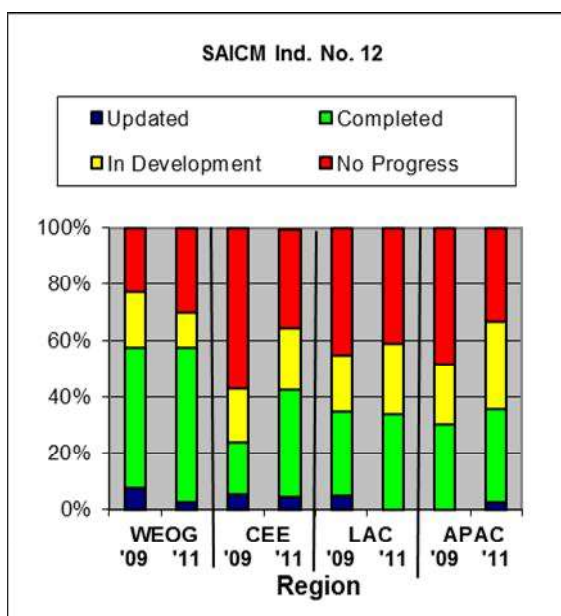
GOVERNANCE (SAICM indicators 10 - 12)



SAICM Ind. 10: Number of countries (and organizations) that have committed themselves to implementation of the Strategic Approach

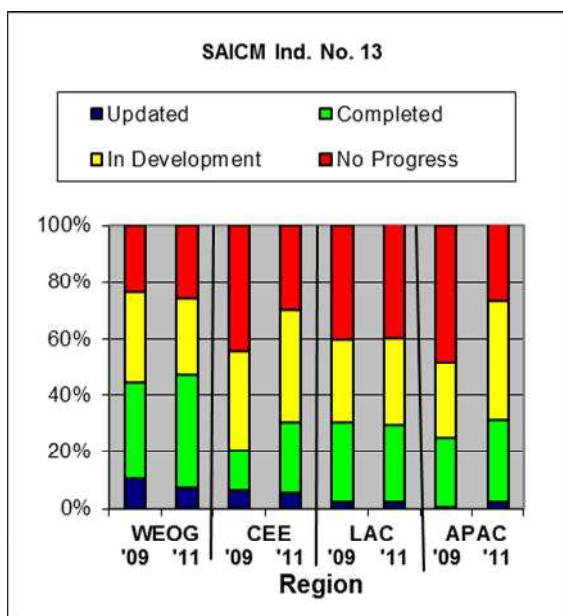


SAICM Ind. 11: Number of countries (and organizations) with multi-stakeholder coordinating mechanism

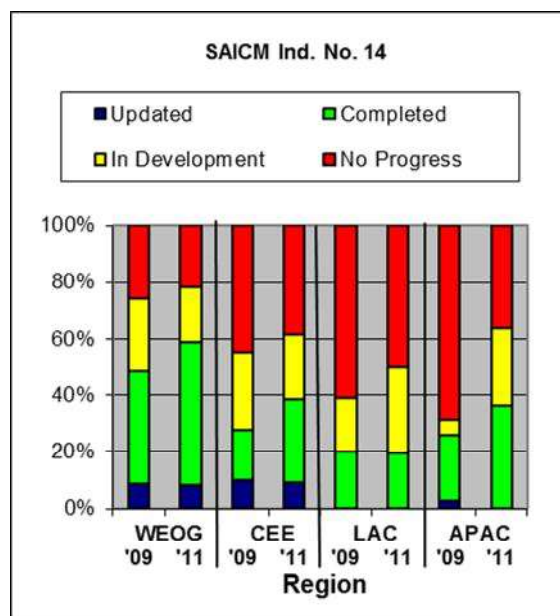


SAICM Ind. 12: Number of countries (and organizations) with mechanisms to implement key international chemicals priorities

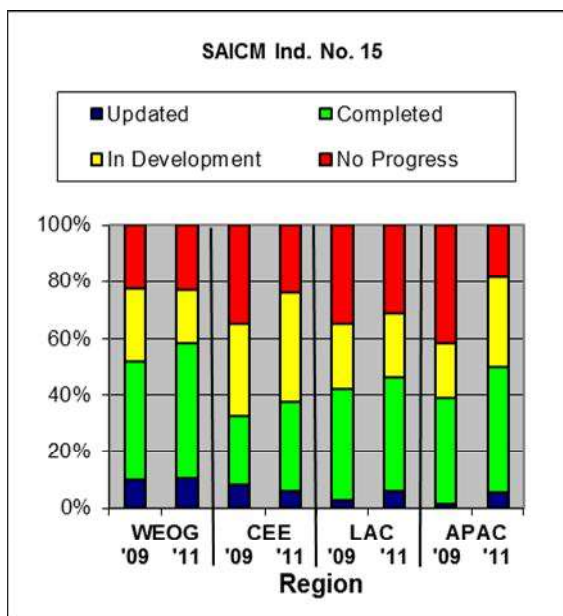
CAPACITY BUILDING AND TECHNICAL COOPERATION (SAICM indicators 13 - 18)



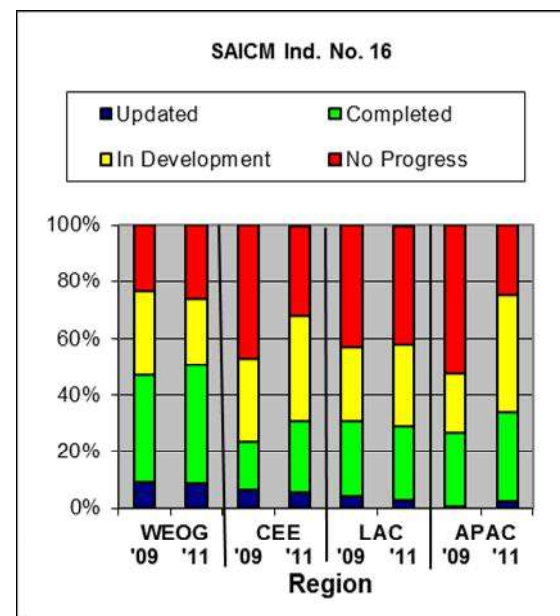
SAICM Ind. 13: Number of countries (and organizations) providing resources (financial and in kind) to assist capacity-building and technical cooperation with other countries



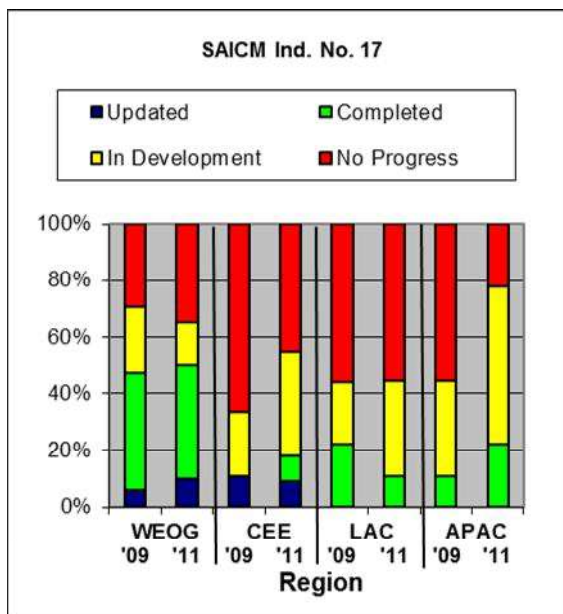
SAICM Ind. 14: Number of countries (and organizations) that have identified and prioritized their capacity-building needs for the sound management of chemicals



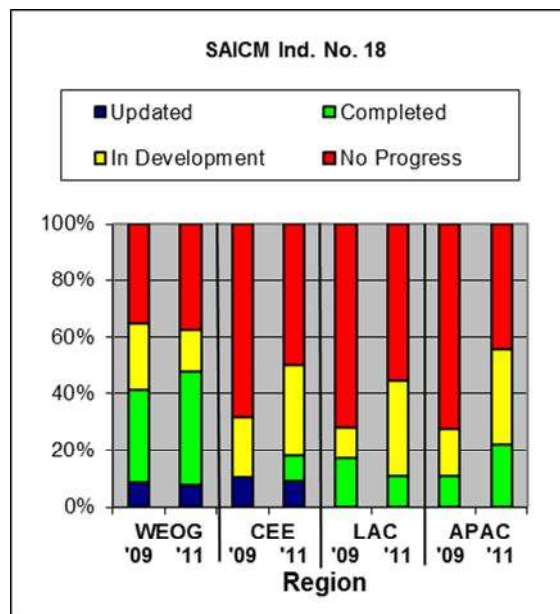
SAICM Ind. 15: Number of countries (and organizations) engaged in regional cooperation on issues relating to the sound management of chemicals



SAICM Ind. 16: Number of countries where development assistance programs include the sound management of chemicals

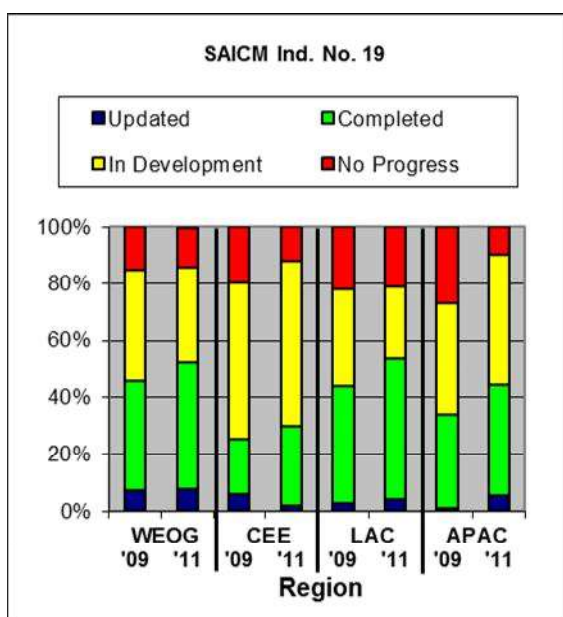


SAICM Ind. 17: Number of countries (and organizations) with projects supported by the Strategic Approach's Quick Start Programme Trust Fund

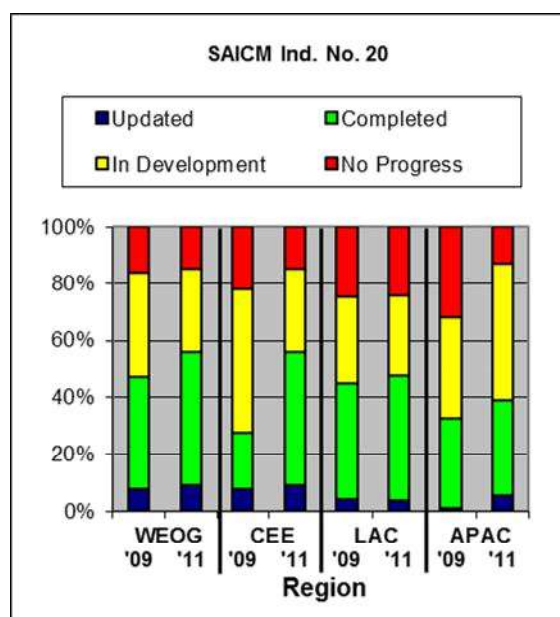


SAICM Ind. 18: Number of countries (and organizations) with sound management of chemicals projects supported by other sources of funding (not Quick Start Programme funding)

ILLEGAL INTERNATIONAL TRAFFIC (SAICM indicators 19 - 20)



SAICM Ind. 19: Number of countries having mechanisms to prevent illegal traffic in toxic, hazardous and severely restricted chemicals individually



SAICM Ind. 20: Number of countries having mechanisms to prevent illegal traffic in hazardous waste

ANNEX II

This Annex provides more details on the Indicators for the reporting.

In the charts of this report the 20 SAICM indicators have been used as published by the SAICM Secretariat (<http://www.saicm.org/index.php?menuid=33&pageid=298>). After ICCM-2 this set of indicators was published in full text including a preliminary guidance for each indicator. It has been used in this report as requested by the SAICM Reporting Modalities. The following table is a reproduction of the 20 SAICM indicators as published on the internet.

Indicators for reporting by stakeholders on progress in the implementation of the Strategic Approach¹

The following tables of 20 indicators show the data to be collected nationally and monitored at the regional and global levels.

	Indicator	Preliminary guidance – <i>The guidance for each indicator needs to be complemented based on the comment provided below and in the overall guidance in chapter I above.</i>
Risk reduction		
1.	Number of countries (and organizations) implementing agreed chemicals management tools	<i>Data collection should take into account implementation of recognized tools prepared by participating organizations of the Inter-Organization Programme for the Sound Management of Chemicals, e.g., the Food and Agriculture Organization of the United Nations Code of Conduct on the Distribution and Use of Pesticides, guidance for establishing pollutant release and transfer registries and product stewardship programmes in industry. Tools would include those for pollution prevention</i> <i>This indicator should include tools to determine the chemicals used in the country, such as inventories, pesticide registration systems, Customs information systems, etc.</i> <i>For non-governmental organizations, the indicator should also allow reporting on organization specific inventories</i> <i>The guidance should include a specific list of tools that will be used for reporting, with the ability to provide additional information on other specific tools</i>

¹ Taken from advance copy of Report of the International Conference on Chemicals Management on the work of its second session
<http://www.saicm.org/documents/iccm/ICCM2/Meeting%20Report/ICCM2%20report%20advance%20Eng%2023%20Jun%2009.doc>

2.	Number of countries (and organizations) with mechanisms to address key categories of chemicals	<i>Countries and organizations could report on the mechanisms that they have in place to address categories of chemicals that have been designated as priorities based on a national/organizational prioritization process</i> <i>Mechanisms to be considered include:</i> • Legislation • Regulations • Programmes • Agreements
3.	Number of countries (and organizations) with hazardous waste management arrangements	<i>Data collection should take into account systems for the environmentally sound management of waste:</i> • Inventories of waste • Legislation • Policies • Permit systems
4.	Number of countries (and organizations) engaged in activities that result in monitoring data on selected environmental and human health priority substances	<i>Data collection should take into account environmental and biomonitoring effort:</i> • Environmental monitoring • Human biomonitoring • Monitoring of human poisonings • Chemical accidents <i>Countries and organizations are encouraged to report data for these selected pollutants</i>
5.	Number of countries (and organizations) having mechanisms in place for setting priorities for risk reduction	<i>Data collection should take into account:</i> • Science-based risk assessment activities • Risk management activities, including pollution prevention activities
Knowledge and information		
6.	Number of countries (and organizations) providing information according to internationally harmonized standards	<i>Data collection should take account of</i> • Implementation of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS) • Labelling according to national guidelines and availability of harmonized hazard information <i>Regional initiatives (should be reported on by regional organizations)</i>

7.	Number of countries (and organizations) that have specific strategies in place for communicating information on the risks associated with chemicals to vulnerable groups	<i>Data collection should include consultative processes and training directed at vulnerable groups such as women, children, the elderly and migrant workers, and take into consideration social and economic conditions, when possible</i>
8.	Number of countries (and organizations) with research programmes	<i>Collected data should include the type of research being funded:</i> • Human health assessment • Environmental assessment • Research on safer alternatives • Research on cleaner production
9.	Number of countries (and organizations) with websites that provide information to stakeholders	<i>Collected data should include websites providing relevant information</i>
Governance		
10.	Number of countries (and organizations) that have committed themselves to implementation of the Strategic Approach	<i>A list of possible mechanisms to show such commitment should be included. Examples to consider are: implementation plans for the Strategic Approach, national policies, programmes, resolutions of boards of directors or other governing bodies, etc.</i>
11.	Number of countries (and organizations) with multi-stakeholder coordinating mechanism	<i>Collected data should include the types of stakeholders involved:</i> <i>Labour, health, public sector, private sector, scientific community, etc.</i>
12.	Number of countries (and organizations) with mechanisms to implement key international chemicals priorities	<i>Collected data should include the list of multilateral environment agreements, alongside other regional agreements or international instruments</i>
Capacity-building and technical cooperation		
13.	Number of countries (and organizations) providing resources (financial and in kind) to assist capacity-building and technical cooperation with other countries	<i>Collected data should include assistance to developing countries and countries with economies in transition</i>

14.	Number of countries (and organizations) that have identified and prioritized their capacity-building needs for the sound management of chemicals	<i>Data collection should focus on plans that are publicly available</i>
15.	Number of countries (and organizations) engaged in regional cooperation on issues relating to the sound management of chemicals	<i>Collected data should include regional cooperation on risk reduction, knowledge and information, governance, capacity-building and illegal international traffic</i>
16.	Number of countries where development assistance programmes include the sound management of chemicals	<i>This should be a yes/no answer for donor and recipient countries</i>
17.	Number of countries (and organizations) with projects supported by the Strategic Approach's Quick Start Programme Trust Fund	<i>Report number of projects and total amount of funds on the Quick Start Programme projects. Recommend using the data from the Quick Start Programme Executive Board reports rather than collecting the information from the countries</i>
18.	Number of countries (and organizations) with sound management of chemicals projects supported by other sources of funding (not Quick Start Programme funding)	<i>Collected data should include a list of institutions providing the support for existing projects, this should include the private and not-for-profit sectors</i>
Illegal international traffic		
19.	Number of countries having mechanisms to prevent illegal traffic in toxic, hazardous and severely restricted chemicals individually	<i>Collected data should include a list of mechanisms, such as legislation, regulations, programmes, permits, etc. Governments are encouraged to report the number of incidents of illegal traffic and to provide information on challenges encountered in efforts to prevent illegal international traffic</i>
20.	Number of countries having mechanisms to prevent illegal traffic in hazardous waste	<i>Collected data should include a list of mechanisms, such as legislation, regulations, programmes, permits</i>

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**Implementation of the Strategic Approach to
International Chemicals Management: Evaluation of
and guidance on implementation and review and update
of the Strategic Approach**

**Citizens' Report: Implementation of the Strategic Approach to
International Chemicals Management (SAICM) by IPEN
Participating Organizations 2009–2012**

Note by the secretariat

1. The secretariat has the honour to circulate, for the information of participants, in the annex to the present note a report of the International POPs Elimination Network (IPEN) entitled *Citizens' Report: Implementation of the Strategic Approach to International Chemicals Management (SAICM) by IPEN Participating Organizations 2009–2012*.
2. The information is presented as submitted and has not formally been edited.

Annex



CITIZENS' REPORT

IMPLEMENTATION OF THE STRATEGIC APPROACH
TO INTERNATIONAL CHEMICALS MANAGEMENT (SAICM)
BY IPEN PARTICIPATING ORGANIZATIONS
2009-2012



September 2012
Prepared by IPEN



a toxics-free future



a toxics-free future

IPEN is a leading global organization working to establish and implement safe chemicals policies and practices that protect human health and the environment around the world. IPEN's mission is a toxics-free future for all.

IPEN brings together leading public interest groups working on environmental and public health issues in developing countries and countries in transition. It helps build the capacity of its member organizations to implement on-the-ground activities, learn from each other's work, and work at the international level to set priorities and achieve new policies.

IPEN's global network is comprised of more than 700 public-interest organizations in 116 countries. Working in the international policy arena and in developing countries, with international offices in the US and in Sweden, IPEN is coordinated via eight IPEN Regional Offices in Africa, Asia, Central/Eastern Europe, Latin America, and the Middle East.

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LIST OF ABBREVIATIONS

BAT	Best Available Techniques	ISIP	International SAICM Implementation Project
BEP	Best Environmental Practices	MCW	Mercury-Containing Waste
CEE	Central and Eastern Europe	MDG	Millennium Development Goals
CMR	Carcinogen, Mutagen and Toxic to Reproduction	NGO	Non-governmental Organization
CSO	Civil Society Organization	OPS	Overarching Policy Strategy
DDT	Dichloro-Diphenyl-Trichloroethane	PBT	Persistent Bioaccumulative and Toxic Substance
EECCA	Eastern Europe, Caucasus, and Central Asia	PCB	Polychlorinated Biphenyl
EPR	Extended Producer Responsibility	POP	Persistent Organic Pollutant
EU	European Union	PRTR	Pollutant Release and Transfer Register
FAO	United Nations Food and Agriculture Organization	QSP	Quick Start Programme
GEF	Global Environment Facility	REACH	Registration Evaluation Authorization and Restriction of Chemicals
GHS	Globally Harmonized System of Classification and Labeling of Chemicals	SAICM	Strategic Approach to International Chemicals Management
GPA	Global Plan of Action	SGP	Small Grants Programme
HHP	Highly Hazardous Pesticide	UNEP	United Nations Environment Programme
IAASTD	International Assessment of Agriculture Science and Technology for Development	UNIDO	United Nations Industrial Development Organization
ICCM	International Conference on Chemicals Management	UNITAR	United Nations Institute for Training and Research
IPEN	International POPs Elimination Network	WHO	World Health Organization
IPM	Integrated Pest Management		

EXECUTIVE SUMMARY

Public interest NGO Contributions to Implementation of the Strategic Approach to International Chemicals Management (SAICM)

Public interest non-governmental organizations (NGOs) and civil society organizations (CSOs) have important roles to play in successful SAICM implementation. The SAICM Overarching Policy Strategy (OPS) addresses the need for a “multi-stakeholder approach in pursuing the sound management of chemicals,” and asserts the need to “promote and support meaningful and active participation by all sectors of civil society, particularly women, workers and indigenous communities, in regulatory and other decision-making processes that relate to chemical safety.”¹ This report documents extensive work conducted by public interest NGOs and CSOs around the world to implement SAICM activities corresponding to all the principal SAICM objectives.

In the period of 2009-2012, IPEN developed and executed activities to promote effective SAICM participation and undertake enabling and implementation activities for NGOs and CSOs in developing and transition countries with the following elements:

- **International SAICM Implementation Project (ISIP):** ISIP promoted SAICM implementation by public interest NGOs and CSOs by developing strategic small-scale activities that emphasized SAICM objectives in the areas of pesticides, wastes, heavy metals, public participation, chemicals in products, and contaminated sites. ISIP resulted in more than 100 SAICM implementation activities in 50 countries.
- **Heavy metals program:** Spurred to action by civil society and international concerns about the harms from toxic metals, IPEN launched its heavy metals program in 2009. Since then, IPEN has built a robust base of public interest NGOs and CSOs working to raise awareness about threats from cadmium, lead, and mercury. IPEN has supported work to advocate for the development of a strong global treaty to eliminate or significantly reduce threats from mercury along with a variety of activities to protect consumers and raise awareness on cadmium and lead in products. Public interest NGO and CSO participants in the heavy metals program have implemented more than 40 activities in 31 countries.

- **Global Common Statement for a Toxics-free Future:**

Twenty years after the first Rio Earth Summit, toxic chemicals contaminate all living things and the harms to human health and the environment are escalating. In response, IPEN catalyzed and coordinated the formulation of and support for a Global Common Statement for a Toxics-Free Future. The Statement, which was released publicly just prior to Rio+20, calls on CSOs around the world to join a global campaign for a sustainable, toxics-free future, recognizes the high cost of inaction on chemicals, and commits to principles that underpin a toxics-free future mission: precaution, right to know, “no data, no market,” substitution and elimination of hazardous substances, polluter pays, and extended producer responsibility (EPR). This initiative cultivated a global partners group with representation from 10 major international NGOs and Indigenous Peoples organizations working in the health, environment, labor, women’s, human rights, and other public interest sectors. In total, more than 1000 public interest NGOs and CSOs have signed on to the Global Common Statement for a Toxics-Free Future.

- **Targeted work on SAICM emerging policy issues:** IPEN Participating Organizations have actively engaged on SAICM’s current four emerging policy issues: lead in paint; chemicals in products; hazardous substances within the life cycle of electrical and electronic products; and nanotechnologies and manufactured nanomaterials. Public interest NGOs have participated at both the policy level and in activities on the ground by implementing more than 50 activities in 37 countries. Finally, IPEN successfully bridged the chemical policy-development aid sector in 2012 when the network launched a lead elimination project in seven Asian countries with support from the European Union’s international aid agency.

Overall, the 2012 IPEN Citizens’ Report documents more than 300 activities conducted by IPEN Participating Organizations in 50 countries that relate to SAICM implementation. The activities include work on 146 of the 273 items in the SAICM Global Plan of Action (GPA) and all five principal SAICM Overarching Policy Strategy Objectives: risk reduction, knowledge and information, governance, capacity building, and illegal traffic. IPEN interventions have ranged from local activities to national and international work. These activities cover a wide variety of issues including: monitoring products, food, paint, and humans for toxic metals and chemicals; promoting substitution with safer alternatives; implementing ecological agriculture; addressing toxic chemicals in manufacturing and wastes; public awareness-raising for vulnerable groups; the characterization of hotspots; and work to eliminate illegal traffic of chemicals and wastes.

¹ SAICM OPS paragraphs 9 and 16

NGOs will continue contributing to chemical safety objectives within the limitations of available and accessible resources. Unfortunately, many NGOs around the world are still unaware of SAICM and lack access to the necessary resources and capacity to participate meaningfully as effective stakeholders. IPEN will continue to encourage NGO implementation of SAICM by linking efforts of its Participating Organizations around the world, providing expertise and resources, and conducting actions that build capacity among national- or community-based NGOs. With the support from our donors, this post-ICCM2 NGO program has been very successful and has provided a solid base to build on. Predictable, accessible, and additional resources to continue and expand these joint programs on SAICM outreach and implementation will build NGO capacity, increase NGO-government dialogue, and greatly advance the common SAICM 2020 goal.

PUBLIC INTEREST NGO VIEWS OF SAICM IMPLEMENTATION

SAICM implementation has slightly improved since 2009, but implementation has been uneven and the pace will need to greatly accelerate to achieve SAICM's 2020 goal.

Some countries have initiated SAICM activities and developed steering committees to address certain chemicals management issues with stakeholder involvement. In other countries, SAICM has triggered actions to develop or update inventories of contaminated sites and resulted in legislation banning highly hazardous pesticides (HHPs). In several countries, SAICM has actually helped create an appropriate framework for addressing chemical safety with the participation of many stakeholders. Sometimes, a specific

SAICM issue (such as lead in paint) draws government, public health, industry, and public interest NGO stakeholders into coordinated action. The SAICM Quick Start Programme (QSP) has also helped countries build the capacities of regulators and policy makers on chemical safety issues and helped countries address some specific needs. For example, development of national chemical management profiles has helped establish national chemical safety policies as they provide the data used to identify needs and gaps. Hopefully, these positive advances in chemical safety will rapidly expand and transform the institutional framework governing chemicals in the coming three-year period.

Despite some tangible advances, several serious concerns with SAICM implementation remain. In adopting SAICM, governments agreed that sound chemicals management requires a multisectoral and multistakeholder approach to chemical safety. However, in practice, SAICM is often considered to be an issue that is mainly the responsibility of the technical authorities in ministries of environment. As a result, the coordination between key government institutions is often unclear or non-existent. This problem is compounded by a frequent lack of sufficient budgets allocated to the chemical safety agenda, which comes from the relatively low rank chemicals occupy compared to other environmental issues such as climate change and biodiversity. Economic instruments that provide cost recovery from the chemical industry and earmark funds for chemicals management could be helpful but they are rare in developing and transition countries. No global agreement for cost internalization by the chemical industry has appeared, despite the large amount of money that could be available to governments for sound chemicals



IPEN Global Meeting, Petropolis, Brazil June 2012

management, even by receiving only a small percentage of the industry's global sales, which total more than USD\$3 trillion.² Adequate means of implementation will be required to meet the agreed SAICM 2020 goal and this includes sufficient and sustainable financing.

As countries struggle to evaluate, strengthen, or create regulatory infrastructure, poor enforcement of new or existing laws undermines chemical safety objectives. Often the regulated industry lobbies to weaken chemical safety regulations during their formulation or after they already exist. Weak laws, poor enforcement, and lack of industry responsibility play a key role in continuing problems of waste management. Information is a key component of SAICM's objectives and the basis for safer substitution, but information about chemicals in the workplace and in products is insufficient, and workers and the public often are often not aware of the potential threats. In addition, the public often does not have access to monitoring data of industrial emissions, which would provide a transparent means of mobilizing public support for cleaner production. Overall, public and media awareness of chemical safety remains low, and meaningful participation of the civil society in decision-making or implementation related to chemical safety policies is thin.

One of SAICM's key pillars establishes the inherent link between chemical safety and sustainable development. However, few developing countries have successfully mainstreamed chemicals management into development assistance plans. An even deeper issue considers what is actually meant by development and what kind of development is appropriate for a country. The true cost of resource extraction, chemical-based agriculture, industrial production, end-of-life toxic-product exposures, and other activities is often vastly underestimated or not even considered when development decisions are made. For this reason, more than 1000 public NGOs and CSOs signed the *Global Common Statement for a Toxics-Free Future*, which recognizes the high cost of inaction on chemicals and commits to principles that underpin chemical safety in sustainable development: precaution, right to know, "no data, no market," substitution and elimination of hazardous substances, polluter pays, and EPR.

CONCLUSION

IPEN Participating Organizations actively executed more than 300 activities in 50 countries in all UN regions to work towards implementing all five objectives of the SAICM OPS and 146 of the 273 items in the GPA. IPEN developed and carried out a global program to implement specific SAICM objectives on pesticides, wastes, heavy metals, public participation, chemicals in products, and contaminated sites; developed and executed another program to address the harms from cadmium, lead, and mercury; implemented focused work on SAICM emerging policy issues such as lead in paint, chemicals in products and electronics, and nanotechnology; and coordinated the formulation of and support for a *Global Common Statement for a Toxics-Free Future*, which more than 1000 public interest NGOs and CSOs have endorsed in the lead up to Rio+20.

Key features of SAICM's importance include its high level of political endorsement and the multitude of ways in which it links chemical safety to sustainable development, financing, regulatory infrastructure, enforcement, coherency in coordination across ministries and stakeholders, and key chemical safety principles, such as right to know, substitution, polluter pays, and others. In the period of 2009-2012, SAICM implementation has advanced, but the pace will need to greatly accelerate to achieve SAICM's 2020 goal. At this decisive point, SAICM needs re-commitment from its stakeholders in order to achieve its critically important 2020 goal. Highly motivated public interest NGOs and CSOs are working diligently to support and promote SAICM's objectives in all parts of the world. With financial resources to build NGO capacity and to support SAICM activities, the commitment of civil society to chemical safety can be harnessed to accomplish the 2020 goal.

² <http://www.icca-chem.org/en/Home/About-us/>

ORGANIZATION OF THE CITIZENS' REPORT

This report describes the state of SAICM implementation around the world from the perspectives of public interest NGOs and CSOs. It documents progress and points to areas in which more work is needed. It also provides an extensive sample of the work of public interest NGOs and CSOs around the world to protect human health and the environment from hazardous chemicals.

The report describes four key elements of SAICM implementation by IPEN Participating Organizations:

- International SAICM Implementation Project (ISIP)
- Heavy Metals Program
- Global Common Statement for a Toxics-Free Future
- Targeted work on SAICM emerging policy issues

In addition, the report describes SAICM implementation activities

SAICM REPORTING INDICATORS AND NGO ACTIVITIES

The best way to describe public interest NGO and CSO implementation is to actually illustrate how their activities relate to specific Overarching Policy Strategy objectives or specific concrete measures in the Global Plan of Action. Therefore, 2012 IPEN Citizens' Report details this extensively, including over 300 activities in 50 countries.

In 2009, the second session of the International Conference on Chemicals Management (ICCM2) decided on 20 indicators to be used by stakeholders in reporting on progress on SAICM implementation. These indicators are divided into the five categories of the OPS: risk reduction (5 indicators), knowledge and information (5 indicators), governance (3 indicators), capacity building and technical cooperation (6 indicators), and illegal international traffic (2 indicators). In general, the indicators count the number of countries with certain mechanisms and implementation of different types of chemicals management arrangements. All the indicators begin with "The number of..." This makes for quantifiable information but loses the richness and details of stakeholder efforts on implementation that can be communicated in a narrative.

Some of the topics contained in the indicators are applicable to NGO activities, such as monitoring data on selected environmental and human health priority substances and communicating

in each IPEN region. As IPEN's 700 Participating Organizations are primarily self-organized by geography and language, the report presents information from the following regions: Anglophone Africa; Central and Eastern Europe (CEE); Eastern Europe, Caucasus, and Central Asia (EECCA); Francophone Africa; Latin America and the Caribbean; the Middle East; South Asia; and Southeast Asia and East Asia.

Taken together, the report provides a rich narrative picture of how public interest NGO and CSO activities relate to specific concrete items in the GPA and specific objectives of the OPS. Instead of counting indicators, the report describes the breadth of actual work, the extent to which national plans have been created, multistakeholder mechanisms set up, new information garnered from monitoring, the degree of public participation in planning and implementation, training programs carried out, educational materials developed and distributed, and many other activities. There is no completely satisfactory way to document SAICM implementation, but the Citizens' Report provides a window into the myriad ways public interest NGOs and CSOs approach SAICM, and it highlights their deep dedication to the 2020 goal.

information on the risks associated with chemicals to vulnerable groups. However, many of the indicators are more suited to governmental activities and are difficult to adapt to the work of public interest NGOs; for example, indicator 16 is "Number of countries where development assistance programmes include the sound management of chemicals."

Public interest NGOs have actively implemented SAICM in each of the SAICM OPS categories. Risk reduction activities of public interest NGOs address priority chemicals and wastes through activities focusing on POPs, HHPs, mercury, and lead. These activities include: generating e-waste and hazardous waste inventories; monitoring soil, water, food, and humans for chemicals; and promoting pollution prevention. Knowledge and information activities incorporate advocacy for labeling the chemical content of consumer products, public awareness-raising (including for vulnerable groups), and characterization of hotspots. Governance activities include support for SAICM implementation through the *Global Common Statement for a Toxics-Free Future* and use of multistakeholder approaches to address chemical safety problems. Capacity-building activities consist of workshops and reports on country situations; generation of guides on mercury, POPs, and pesticides; and demonstration of techniques to reduce and eliminate chemical exposures. Work on illegal international traffic includes activities focused on wastes and pesticides. More specific examples of SAICM implementation by public interest NGOs in each of the five OPS categories can be seen in the section, "Public interest NGOs and SAICM implementation in eight IPEN regions." SAICM implementation through activities on specific items of the GPA is clearly illustrated in the section below.

INTERNATIONAL SAICM IMPLEMENTATION PROJECT (ISIP)

In 2010, in an effort to increase SAICM implementation by public interest NGOs, IPEN launched the International SAICM Implementation Project, also known as ISIP.¹ ISIP aims to mobilize resources for initial enabling activities pertaining to national priorities, in keeping with the work areas set out in the strategic objectives of section IV of the SAICM OPS. In particular, ISIP supports the Governance objective of SAICM OPS paragraph 26, which calls for enhanced “cooperation on the sound management of chemicals between Governments, the private sector and civil society at the national, regional and global levels.” In addition, ISIP builds on IPEN’s 2008-2009 Global SAICM Outreach Campaign² to raise awareness about SAICM and strengthen collaboration among the public interest, health, and labor sectors. Since 2010, ISIP has executed 100 activities in 50 developing and transition countries in all UN regions.

ISIP used a country-driven model to advance the following four objectives:

- Promoting the need for sound chemicals management by raising awareness about serious threats to public health and the environment associated with the unsound production, use, and disposal of potentially toxic chemicals and wastes
- Advancing national SAICM implementation through mainstreaming national strategies for sustainable development in developing countries and countries with economies in transition, including linking SAICM recommendations to all relevant national policy sectors (health, agriculture, labor, environment, etc.)
- Promoting global SAICM implementation by civil society, including promoting international policy change, national legislation, regulatory and institutional reforms, and other actions aimed at advancing chemical safety objectives through advocacy, campaigns, and other programs or projects
- Building capacity and developing educational tools and activities to enable NGOs in developing countries and countries with economies in transition to engage with their national authorities on chemical policy discussions relevant at both the national and international levels



¹ <http://www.ipen.org/ipenweb/saicm/implementation.html>

² <http://www.ipen.org/campaign/>

The ISIP program supports Participating Organizations in a wide variety of GPA items and SAICM Emerging issues, with GPA emphasis on the following areas:

- Pesticides – integrated pest management, ecological farming, alternatives, FAO code of conduct, obsolete stockpiles, and community monitoring (GPA items 23- 25, 27, 29, 54, 89, 112, 114, 159, 187, 195, 206, 215, 227, 256, 265, 273)
- Waste – zero waste, dioxins, incineration and co-incineration, illegal trade, and medical waste (GPA items 44-45, 54, 56-57, 70, 84, 119, 121, 134, 161-162, 187, 258-259, 262)
- Heavy Metals – in products, mining, and industrial pollution, with a specific focus on lead and mercury (GPA items 7, 44-45, 54, 57, 89, 108, 174, 206, 258, 262)
- Public Participation – law, access to information, and policy dialogue (GPA items 1, 23, 27, 114, 116, 164-165, 174, 187, 194-195, 197, 206, 211, 255)
- Chemicals in Products (GPA items 7, 20, 54, 89, 108, 112, 150, 163, 174, 206, 211, 215, 255)
- Hotspots/contaminated areas – especially for poor communities at risk (GPA items 47, 68, 146=147)

Examples of ISIP activities include:

- Introducing the FAO Code of Conduct to reduce pesticide risks in Armenia
- Pilot project on collection of batteries and electronic wastes in Belarus
- Participation in the National Commission on Chemical Safety in Brazil
- Characterization of electronic waste to develop a management strategy in Ethiopia
- POPs pesticide elimination strategy for vegetable production in Ghana

- Awareness on mercury in the health and education sectors in India
- Medical waste management and alternatives to mercury-containing devices in Indonesia
- Awareness-raising on electronic wastes in Jordan
- NGO input into the SAICM National Implementation Plan in Kazakhstan
- Reducing exposure of slum dwellers to lead in Kenya
- Contributing to the national action plan on the Khaidarkan mercury mining facility in Kyrgyzstan
- Addressing waste management issues to eliminate the Saida dump in Lebanon
- Characterizing traditional gold mining in Mali
- Documenting neurotoxicity in children in communities located near cement plants and other industries in Mexico
- Convening multisectoral forums on SAICM implementation in Nepal
- Impact assessment of electronic waste handlers and livelihoods in Nigeria
- Community education on HHPs in Philippines
- Survey of bisphenol A in foods in Russia
- Promoting government and civil society dialogue on chemical safety in Sri Lanka
- Reducing and substituting mercury-containing medical devices in Syria
- Situational analysis of a POPs hotspot in Tanzania
- Mapping toxic hotspots near an industrial production area in Thailand
- Awareness-raising in schools on SAICM and chemical safety in Tunisia
- Research of the mercury country situation and awareness-raising on SAICM in Ukraine
- Identification of pesticide hotspots in Uzbekistan

RIO+20 AND THE GLOBAL COMMON STATEMENT

In 1992, governments meeting at the Rio Earth Summit acknowledged that chemical contamination could be a source of “grave damage to human health, genetic structures and reproductive outcomes, and the environment.”¹ The subsequent Chapter 19 of Agenda 21 focused on Environmentally Sound Management

of Toxic Chemicals, and in particular, the needs of developing countries when faced with the chemical hazards of their rapidly industrializing economies. However, 20 years later, in 2012, toxic chemicals contaminate all living things and the harms to human health and the environment are escalating. In response, IPEN actively participated in the negotiating sessions leading up to Rio+20 and mobilized public interest NGOs/CSOs to provide input to world leaders at the meeting.

IPEN catalyzed and coordinated the formulation of and support for a Global Common Statement for a Toxics-Free Future, which was released publically just prior to Rio+20.² The Statement

COUNTRIES WHERE PUBLIC INTEREST ORGANIZATIONS ENDORSED THE GLOBAL COMMON STATEMENT FOR A TOXICS-FREE FUTURE



Albania	Cote d'Ivoire	Italy	Moldova	Rwanda	Togo
Argentina	Croatia	Japan	Mongolia	Scotland	Tunisia
Armenia	Czech Republic	Jordan	Morocco	Senegal	Uganda
Australia	Ecuador	Kazakhstan	Mozambique	Serbia	Ukraine
Azerbaijan	Ethiopia	Kenya	Nepal	Slovakia	United Kingdom
Bangladesh	Fiji	Korea	Netherlands	South Africa	United States
Belarus	France	Kyrgyzstan	New Zealand	Spain	Uruguay
Belgium	Georgia	Laos	Niger	Sri Lanka	Uzbekistan
Benin	Germany	Lebanon	Nigeria	Sudan	Venezuela
Brazil	Ghana	Liberia	Pakistan	Sweden	Vietnam
Bulgaria	Guatemala	Macedonia	Panama	Switzerland	Yemen
Burundi	Honduras	Malaysia	Paraguay	Syria	Zambia
Cameroon	India	Mali	Peru	Taiwan	
Canada	Indonesia	Mauritania	Philippines	Tajikistan	
Chile	Iran	Mauritius	Romania	Tanzania	
China	Ireland	Mexico	Russia	Thailand	

¹ Agenda 21, Chapter 19, Environmentally Sound Management of Toxic Chemicals, Including Prevention of Illegal International Traffic in Toxic and Dangerous Products, Section 19.2 Available at http://www.un.org/esa/dsd/agenda21/res_agenda21_19.shtml

² <http://ipen.org/toxics-free-2012/common-statement/>

calls on CSOs around the world to join a global campaign for a sustainable, toxics-free future and references the SAICM Dubai Declaration, which states that sound chemicals management is “essential to achieving sustainable development, including the eradication of poverty and disease, the improvement of human health and the environment and the elevation and maintenance of the standard of living in countries at all levels of development.” The Global Common Statement recognizes the high cost of inaction on chemicals and commits to principles that underpin a toxics-free future mission and sustainable development: precaution, right to know, “no data, no market,” substitution and elimination of hazardous substances, polluter pays, and EPR. Finally, the Statement calls for a recommitment to SAICM at the highest political levels and urges governments and stakeholders to

fundamentally increase financial support for the implementation of SAICM and the multilateral chemical and waste agreements.

IPEN coordinated with public interest groups in all global regions and achieved formal adoption of the Global Common Statement by 10 international NGOs and Indigenous Peoples organizations working in the health, environment, labor, women’s, human rights, and other public interest sectors in April 2012.³ On the June 11, 2012, IPEN coordinated a meeting of NGOs at the Toxics-Free Future Forum in Rio de Janeiro, Brazil. The NGO/CSO Global Common Statement for a Toxics-Free Future was released at the forum by the organizations that came together with this important message to the world’s leaders. More than 1000 public interest NGOs and CSOs have signed on to the Global Common Statement for a Toxics-Free Future.

³ Global Alliance for Incinerator Alternatives, Health Care Without Harm, Friends of the Earth International, IPEN, International Indian Treaty Council, International Society of Doctors for the Environment, Northern Alliance for Sustainability, Pesticide Action Network International, Women in Europe for a Common Future, and World Alliance for Citizen Participation (CIVICUS)

HEAVY METALS AND SAICM IMPLEMENTATION

The harms to human health and the environment from toxic metals have captured international attention. In 2002, the Johannesburg Plan of Implementation called for promoting “reduction of risks posed by heavy metals.” The SAICM OPS includes mercury in a group of chemicals for assessment due to concerns of “unreasonable and otherwise unmanageable risk to human health and the environment.” The SAICM GPA includes activities directed at reducing harms posed by metals in items 57, 60, 156, 157, and 244. Finally, the UNEP Governing Council launched the negotiation of a global mercury treaty in 2009 in Decision 25/5. The same year, IPEN formally launched its heavy metals program to advance work principally on cadmium, lead, and mercury.

The IPEN Mercury-Free Campaign has addressed the alarming level of human and environmental health threats posed by mercury around the world.¹ Through the Campaign, IPEN is aiming to build a robust base of civil society and NGOs working to raise awareness about mercury threats and support the development



of a strong global treaty to eliminate or significantly reduce these threats. Participating NGOs from all over the world work together to build NGO capacity, raise awareness about mercury exposure and safer alternatives, monitor mercury-containing products and the availability of mercury-free alternatives, support activities that

link to the international mercury discussions, and promote NGO engagement in the treaty negotiation process. In 2009, when governments decided to begin negotiations on a global treaty, IPEN adopted its Views on a Global Mercury Treaty, which explains why a global treaty on mercury is needed and puts forward a civil society vision for it.²

In 2010, IPEN released “An NGO Introduction to Mercury Pollution.”³ This comprehensive guidebook provides information about the toxic effects of mercury; Minamata disease; how mercury gets into the environment; mercury supply; mercury in products, mining, and industrial practices; unintentional mercury sources; mercury wastes and contaminated sites; and information about the global mercury treaty. The booklet has been translated into all UN languages and widely disseminated globally. Moreover it has served as an excellent preparatory tool for NGO and government delegates in the treaty negotiation process.

At the first negotiating meeting of the mercury treaty in 2010, IPEN and the Swedish Society for Nature Conservation (SSNC) conducted a survey of mercury in the hair of delegates from 40 countries and found it in all of them.⁴ Mercury levels ranged from 93 µg/kg to 2,956 µg/kg and more than one-third of the samples exceeded levels of concern. Surprisingly, average mercury levels in people from developing and transition countries were twice the levels measured in delegates from developed countries. The difference was statistically significant. This monitoring activity changed the perspective of mercury pollution from abstract to personal.

In 2010, the German Federal Ministry for Environment, Nature Conservation, and Nuclear Safety (BMU) funded a collaboration among IPEN, Arnika Association (an IPEN Participating Organization), and GRS (Germany) to conduct a market analysis of some mercury-containing products and their mercury-free alternatives.⁵ The objective was to gather information concerning the availability, suitability, and cost of mercury-containing versus mercury-free products in developing and transition countries. The study examined products such as thermometers, skin-lightening products, batteries, and dental materials in Brazil, China, India, Kenya, Kyrgyzstan, Mexico, Russia, and Senegal. The study provided an interesting picture about consumer awareness, availability and cost of alternatives, and knowledge about the harms posed by mercury.



IPEN info action at the third mercury treaty negotiations in Kenya (2011), where IPEN Participating Organizations raised awareness among delegates about the harm caused by small-scale gold mining to children, as well as the toxic legacy associated to allowing mercury use in gold mining.

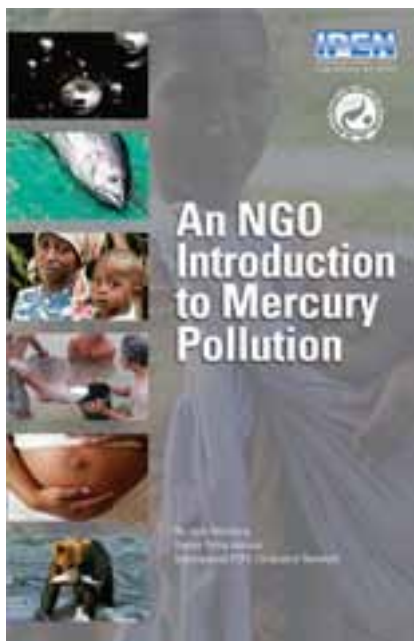
¹ <http://ipen.org/hgfree/>

² http://www.ipen.org/ipenweb/work/mercury/mercury_treaty_report_r5.pdf

³ <http://www.ipen.org/ipenweb/documents/book/ipen%20mercury%20booklets.pdf>

⁴ <http://ipen.org/hgfree/wp-content/uploads/2011/07/English-final-mercury-hair-report.pdf>

⁵ http://english.arnika.org/files/documents/Market_analysis_mercury.pdf



As part of the IPEN Mercury-free campaign, an NGO mercury booklet was produced with the aim to swiftly educate NGOs about public and environmental health threats related to mercury together with scientific references on specific issues associated to mercury pollution, as well orient the reader to the international mercury treaty negotiations.

Additional activities of IPEN Participating Organizations on mercury have included:⁶

- Investigative report on coal ash and mercury in Australia
- Awareness-raising about mercury in schools and a study of mercury waste management in Bangladesh
- Study of legislation related to mercury sources in Brazil
- Capacity-building among beauty salon workers and advocacy for safer management of mercury and toxic chemicals in cosmetics, and public awareness-raising on mercury thermometers using a comic book style in Cameroon
- Launching the first campaign to phase-out mercury-containing medical devices at a children's hospital in China
- Awareness-raising on mercury for the public and workers in Cote d'Ivoire
- Survey of mercury in products in the Czech Republic
- Awareness-raising on mercury for NGOs, public, and government personnel in Egypt
- Awareness-raising on spill clean-up, study of CFL wastes, standards for medical products, workshops for doctors and healthcare professionals, and monitoring fish in India
- Investigation of medical waste management and medical devices in healthcare and measurements of mercury in air near a small scale gold mining site in Indonesia
- Report on Minamata and the global mercury treaty, holding an international mercury symposium, and work towards a mercury export ban in Japan
- Awareness-raising and country situation report on mercury in Jordan
- Survey of consumer products containing mercury and investigation of artisanal small scale gold mining in Kenya

⁶ More information about these activities that support the IPEN Mercury-Free campaign are available online, noting not all these actions were funded by IPEN (www.ipen.org/hgfree)

- Survey of consumer products containing mercury and workshop for NGOs and governmental officials in Kyrgyzstan
- Measurement of mercury in air near dumpsites and incinerators in Lebanon
- Hair testing and awareness-raising on mercury in Macedonia
- Investigation of mercury use in artisanal small-scale gold mining in Mali
- Participation in a national government workshop on mercury in Mexico
- Workshop for NGOs, professional organizations, and government on mercury in Morocco
- Study of import, use, and management of mercury in Nepal
- Work with waste recyclers to reduce mercury emissions in Philippines
- Survey of mercury emission sources and investigation of mercury waste issues in Russia
- Survey of mercury-containing products in Senegal
- Collection of data related to the national inventory of mercury sources and emissions in South Africa
- Awareness-raising on mercury for patients, doctors, and authorities in Spain
- Collection of import data on mercury-containing products, investigation of contaminated sites, survey of hospitals, and promoting non-mercury alternatives in Sri Lanka
- Inventory of mercury-containing medical products and workshop to discuss management and substitution in Syria
- Training of trainers on non-mercury techniques in artisanal and small-scale gold mining in Tanzania
- Awareness-raising in schools in Tunisia
- Analysis of mercury use, storage, and disposal in Uganda
- Mercury situation report for Ukraine
- Education activities on mercury in the Alaskan Arctic and monitoring of coal ash in the U.S.

Activities on lead and cadmium include a comprehensive study of heavy metals in products in the Asia-Pacific region in 2011. UNEP incorporated comprehensive IPEN information into its *“Study on the possible effects on human health and the environment in Asia and the Pacific of the trade of products containing lead, cadmium, and mercury.”* The study focused on the analysis of trade, use, and disposal of products containing cadmium, lead, and mercury in Asia and the Pacific in order to assess how this can lead to adverse human and environmental effects due to the release of these toxic heavy metals. IPEN gathered and condensed case studies from IPEN Participating Organizations in seven countries in the Asia-Pacific region: Cook Islands, India, Nepal, Philippines, Samoa, Sri Lanka, and Thailand. The case studies highlighted issues such as e-waste, heavy metals in batteries, lead in paint, lead in children's jewelry, compact fluorescent light bulb recycling and hazards, and mercury in the healthcare sector. Other activities concerning metals are discussed in the sections on lead in paint and chemicals in products below.

⁷ http://www.unep.org/hazardoussubstances/Portals/9/Lead_Cadmium/docs/Trade_Reports/AP/UNEPLedPb-CaicedoCompilation110601.pdf

PUBLIC INTEREST NGO ACTIONS ON SAICM EMERGING POLICY ISSUES

In 2009, ICCM2 decided on four emerging policy issues: lead in paint, chemicals in products, hazardous substances within the life cycle of electrical and electronic products, and nanotechnologies and manufactured nanomaterials. All four issues are of great importance to public interest NGOs and this section describes NGO activities on these issues in the period of 2009-2012.

LEAD IN PAINT

ICCM2 identified lead in paint as a SAICM emerging issue and invited UNEP and WHO to establish a global partnership to promote phasing out the use of lead in paints and to serve as the partnership's secretariat.¹ UNEP and WHO jointly initiated this



IPEN's 2012 global report on lead in paint

¹ ICCM2 omnibus resolution II/4 on emerging policy issues; http://www.saicm.org/documents/iccm/ICCM2/emerging%20issues/ICCM2%20Outcomes/Emerging%20issues/Omnibus%20resolution%20II_4.doc

partnership at an organizational meeting held in May 2010 under the name Global Alliance to Eliminate Lead Paint (GAELP).²

GAELP's agreed broad objective is to phase out the manufacture and sale of paints containing lead and eventually to eliminate the risks from such paint.³ Using the ICCM2 resolution as its point of departure, GAELP has defined the term "paint" to also include varnishes, lacquers, stains, enamels, glazes, primers, and coatings. GAELP defines the term "lead paint" as paint to which one or more lead compounds has been added.⁴

IPEN has been an active participant in GAELP from the start, has been a member of the GAELP Interim Advisory Committee, and has provided assistance to the GAELP Secretariat in the work of GAELP, including participating in teleconferences and attending meetings, undertaking speaking assignments, drafting documents and texts, participating in the preparation of the GAELP business plan, and other contributions.

At ICCM2, IPEN presented data on the lead content of decorative paints that were purchased by NGOs in 11 developing countries and countries with economies in transition. Since then, NGOs have continued sampling and testing paints. NGOs have engaged in follow-up testing in several of the original 11 countries including Brazil (Associação de Proteção ao Meio Ambiente de Cianorte-APROMAC), India (Toxics Link), Philippines (EcoWaste Coalition), and Thailand (Ecological Alert and Recovery Thailand-EARTH). The Cameroon NGO Centre de Recherche et d'Education pour le Développement (CREPD) sampled and tested paints on its national market with financial support from the SAICM QSP Trust Fund and UNEP. In addition, NGOs associated with IPEN have tested paints in their countries, including in Bangladesh (Environment and Social Development Organization-ESDO), Kazakhstan (Greenwomen), Lebanon (IndyACT), Nepal (Centre for Public Health and Environmental Development-CEPHED), Paraguay (ALTERVIDA), and Russia (Eco-Accord).

The Indian NGO Toxics Link, in cooperation with the NGOs ESDO from Bangladesh and CEPHED from Nepal, prepared and disseminated a report entitled Double Standard: Investigating Lead Content in Leading Enamel Paint Brands in South Asia.⁵

IPEN, with assistance from IPEN Advisor Professor Scott Clark and Perry Gottesfeld of Occupational Knowledge International, has developed an expedited technique for collaborating with partner NGOs to sample and test paints for sale on their national

² See GAELP Home Page <http://www.unep.org/hazardoussubstances/LeadCadmium/PrioritiesforAction/GAELP/tabid/6176/Default.aspx>

³ See GAELP Objectives; <http://www.unep.org/hazardoussubstances/LeadCadmium/PrioritiesforAction/GAELP/GAELPObjectives/tabid/6331/Default.aspx>

⁴ See GAELP Operational Framework; March 2011; http://www.unep.org/hazardoussubstances/Portals/9/Lead_Cadmium/docs/GAELP/Final_operational_framework_GAELP.pdf

⁵ http://toxicslink.org/docs/Double_Standard_Lead_Paint_29_June_2011.pdf

markets. IPEN provides the partner with a protocol for selecting paints to purchase and instructions on how to prepare paint samples for testing. IPEN ships the partner a kit that contains all the materials that they will need for sample preparation, including sample logs, chain of custody forms, disposable paint brushes (one for each paint to be tested), and pre-numbered strips to be painted on. IPEN experts are available by phone or email to give advice or answer questions. The partner receives the kit, purchases the paints, prepares the paint samples for testing, and ships the prepared samples and data logs to a central testing laboratory. The NGO partner can do all this with only a few days of work and only minimal expertise. IPEN is currently preparing a new round of paint testing with nine NGO partners from diverse countries and regions.

IPEN secured a grant of €1.4 million from the European Union's SWITCH-Asia program to support national lead paint elimination activities in seven Asian countries in collaboration with NGO partners: Environment and Social Development Organization (ESDO) in Bangladesh, Toxics Link in India, Balifokus in Indonesia, Centre for Public Health and Environmental Development (CEPHED) in Nepal, EcoWaste Coalition in the Philippines, Centre for Environmental Justice (CEJ) in Sri Lanka, and Ecological Alert and Recovery Thailand (EARTH) in Thailand. Activities under the grant began in December 2011 and will continue for three and a half years.



Children's products on the market in the Philippines were tested by with EcoWaste Coalition for toxic heavy metals. 29% of the 435 products tested contained at least one toxic metal above levels of concern.

Two NGOs have received grants from the SAICM QSP Trust Fund for lead paint-related activities in their countries: CREPD in Cameroon and LEADERS in Nepal.

IPEN has established an international NGO working group to facilitate and coordinate national, regional, and international NGO lead paint elimination activities and to encourage NGOs

in as many countries as possible to take up the issue in their own countries. IPEN also helps mobilize resources for NGO lead paint elimination efforts.

IPEN has prepared a report that will be distributed at ICCM3 entitled *Global Lead Paint Elimination by 2020: A Test of the Effectiveness of the Strategic Approach to International Chemicals Management*.

Additional IPEN activities to eliminate lead in paint have included the following:

- In Jordan, Land and Human to Advocate Progress (LHAP) assessed the current status of lead in paint, with an eye toward developing informational materials and holding public hearings on regulatory policy
- In Tunisia, Association de l'Education Environnementale pour les Futures Générations (AEEFG) initiated a campaign involving art professors in colleges to discontinue use of lead-based paint and replace them with natural products
- In Uganda, Uganda Network on Toxic Free Malaria Control (UNETMAC) is campaigning to eliminate lead paint in Uganda by collecting samples for lead analysis and conducting public awareness-raising activities
- In Tanzania, AGENDA is reviewing national legislation on the regulation of lead content in paint and consulting key stakeholders on the issue, and a public awareness-raising campaign targets vulnerable groups, paint manufacturing industries, government ministries and agencies, and the general public

CHEMICALS IN PRODUCTS

Consumer awareness of chemicals in products is a strong driver for creating markets for cleaner products. However, IPEN's surveys and investigations (described below) have demonstrated that toxic chemicals are present in a large number of products in the market and they are often not adequately labeled if labeled at all. Current efforts and capacities to provide information about chemicals of concern in products are inadequate. Gray or informal markets pose huge challenges and the "no data, no market" principle should be applied.

Paragraph 15b of the SAICM OPS states an important SAICM objective: *"To ensure for all stakeholders: That information on chemicals throughout their life cycle, including, where appropriate, chemicals in products, is available, accessible, user friendly, adequate and appropriate to the needs of all stakeholders. Appropriate types of information include their effects on human health and the environment, their intrinsic properties, their potential uses, their protective measures and regulation."* Delegates at ICCM2 decided to implement the Chemicals in Products Project to promote this objective. The decision at ICCM2 reflects consensus agreement to collect and review existing information on information systems pertaining to chemicals in products, assess

that information in relation to the needs of all relevant stakeholders and identify gaps, and develop specific recommendations for actions to promote implementation of the Strategic Approach with regard to such information, incorporating identified priorities and access and delivery mechanisms.⁶

UNEP facilitated the Project and established a steering committee in 2009 comprised of governmental, private sector, and public interest NGO representatives including IPEN. The Project developed a survey of SAICM focal points on the need for information on chemicals in products. The result identified four priority areas for case studies: children's products and toys, electronics, textiles, and construction materials. All four case studies identified common needs such as producer-related information, chemical content, and instructions for safe use, handling, and disposal. In 2011, the Chemicals in Products Project moved toward identifying elements of a draft framework to improve the availability of and access to information on chemicals in products.

IPEN Participating Organization activities on chemicals in products have included the following:

- **First study of bisphenol A in food in Russia:** The Chapaevsk Medical Association measured the endocrine disrupter bisphenol A in 21 samples from three cities. High levels of bisphenol A were found in baby food and in a baby's dummy (pacifier or soother). None of the samples were labeled to indicate the presence of the toxic chemical.
- **First study of POPs in a recycled product for the home:** IPEN conducted a study of brominated flame retardants in recycled foam carpet padding. The substances are listed in the Stockholm Convention for global elimination. The study showed flame retardant levels in the products qualify as hazardous waste, and was featured in the *New York Times*⁷ presented at a scientific conference, and published.
- **First comprehensive study of chemicals used in the automotive industry in Korea:** Korean Network OUR requested network member Wonjin Institute of Occupational and Environmental Health to investigate and analyze the chemicals used in automobile industries. Wonjin Institute integrated and analyzed the chemical database of 13,000 products from 76 manufacturers of automobiles and auto parts. The results showed many opportunities to phase-out toxic substances for safer alternatives. The manufacturers of automobiles and auto parts have begun to substitute carcinogens with safer chemicals.

⁶ ICCM2 II/4C, SAICM/ICCM2.2/15, 2009

⁷ <http://www.nytimes.com/2011/05/19/garden/tests-on-carpet-padding-show-toxins.html>

- **First children's hospital in China to commit to a mercury product phase-out:** Global Village of Beijing, in collaboration with the Chinese Centers for Disease Control, Director of Changchun Children's Hospital, and others, launched a campaign to phase-out mercury-containing medical products. The campaign began in the intensive care unit and children's health management center and will spread to other parts of the hospital in time. The campaign includes improving staff awareness of mercury pollution and training in cases of mercury spills.



IPEN Technical Advisor testing childrens' products for toxic heavy metals with an XRF Analyzer

- **First large-scale study of toxic metals in children's products in the Philippines and China:** The EcoWaste Coalition and IPEN found toxic heavy metals such as antimony, arsenic, cadmium, chromium, lead, and mercury in 30% of over 435 children's products purchased in three major cities in the Philippines (Cebu, Davao, and Manila).⁸ None of the samples were labeled to indicate the presence of the toxic chemical. In China, Greenpeace East Asia and IPEN measured toxic metals in 500 children's products purchased in five Chinese cities (Beijing, Guangzhou, Hong Kong, Shanghai, and Wuhan).⁹ The products came from shopping trips to more than 40 retailers, including shopping malls, street markets, and chain stores. To our knowledge this is the first publically available large-scale investigation of toxic metals in children's products in China. One-third of tested products contained at least one toxic metal at levels of concern. Some 48 samples (9.6% of the products) contained more than one toxic metal, increasing the possibility of harm. None of the tainted products contained warning labels to inform consumers about their toxic ingredients.

⁸ <http://ipen.org/toxicproducts/>

⁹ <http://www.greenpeace.cn/heavymetal/?id=>

- **Mercury in skin-whitening products in Armenia, China, Philippines, and Thailand:** Armenian Women for Health and Healthy Environment found mercury in 82 of 100 samples of cosmetic items (skin-bleaching creams, soap, etc.), but the packaging provided no information on mercury content. In China, Green Beagle and IPEN collaborated with Chinese NGOs in 10 provinces to determine whether skin-lightening products containing high levels of mercury are available on the market in China. The results of testing 500 products showed that 23% of them were higher than the regulatory limit. In Philippines, the EcoWaste Coalition performed a series of tests of skin whitening products finding high mercury levels that exceed regulatory limits in the majority of them. In Thailand, the Foundation for Consumers and the Ecological Alert and Recovery-Thailand (EARTH) tested 47 skin whitening products sold nationally and found mercury in 20% of them. In all four countries, none of the products were labeled to indicate mercury content and instead many products promoted themselves as “natural.”
- **Lead in children’s jewelry in India:** Toxics Link investigated 54 samples of children’s jewelry from six markets in Delhi and found high levels of lead were widespread in the samples. Toxics Link advocated for development of standards on lead to protect children from exposures in paint, toys, jewelry, and other products.
- **Market analysis of mercury-containing products and alternatives in Brazil, China, India, Kenya, Kyrgyzstan, Mexico, Russia, and Senegal:** Associação de Proteção ao Meio Ambiente de Cianorte, Global Village of Beijing, Toxics Link, iLima, Independent Ecological Expertise, Centro de Análisis y Acción sobre Tóxicos y sus Alternativas, Eco-Accord, and Pesticide Action Network Africa investigated the availability, suitability, and cost of mercury-containing versus mercury-free products. The study examined products such as thermometers, skin-lightening products, batteries, and dental materials.
- **Investigation of lead, cadmium, and phthalates in children’s products in Korea:** Korean Network OUR found high levels of lead and phthalates in children’s products from Lotte-Mart, E-Mart, and HomePlus, especially in stationary items and school supplies such as pencil cases.
- **Public awareness-raising and policy analysis in the Balkans, Kenya, Mexico, and Tunisia:** Women in Europe for a Common Future, together with NGO partners, have performed inventory comparisons of the actual and legal situation of chemicals in products in Balkan countries along with multistakeholder trainings and awareness-raising activities. In Kenya, iLima targeted women and informal sector workers in a campaign to raise awareness of toxic chemicals in products such as cosmetics and solvents. Fronteras Comunes in Mexico prepared two brochures entitled *Toxic Chemicals in Your Home*

(versions 1 and 2) with accessible information on lead and mercury content in different products, chemical pesticides for household use, and the presence of toxic chemicals, such as PBDEs and PFOS, in electronic devices. In Tunisia, Association pour la Protection de l’Environnement et Développement Durable de Bizerte (APEDDUB) has conducted many public awareness-raising workshops on harmful substances found in children’s toys.

- **IPEN co-authored the first scientific consensus statement that addresses brominated and chlorinated flame retardants as a class, the San Antonio Statement:** This Statement (published in *Environmental Health Perspectives*¹⁰) has profound regulatory implications as it clearly reveals the scientific concerns of 200 leading researchers and scientists from 30 countries about the industry practice of regularly substituting one dangerous chemical for another.

HAZARDOUS SUBSTANCES WITHIN THE LIFE CYCLE OF ELECTRICAL AND ELECTRONIC PRODUCTS

The rapid growth of the electronics sector has accelerated the problems of managing both domestically generated and trans



Nigerian e-waste recycler

10 <http://ehp03.niehs.nih.gov/article/info:doi/10.1289/ehp.1003089>

boundary electronic waste. Hazardous substances represent a key issue in safely managing these products as they often contain toxic metals or other toxic chemicals such as brominated flame retardants. The waste issue has provoked further concerns about harms to workers involved in production of electronic products and both life cycle steps point to the importance of green design as a key aspect of solving this problem.

The African region and Peru nominated hazardous chemicals in the lifecycle of electrical and electronic products as an emerging policy issue at ICCM2. In response, the ICCM2 decision recognized that near-end-of-life and end-of-life electrical and electronic products are a growing concern as a result of dumping in developing countries; there is a lack of capacity to handle electronic waste in an environmentally sound manner in almost all developing countries and countries with economies in transition, leading to the release of hazardous substances; there is a pressing need for the continued development of clean technology and environmentally friendly design; it is important to consider product stewardship and EPR aspects; and the Basel Convention electrical and electronic waste program needs further strengthening.¹¹

ICCM2 called for a workshop to identify and assess where issues relating to the sound management of chemicals arise during the lifespan of electrical and electronic products (including the design of such products, green chemistry, and recycling and disposal), in particular in the context of the requirements of the Basel and Stockholm conventions, and it mandated the meeting to develop a series of options and recommendations for future work. In 2011, the United Nations Industrial Development Organization (UNIDO), Basel Convention, and Stockholm Convention hosted the workshop in Vienna, gathering representatives from governments, the private sector, and public interest NGOs to develop recommendations. The Vienna meeting on electronic products developed 13 Key Messages, along with detailed recommendations on upstream (design), midstream (production and use), and downstream (wastes) issues.¹²

IPEN Participating Organization activities on electronic products have included the following:

- **Electronic waste and battery assessment in Belarus:**

The Center for Environmental Solutions performed an inventory analysis of both batteries and e-waste in cooperation with the city of Minsk, as both streams are covered by the same legislation in Belarus. The results lead to recommendations and public awareness-raising activities on both waste streams.

- **Batteries as part of e-waste in Cameroon:** Centre de Recherche et d'Éducation pour le Développement characterized and quantified batteries as a component of e-waste with financial support from Dr. Ouchi at Kobe University in Japan.

¹¹ ICCM2 II/4D, SAICM/ICCM2.2/15, 2009

¹² http://www.saicm.org/images/saicm_documents/iccm/ICCM3/Meeting%20documents/INF%20Documents/ICCM3_INF24_Report%20e-waste%20workshop.pdf

- **E-waste management proposal for the new general waste act in Chile:** Acción Ecológica worked to investigate amounts and quality of e-waste generated in Chile and how this information might enrich the new General Waste Act. The work included public awareness-raising among consumer organizations and the wider public.
- **Inventory of e-waste in four cities and management plan for Ethiopia:** Pesticide Action Nexus Association noted the absence of e-waste management plans in the country and developed detailed inventories of computers, mobile phones, refrigerators, and televisions in four major Ethiopian cities. The results are being used to develop a national management plan for e-waste in the country that will include aspects of public awareness-raising and the establishment of e-waste sorting and collection sites.
- **Working for new e-waste legislation in India:** Toxics Link has done a number of studies to highlight the plight of unregulated e-waste management in India. The sustained campaign and advocacy by Toxics Link and other NGOs led to a notification for a separate e-waste management rule by the government of India, which came into effect in May 2012. At present, NGOs Direct Initiative for Social and Health (DISHA) and Toxics Link are raising awareness among informal e-waste recyclers and providing support to bring them into formal channels in Kolkata. Toxics Link has also organized a series of workshops to raise awareness among stakeholders on new e-waste rules.
- **Country situation on electronic waste in Jordan:** Land and Human to Advocate Progress (LHAP) carried out an assessment of the situation on electrical and electronic (EE) waste in Jordan by assessing current national laws and general end-of-life destination; distributing questionnaires to schools and electronic shops to measure knowledge on e-waste; developing a brochure that contains basic information on EE-waste for the purpose of raising community awareness about the topic; and organizing community consultations in order to present the facts derived from the assessment study and discuss possible actions and recommendations.
- **Assessing electronic waste in Nepal:** The Center for Public Health and Environmental Development (CEPHED) assessed import and inventory of e-waste in five areas with a focus on computers, televisions, and mobile phones. The study will be used to help develop appropriate policies for management and import that are consistent with related international agreements.
- **Impact assessment of e-waste on waste handlers and livelihood in Nigeria:** Sustainable Research and Action for Environmental Development (SRADeV) performed an in-depth assessment/evaluation of the risk associated in the e-waste recycling chain with a view to determining the knowledge of and practices associated with e-waste handlers. Goals include raised

awareness of the industry, community, and other key stakeholders, in order to work towards the establishment of an environmentally sound management regime in Nigeria.

- **Analysis of electronic waste disposal system in**

Kazakhstan: The NGO Promotion of Sustainable Development analyzed the current regulatory framework on e-waste, both nationally and in the city of Almaty, and prepared recommendations on waste management for implementation at the city level.

- **Documenting carcinogens and occupational illness in the electronics sector in Korea:**

Supporters of Health and Right of People in Semiconductor Industry (SHARPS) conducted an investigation that documented more than one hundred workers who developed cancer and other serious illnesses as a result of their work in electronics plants.¹³ In a related investigation, the Korean Metal Workers Union (KMWU) conducted an investigation on the hazardous chemicals used in the electronics workplace. The investigation found that 17% of the chemical solutions used by workers in one semiconductor factory contained carcinogens.

- **Public awareness-raising on hazardous chemicals in electronics in Bangladesh, Bulgaria, and Kenya:**

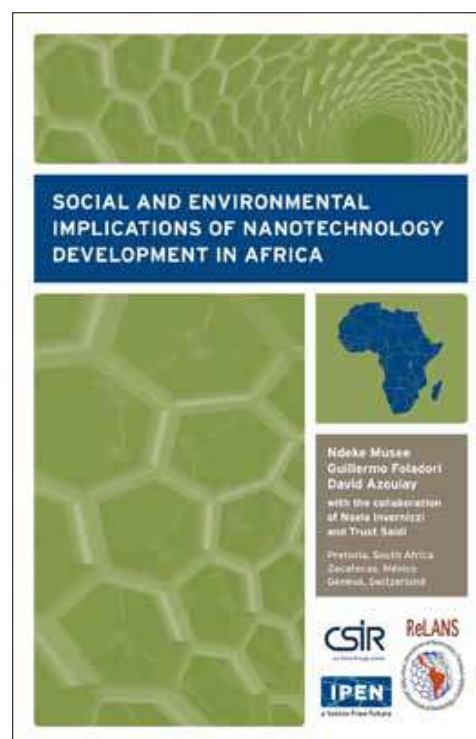
In Bangladesh, Environmental and Social Development Organization (ESDO) worked to raise awareness among computer users about hazardous chemicals in computers and other electronic waste. In Bulgaria, Za Zemiata performed public awareness-raising activities on waste and e-waste in particular using discussions, screenings, subtitles for movies and other methods. In Kenya, Centre for Environmental Justice and Development raised awareness on the risks of e-waste among youth in colleges and universities.

NANOTECHNOLOGIES AND MANUFACTURED NANOMATERIALS

ICCM2 decided on nanotechnologies and nanomaterials as an emerging policy issue in 2009. The ICCM2 decision requests that governments and industry promote actions to safeguard human health and the environment (including, for example, through engagement with workers and their representatives), agrees that more research and better understanding of the potential risks to human health and the environment needs to be undertaken, encourages wider dissemination of human health and environmental safety information in relation to products containing nanomaterials, and calls for a report focusing on nanotechnologies and manufactured nanomaterials, including, in particular, issues of relevance to developing countries and economies in transition.¹⁴

In response to public interest NGO interest in the issue, IPEN created a dedicated working group of CSOs from five continents. The IPEN Nano Working Group has worked to support the ICCM2 decision by helping to raise awareness and build capacity among CSOs as a first necessary step to ensure the safe production, use, and disposal of nanomaterials. IPEN participated actively in two rounds of regional workshops under SAICM that were organized jointly by the United Nations Institute for Training and Research (UNITAR) and Organization for Economic Cooperation and Development. IPEN representatives prepared position papers and presented their views during the meetings. Additionally, prior to each workshop and SAICM regional meeting, the IPEN Nano Working Group organized separate awareness-raising meetings for CSOs to maximize active participation from NGOs in the region. IPEN also worked with all regional stakeholders (from government, intergovernmental organizations, industry, and civil society) to produce concrete and constructive outcomes from these meetings.

IPEN actively supported the drafting of the report on nanotechnologies and manufactured nanomaterials that was prepared by the SAICM Secretariat by providing contents and bibliographical elements to the consultant in charge of the report drafting. IPEN has also engaged a number of researchers from Latin America and the Caribbean (GRULAC), Africa, and the Asia Pacific regions in these SAICM discussions and projects. IPEN further collaborated



ReLANS, CSIR and IPEN joint publication on Nanotechnology in Africa

¹³ <http://www.ingentaconnect.com/content/maney/oe/2012/00000018/00000002/art00011>

¹⁴ ICCM2 II/4E, SAICM/ICCM2.2/15, 2009

with UNITAR and other stakeholders in preparing guidelines for pilot projects to strengthen national capacities to address nanotechnology and manufactured nanomaterials, providing content and review of these guidelines.

To promote public awareness-raising on the issue, IPEN collaborated with the Latin American Nanotechnology and Society Network (ReLANS) and the Centro de Análisis y Acción sobre Tóxicos y sus Alternativas (CAATA) in the production and dissemination of a booklet entitled “*Social and Environmental Implications of Nanotechnology Development in Latin America and the Caribbean*.”¹⁵ ¹⁶ The booklet, originally in Spanish and later translated into English and Portuguese, highlights the recommendations of the GRULAC countries to ICCM3. It has been widely distributed at the most significant congresses on nanotechnology in the region, among the Latin American and Caribbean governments, and among worker organizations, including the vital Unión Internacional de Trabajadores de la Alimentación, Agrícolas, Hoteles, Restaurantes, Tabaco y Afines (UITA). IPEN, ReLANS, and the Council for Scientific and Industrial Research in South Africa have revised the booklet focusing on African countries. This booklet is entitled “*Social and Environmental Implications of Nanotechnology Development in Africa*” and was released in September 2012, prior to ICCM3.

In addition, public awareness-raising activities on nanotechnology have been part of workshops held by NGOs Association pour la Protection de l’Environnement et Développement Durable de Bizerte in Tunisia and Ecological Restorations in Ghana.

¹⁵ http://www.ipen.org/pdfs/Nanotechnology_en.pdf

¹⁶ http://www.ipen.org/pdfs/Nanotecnologia_es.pdf

PUBLIC INTEREST NGOS AND SAICM IMPLEMENTATION IN EIGHT IPEN REGIONS

The 2012 IPEN Citizens' Report focuses on developing countries and countries with economies in transition. This should not imply that developed countries have already met the 2020 goal.



ANGLOPHONE AFRICA

Contribution by
AGENDA, Tanzania
IPEN Anglophone Africa Regional Hub

SAICM implementation in the Anglophone Africa region has slightly improved since 2009. Some countries have initiated coordination mechanisms and activities involving various stakeholders, such as review of instruments on chemicals management, information-sharing sessions, and stakeholder meetings. Activities are both government- and NGO-led. A number of QSP-funded projects both by governments and NGOs are being implemented in individual countries or in a sub-region. However, further work needs to be done to bring in end users and vulnerable communities that are the most affected.

National SAICM Focal Points for Ethiopia, Kenya, South Africa, Tanzania, and Uganda have improved coordination and information communication with stakeholders. In Mauritius, the public is not well informed on most SAICM-implementation activities.

In Nigeria, the state of SAICM implementation is slow, although some key steps and actions are being taking in the area of institutional and legal arrangement.

NGO involvement in some activities and committees has improved in Kenya, Mauritius, Nigeria, Tanzania, and Uganda. The Focal Points in some countries are inviting NGO participation in meetings and workshops, and in drafting or commenting on projects and documents (including review of policies and laws). However, even in Nigeria, Tanzania, and Uganda, where NGO participation is improving, permanent institutional structures for NGOs have not been established. Therefore, even though NGOs are part of some national committees, including the National Steering Committees and Technical Committees, they are not backed by a legal framework.

Furthermore, the coordination between government institutions in some countries is not yet clear, although some committees from different government departments have been formed to address chemicals management. These committees mostly coordinate when there is a donor-funded project to implement.

In relation to mainstreaming chemicals management into development plans (budgeting), most countries have not yet done so,

but commit some funding to some specific activities or projects. In Ethiopia, the government appreciated the ISIP project on e-waste management initiated by IPEN and implemented by PAN-Ethiopia, and therefore financed PAN-Ethiopia for implementation of environmentally sound management of e-waste in four cities of Ethiopia (Addis Ababa, Bahir Dar, Dire Dawa, and Hawassa) for two years since January 2011. The government also financed PAN-Ethiopia to collect human breast milk samples for POPs analysis. Fifty samples from different parts of Ethiopia have since been collected and sent to the WHO laboratory for analysis.

In Tanzania, there are no defined budget items for chemicals management; however, the government has dedicated some funding in specific projects aiming to implement SAICM. Some negotiations are ongoing to include budget lines in chemicals management from the local to central government level.

In Uganda, the only funding that seems to be available for chemical issues is the one under the GEF framework; unfortunately, the government is not speeding the process to make it possible to access funds. In fact, most of the funding under the GEF has not been utilized in the recent past except for small funding under the Small Grants Programme (SGP).

In terms of stakeholder collaboration in the region, NGOs, academia, and other sectors participate in the development of position papers for negotiations in international meetings related to chemicals management, such as Conferences of Parties,

Intergovernmental Negotiating Committee meetings, and the ministerial coordination mechanism and committee of SAICM implementation in Kenya. In Tanzania, NGOs and academia are working in partnership on some SAICM-related activities, including the review of policies and laws, and the translation of relevant documents to make them more user-friendly. In other cases, NGOs invite academia as facilitators to workshops and NGOs and academic organizations/institutions work in collaboration for common positions. In Uganda, coordination among the different partners is still lacking; however, one successful attempt came under the NGO Pro-Biodiversity Conservationists' SAICM project that promoted a national coordination unit composed of government, private sector, academics, and NGOs, although the project does not have a secured budget to regularly convene this unit.

GAPS

Despite some progress in SAICM implementation, significant gaps remain in the region. Some examples of continuing challenges include:

1. Inadequate human and financial resources, and technical capacity for implementation of projects for SAICM implementation
2. Uncoordinated implementation of chemicals management activities by different organizations, government, CSOs, and NGOs
3. Poor enforcement of legislative frameworks for environmental management, particularly chemicals management, leading to many chemicals-related accidents and incidents



Tanzanian field training promoting integrated pest management (IPM) techniques in Moshi, Tanzania.

SPEARHEADING A NATIONAL E-WASTE POLICY IN ETHIOPIA

Pesticide Action Nexus-Association noted the absence of e-waste management plans in the country and developed detailed inventories of computers, mobile phones, refrigerators, and televisions in four major Ethiopian cities. The results are being used to develop a national management plan for e-waste in the country that will include aspects of public awareness-raising and the establishment of e-waste sorting and collection sites.

This initiative began in 2010, when Pesticide Action Nexus-Ethiopia received an IPEN ISIP small grant for an e-waste management awareness-raising project. This proved to be an eye opener for stakeholders from the government, NGOs, academia, research, and private sectors. During the project, Pesticide Action Nexus-Ethiopia carried out a one-month consultation and assessment of the e-waste situation in the country and Ethiopia's national stand regarding e-waste management; a one-day national stakeholders' workshop; and visits to a computer refurbishment center. They also, by request of the government, developed a two-year project proposal on e-waste management in four cities of Ethiopia (Addis Ababa, Bahirdar, Diredawa and Hawassa), which was approved and is currently underway with the federal Environmental Protection Agency.

The small ISIP grant ended up creating a bridge between Pesticide Action Nexus-Ethiopia and the national SAICM focal point, which brought special attention to the emerging issue of e-waste, and motivated development of the larger, four-city e-waste project.

4. Lack of regulations to control and monitor importation and disposal of e-waste and near-end-of-life electronic equipment
5. Limited involvement of the general public, industry, private sector, NGOs, and public interest groups in the discussion and policy development processes, contributing to poor understanding and enforcement of the relevant instruments, including chemical conventions and SAICM
6. Insufficient and unavailable information on chemical safety issues, including insufficient labeling and a lack of information about potentially hazardous chemicals in products, including electronic waste, nanomaterials, the production and use of asbestos-containing products, and industrial releases
7. Insufficient research and promotion of alternatives to chemical pesticides in agriculture and health, including alternatives to the use of DDT for malaria control
8. Continued insufficient and unavailable information and data on chemical safety and toxicity, especially to the small-scale industry and informal sector and especially in a format that can be readily used
9. Lack of efforts to address acid mine drainage associated with mining activities, which is one of the greatest, current concerns in the region relating to groundwater resources
10. Continued large-scale use of pesticides without a meaningful take-back program and EPR implemented by the industry, creating problems with empty containers and obsolete stockpiles of pesticides on top of the existing stockpiles

Poster raising awareness about the dangers of improper lead battery recycling, produced by Eco-Ethics, Kenya, for slum areas around Mombasa where lead battery recycling is performed.



SAICM IMPLEMENTATION BY NGOS IN ANGLOPHONE AFRICA

CSOs affiliated to IPEN have carried out various activities related to the national implementation of the SAICM GPA. Below are some examples of SAICM implementation from NGOs in the region.

SAICM OBJECTIVE	NGO ACTIVITY AND GPA ITEMS	NAMES OF NGOS	COUNTRY
Risk Reduction	Review of policies on mercury, awareness creation on the effects of mercury on human health, and information generation about effective handling of mercury in artisanal mining GPA items: 57	Ecological Restorations	Ghana
	Initiating the establishment of pesticide poisoning reporting chain to the Rotterdam Secretariat, in collaboration with the Ministry of Agriculture, Food and Agricultural Organization, and PAN-UK GPA items: 27, 77	Pesticide Action Nexus—Ethiopia	Ethiopia
	Reduction of HHP formulations through an integrated pest management approach, in collaboration with the Ministry of Agriculture, PAN-UK, and Institute for Sustainable Development GPA items: 27, 29	Pesticide Action Nexus—Ethiopia	Ethiopia
	Reducing impacts of pesticides on human health and the environment in the Ethiopian Rift valley, in collaboration with the Ministry of Agriculture, PAN-UK, and Institute for Sustainable Development GPA items: 24, 27	Pesticide Action Nexus—Ethiopia	Ethiopia
	Environmentally sound management of electrical and electronic waste, in collaboration with IPEN and Environmental Protection Agency GPA items: 69–70, 73	Pesticide Action Nexus—Ethiopia	Ethiopia
	Reducing or eliminating the use of agro-chemical pesticides for ecological organic agricultural production GPA items: 27, 29	Institute for Sustainable Development	Ethiopia
	Fish and community mercury monitoring project in Uganda GPA items: 57	Pro-Biodiversity Conservationists in Uganda	Uganda
	Promotion and organization of participatory trainings in integrated pest management alternatives and ecological agricultural practices, including bio-chemical alternatives to organic chemicals GPA items: 27, 29	Irrigation Training and Economic Empowerment Organization	Tanzania

SAICM OBJECTIVE	NGO ACTIVITY AND GPA ITEMS	NAMES OF NGOS	COUNTRY
Risk Reduction <i>cont.</i>	Promotion of waste prevention through encouraging reusable/recyclable consumer goods and biodegradable products GPA items: 70	Irrigation Training and Economic Empowerment Organization	Tanzania
	Promotion of integrated pest and vector management in communities and schools GPA items: 27, 29, 51	Tanzania Association of Public, Occupational and Environmental Health Experts	Tanzania
	Impact assessment of electronic waste handlers and their livelihood in Lagos, Nigeria GPA items: 47	Sustainable Research and Action for Environmental Development Nigeria	Nigeria
	Mercury-free healthcare in Nigeria: campaign for alternatives to mercury in the health care sector in Lagos State, Nigeria GPA items: 57	Sustainable Research and Action for Environmental Development Nigeria	Nigeria
	Control of effects of chemicals GPA items: 17, 27, 47, 51	Agenda for Environment and Responsible Development (AGENDA)	Tanzania
	Capacity building on handling and final disposal of mercury-containing equipment in health facilities and educational centers in Tanzania GPA items: 57	Agenda for Environment and Responsible Development (AGENDA)	Tanzania
	Training and promotion of best alternative technologies/best environmental practices applications GPA items: 43, 46	Agenda for Environment and Responsible Development (AGENDA)	Tanzania
	Training of metal processing in an Export Processing Zone factory on the appropriate use of personal protective gears while at work; training residents on how to reduce their exposure to lead poisoning GPA items: 16, 57	Eco-Ethics International —Kenya	Kenya
	Assessment of national chemicals management to identify gaps and prioritize action GPA items: 45	groundWork	South Africa
	Decrease of pesticide use in agriculture GPA items: 51	Pesticide Action Network	Mauritius
	Mercury-free schools: awareness raising GPA items: 57	Pesticide Action Network	Mauritius

SAICM OBJECTIVE	NGO ACTIVITY AND GPA ITEMS	NAMES OF NGOS	COUNTRY
Risk Reduction <i>cont.</i>	Towards cleaner production for textile industries in Tanzania, in collaboration with Swedish Society for Nature Conservation GPA items: 43, 45	Environmental, Human Rights Care and Gender Organization (ENVIROCARE)	Tanzania
	Inventory verification of obsolete pesticides (farms and small scale) in Tanzania farms, in collaboration with the National Environment Management Council GPA items: 47	Environmental, Human Rights Care and Gender Organization (ENVIROCARE)	Tanzania
	Reducing the impacts of pesticide use in Kilimanjaro region, in collaboration with PAN-UK GPA items: 50–51	Envirocare	Tanzania
Knowledge and Information	Initiation of a study: Centers of power pesticides regulation in Kenya (at initiation stage) GPA items: 27, 85, 88	Centre for Environmental Justice and Development	Kenya
	Pesticide risk reduction: and the communication of strategy materials developed and used, in collaboration with PAN-UK and Ministry of Agriculture GPA items: 114	Pesticide Action Nexus—Ethiopia	Ethiopia
	E-waste management training and information materials developed and disseminated, in collaboration with IPEN and Environmental Protection Agency GPA items: 161	Pesticide Action Nexus—Ethiopia	Ethiopia
	Electronic and print media being used as a means to reach grass roots communities, in collaboration with PAN-UK, IPEN, and Environmental Protection Agency GPA items: 112, 114	Pesticide Action Nexus—Ethiopia	Ethiopia
	Coordinating the IPEN electronic products working group, in collaboration with IPEN GPA items: 88	Pesticide Action Nexus—Ethiopia	Ethiopia
	Human breast milk sampling as part of the Stockholm Convention report, in collaboration with Environmental Protection Agency, Ministry of Health, and World Health Organization GPA items: 76, 88	Pesticide Action Nexus—Ethiopia	Ethiopia
	Promoting indigenous knowledge on bio-pesticides GPA items: 51, 114	Institute for Sustainable Development	Ethiopia

SAICM OBJECTIVE	NGO ACTIVITY AND GPA ITEMS	NAMES OF NGOS	COUNTRY
Knowledge and Information <i>cont.</i>	Awareness-raising and education on effects of hazardous consumer products to human health and environment in Kenya GPA items: 112	iLima Organization	Kenya
	Analysis of hydroquinone in skin lightening products in Africa and awareness-raising on effects of hazardous chemicals in products to human health and environment GPA items: 88, 112	iLima Organization	Kenya
	Awareness-raising on human exposure and monitoring of mercury emissions from hotspots using Lumex mercury monitoring as well as analysis of mercury content in skin lightening products in Africa GPA items: 85, 112	iLima Organization	Kenya
	Promoting chemical safety of children at work in rural agricultural communities GPA items: 13, 89	Pro-Biodiversity Conservationists in Uganda	Uganda
	Awareness-raising on the dangers of chemicals used in indoor residual spraying (IRS) for malaria control GPA items: 89	Uganda Network on Toxic Free Malaria Control	Uganda
	An assessment on the impact of DDT on malaria control in Oyam and Apac Districts in Northern Uganda GPA items: 114, 116	Uganda Network on Toxic Free Malaria Control	Uganda
	Organization of research results related to alternative pest control (both chemical and non-chemical) and crop protection measures GPA items: 114, 116	Irrigation Training and Economic Empowerment Organization	Tanzania
	Interpretation and application of knowledge into Kiswahili language on the hazards, risks and safe use of chemicals; and the collection, analysis, documentation, and publication of chemical safety-related information among social partners through public media GPA items: 112, 114, 116	Irrigation Training and Economic Empowerment Organization	Tanzania
	Community-based awareness-raising workshops on harmful effects of the re-use of chemical pesticides containers GPA items: 116	Sustainable Research and Action for Environmental Development Nigeria	Nigeria

SAICM OBJECTIVE	NGO ACTIVITY AND GPA ITEMS	NAMES OF NGOS	COUNTRY
Knowledge and Information <i>cont.</i>	Global study to determine lead in paints in Nigeria and associated campaign for its removal GPA items: 89	Sustainable Research and Action for Environmental Development Nigeria	Nigeria
	Production and dissemination of public awareness-raising materials (including brochures, posters, and flyers) containing the message “Stop lead poisoning in slums” GPA items: 89	Eco-Ethics International —Kenya	Kenya
	Development of policy brief, posters, and flyers to inform communities and policymakers on hazards due to pesticides in Tanzania GPA items: 112, 114	Tanzania Association of Public, Occupational and Environmental Health Experts	Tanzania
	Publication of report on reduction of pesticide use in agriculture GPA items: 50, 51	Pesticide Action Network	Mauritius
	Design and production of training modules on mercury in secondary schools GPA items: 57, 112	Pesticide Action Network	Mauritius
	Demonstrating and promoting best techniques and practices for reducing health care waste to avoid environmental releases of dioxins and mercury GPA items: 112	Agenda for Environment and Responsible Development (AGENDA)	Tanzania
	NGOs contribution to African Stockpiles Project sustainability in Tanzania, training of local government officers, school teachers, and empty containers management and labeling GPA items: 51, 70, 112, 114	Africa Stockpiles Project (ASP) Network-Tanzania	Tanzania
	Preparation of training manuals on botanicals GPA items: 114	Environmental, Human Rights Care and Gender Organization	Tanzania
Governance	Involvement in the national discussion for the development of pesticide registration and control proclamation and regulation, in collaboration with the Ministry of Agriculture GPA items: 186, 195	Pesticide Action Nexus—Ethiopia	Ethiopia
	SAICM implementation in East Africa: Law reform and capacity building for sound chemicals management in Uganda, Tanzania, and Kenya GPA items: 19, 167, 186	AGENDA, iLima Organization, National Association of Professional Environmentalists	Kenya, Tanzania, Uganda

SAICM OBJECTIVE	NGO ACTIVITY AND GPA ITEMS	NAMES OF NGOS	COUNTRY
Governance <i>cont.</i>	Provision of input to Federal Environmental Protection Agency for the formulation of national policy on life-cycle management of e-products, in collaboration with IPEN and Environmental Protection Agency GPA items: 195	Pesticide Action Nexus—Ethiopia	Ethiopia
	Participation as an observer to the 5th Joint Meeting on Pesticide Management and revision of the FAO code of conduct, in collaboration with PAN-UK GPA items: 186, 206	Pesticide Action Nexus—Ethiopia	Ethiopia
	Strengthening of representation in government committees and carrying out and monitoring of SAICM implementation plans GPA items: 186, 206	Irrigation Training and Economic Empowerment Organization	Tanzania
	Participation in stakeholder meeting to review pesticides legislation in Morogoro GPA items: 186, 206	Tanzania Association of Public, Occupational and Environmental Health Experts	Tanzania
	Implementation of regional project to develop appropriate strategies for identifying sites contaminated by chemicals listed in Annexes A, B, and/or C of the Stockholm Convention in Nigeria and Ghana GPA items: 47, 196	Sustainable Research and Action for Environmental Development Nigeria	Nigeria
	Collaboration with the National Environmental Management Authority in the inspection of a factory and advocating for better operation in compliance with the Environmental Management and Coordination Act of 1999 GPA items: 186, 206	Eco-Ethics International—Kenya	Kenya
Capacity Building	Education of small scale gardeners on safe pesticides management and handling along Lake Victoria, Kenya GPA items: 256	Centre for Environmental Justice and Development	Kenya
	Trainings on pesticide management and e-waste management in different parts of Ethiopia, in collaboration with PAN-UK, IPEN, Environmental Protection Agency, and Ministry of Agriculture GPA items: 214, 256	Pesticide Action Nexus—Ethiopia	Ethiopia

SAICM OBJECTIVE	NGO ACTIVITY AND GPA ITEMS	NAMES OF NGOS	COUNTRY
Capacity Building <i>cont.</i>	Trainings about and support for integrated pest management (eco-toxicology skills) and alternatives to waste minimization and increasing resource efficiency, including zero waste resource management, waste prevention, and substitution to reduce the volume and toxicity of discarded materials GPA items: 214, 256	Irrigation Training and Economic Empowerment Organization	Tanzania
	Training community in self-surveillance and reporting of pesticide poisoning incidences in Lake Eyasi Basin, Karatu and Kilolo, Iringa GPA items: 256	Tanzania Association of Public, Occupational and Environmental Health Experts	Tanzania
	Training the residents of Owino Uhuru Slums and the workers of Metal Refinery Export Processing Zone (EPZ) on the health and environmental effects of lead, and the formation of a community group “Owino Uhuru Empowerment Group” to monitor the emission status of the factory located close to their residential area GPA items: 256	Eco-Ethics International—Kenya	Kenya
	Trained trainers on mercury health effects GPA items: 256	Pesticide Action Network	Mauritius
	Helped planters and agricultural workers in understanding the harmful effects of chemical pesticides on health and the environment GPA items: 256	Pesticide Action Network	Mauritius
	Trained farmers on preparation and use of organic pesticides GPA items: 256	Environmental, Human Rights Care and Gender Organization	Tanzania
Illegal Traffic	Assessment and notification of illegal pesticide trades and end of life electronics importation, in collaboration with Ministry of Agriculture and the Environmental Protection Agency GPA items: 272, 273	Pesticide Action Nexus—Ethiopia	Ethiopia



CENTRAL AND EASTERN EUROPE (CEE)

Contributions by
ARNIKA Association, Czech Republic
IPEN CEE Regional Hub

The IPEN CEE region is divided into two parts: EU member states and non-EU states. EU member states include Bulgaria, Czech Republic, Hungary, Estonia, Lithuania, Latvia, Poland, Romania, Slovakia, and Slovenia. Non-EU countries include Albania, Belarus, Bosnia and Herzegovina, Croatia (EU accession country), Macedonia (EU accession country), Montenegro, Serbia (including Kosovo), and Turkey (EU accession country). While implementation of chemical safety legislation and its enforcement is governed according to EU rules in the northwestern and central part of our region, it is quite different in its eastern and southeastern part.

Generally NGOs in the CEE region are not usually part of a government implementation committee or process and the level of encouragement of their involvement is very limited. Involvement of NGOs in developing strategies and openness of governments to involve NGOs in their SAICM implementation activities are in general low. However, some NGOs have been carrying out activities directly focused on SAICM implementation in their countries and in the region.

According to experiences of NGOs from the CEE region, National SAICM Focal Points seem to be accessible. At the same time NGOs rarely contact them, as activities focused primarily and explicitly on SAICM implementation are not common in the region.



Aging pesticide storage, Durrës, Albania

Also, the NGOs are probably not motivated to work with Focal Points or are not aware of possible benefits of communicating with the Focal Points. However, some NGOs do engage with them, for example, NGOs are in good contact with their national Focal Points in Hungary and Albania.

EU countries have to meet many obligations regarding chemical safety rules. There are specific EU directives (needed to be introduced into the national legislation by national laws) or regulations (directly applied to national legislation). This includes the regulation on Registration, Evaluation and Authorization of Chemicals known under its abbreviation as REACH. Unfortunately, it does not mean that SAICM is fully implemented in EU member states. For example, the Pollutant Release and Transfer Register (PRTR) in the Czech Republic is under continuous pressure from industry because it also requires chemical-specific reporting on wastes. Waste management regulation is under pressure within the EU in general (e.g., limit values for dioxins).

SAICM must also be viewed as a process by which developed countries improve chemicals management. All signatory countries of SAICM made a firm commitment in 2006 at ICCM in Dubai that the sound management of chemicals is essential to achieve sustainable development and that concerted actions need to be taken to reach the 2020 goal. This means that developed countries should be establishing inter-ministerial coordination committees, as well as involving civil society in decision-making, fully protecting industrial and agricultural workers, and implementing sufficient policies and programs to promote safe and effective alternatives and substitutes to persistent, bioaccumulative, and toxic substances (PBTs) as called for in the SAICM GPA, among others.

Chemical safety in the region is improving in general, but it could be faster, according to NGOs.

GAPS

A number of significant gaps for SAICM implementation in the CEE region remain to be addressed. There are still sites contaminated by industrial activities where there is a need for cleanup. Contaminated sites include both working enterprises and obsolete factories and dumpsites. Many landfills in both EU and non-EU countries are in unsatisfactory conditions (for example, missing drainage systems), which is especially problematic when combined with the low level of hazardous waste separation. Clean-up activities can be considered slow and non-transparent due to insufficient enforcement and insufficient finances available. Also, there is a lack of compulsory action plans.

Inadequate waste management and weaknesses of new waste legislation regarding chemical safety are a significant problem. The waste framework directive and Persistent Organic Pollutants (POPs) regulations allow the release of high volumes of POPs through the waste flow, promotion of technologies producing new

POPs (such as incineration of wastes), and more open borders to waste movement. Also, e-waste is certainly an important issue, mainly in non-EU and new EU member countries. Procedures and facilities for adequate treatment for this emerging type of waste are still lacking and their enforcement is weak. Also in the EU, the procedures for collection and management of e-waste are sometimes not clear enough. A significant amount of e-waste continues to be mixed with municipal waste in both EU and non-EU countries.

Another example of a gap in handling waste properly is the European PRTR, in which waste is not required to undergo chemical-specific reporting, but only in total amounts of hazardous waste generated by facilities reporting to PRTR. European PRTR also does not cover all industries, but by majority only those for which Integrated Pollution Prevention and Control (IPPC) permits are required.

EU policy on POPs is heavily oriented on air releases mainly and does not pay enough attention to other pathways of pollution by POPs.

Additionally, there are still double standards in chemical policy between EU and non-EU countries. The non-EU countries still

CIVIL SOCIETY PARTICIPATION IN BELARUS

The Belarusian NGO Center for Environmental Solutions (CES), in partnership with Arnika Association from the Czech Republic, have been implementing a project focused on strengthening public participation on environmental decision-making and SAICM implementation in Belarus. Through this project, a chemical safety consultation center that serves concerned citizens has been opened in Minsk, which is an important step forward in creating broader availability of information.

Furthermore, CES is working on the establishment of a network of environmental NGOs. One of the activities the network has focused on to date is the environmental and health hazards of incinerators. A meeting with officers of relevant ministries was held, a media event was organized, and a press release was circulated. These activities helped to postpone the building of a planned incinerator and supported aims of deeper environmental assessment.

As CES is an active NGO participating in the Belarusian National SAICM Committee, their work is especially vital in advancing robust civil society participation and contributions to the national SAICM implementation efforts.



Center for Environmental Solutions, conducting a press conference in Minsk, Belarus to launch a chemical safety info center

have different (usually weaker) legislative and other measures to control chemicals. In these countries, the lack of clear communication and information sharing procedures between various state institutions and the absence of an integrated program of chemicals management are problems.

There is also a need for strengthening a multistakeholder approach to develop chemicals management strategies on national level. Although communication among stakeholders might be relatively vital, the tools and formal procedures for involvement of the public and NGOs in development of strategies are weak or lacking. This fact resonates with increasing lack of funding for civil society activities due to the economic situation of European countries. The lack of financial sources results in elimination of civil society services and activities. It is also an obstacle in building capacities of civil society and independent experts. This problem is compounded due to budget cuts in some countries' state environmental and/or health institutions.

Lack of regular monitoring data and their low accessibility by the public is common in most of the non-EU countries in the region. This is also due to the lower capacity of laboratories available in these countries. However, even the situation in some EU countries is not satisfactory. Usually there's a problem with a low emphasis on awareness-raising, the ability of public to use the information, and the adequacy of monitoring.

In general, there are still many HHPs being used; many hazardous substances (like EDCs) are on the market, in cosmetics, food, and other everyday products (pesticides, phthalates, triclosan, etc.); multiple pesticide residues can still be found in food (especially in food from non-EU countries) and substitution within REACH is not happening.

SAICM IMPLEMENTATION BY NGOS IN CENTRAL AND EASTERN EUROPE

In general, actions of NGOs in the CEE region focused on the issues connected to SAICM are rather limited. We assume that this is mainly due to the low availability of funding for such activities and by the high popularity and attractiveness of other environmental issues (energy, global warming, etc.) among the public and NGOs in the region. However, there are still a number of NGOs systematically working on the issue of chemicals management. Most of the activities fall under the Knowledge and Information category, but there is also a significant amount of work focused on Capacity Building and Governance.

CSOs affiliated to IPEN have carried out various activities related to the national implementation of the SAICM GPA. Below are some examples of SAICM implementation from NGOs in the region.

SAICM OBJECTIVE	NGO ACTIVITY AND GPA ITEMS	NAMES OF NGOS	COUNTRY
Risk Reduction	Pilot project of e-waste collection in Minsk GPA items: 70,72, 73	Center for Environmental Solutions	Belarus
	Surface and drinking water monitoring (found illegal pesticide pollution in drinking water in Budapest) GPA items: 47	Clean Air Action Group and Centrum pre trvalo-udrzatelne alternativy (Center for Sustainable Development Alternatives)	Hungary, Slovakia
	Initiated EU infringement procedure against polluting red mud site at Almasfuzito soil and water measurements around red mud sites: Kolontar and Almasfuzito (found many polluted sites) GPA items: 78	Greenpeace CEE—HU	Hungary
	Project focused on chemicals in medical equipment and waste (EMAS for hospitals) GPA items: 54	Arnika	Czech Republic
	Waste prevention, a necessary step towards sustainable development in Visegrad countries GPA items: 73	Friends of the Earth—SPZ	Slovakia
	Training to farmers and to NGOs on pesticide reduction and pesticide alternatives GPA items: 51	Clean Air Action Group and Pesticide Action Network Europe	Hungary, other EU countries
Knowledge and Information	Research work on vaccines in Macedonia, resulting in preparing an issue paper GPA items: 82	Eco-Sense	Macedonia
	Development of five fact sheets on mercury GPA items: 82	Eco-Sense	Macedonia
	Conducting hair sampling of 33 people for mercury levels GPA items: 82	Eco-Sense	Macedonia

SAICM OBJECTIVE	NGO ACTIVITY AND GPA ITEMS	NAMES OF NGOS	COUNTRY
Knowledge and Information <i>cont.</i>	Dissemination of consumer advice on lifestyle changes for natural decrease of mercury contamination GPA items: 82	Eco-Sense	Macedonia
	Study of public awareness about lead contamination around an old battery factory in Uznova GPA items: 157	EDEN Center	Albania
	Awareness-raising campaign for local inhabitants about risks connected to former used lead batteries factory in Berat GPA items: 157	EDEN Center	Albania
	Short investigative movie on Vlora PVC plant GPA items: 105, 109	EDEN Center	Albania
	Assessment of chemicals in food products and awareness raising campaign GPA items: 108, 111	EDEN Center	Albania
	Analyses of PVC wallpapers and floor coverings GPA items: 135	Arnika	Czech Republic
	Assessment of chemicals (PFCs, BFRs) in Czech fish and river sediments GPA items: 135	Arnika	Czech Republic
	Assessment report of the situation of e-waste management in Belarus GPA items: 85, 132, 135, 162	Center for Environmental Solutions	Belarus
	Awareness raising activities on e-waste GPA items: 112	Za Zemiata	Bulgaria
	Awareness-raising events and translation of Women in Europe for a Common Future's (WECF's) chemicals guides into local languages GPA items: 112	WECF, Baltic Environmental Forum, Women's Movement for Integral Development, Journalists for Women and Children's Rights and Environmental Justice, Resource Center Leskovac	Albania, Macedonia, Serbia
	Establishment of a public information center for chemical safety GPA items: 163	Center for Environmental Solutions, Arnika	Belarus

SAICM OBJECTIVE	NGO ACTIVITY AND GPA ITEMS	NAMES OF NGOS	COUNTRY
Knowledge and Information <i>cont.</i>	The Fight to Know? Substances Of Very High Concern and The Citizens' Right To Know Under Reach (analyses for phthalates in consumer products and right to know exercise under REACH) GPA items: 89	Clean Air Action Group (part of larger EU report with BUND, SSNC, WECF and EEB)	Hungary
	Measurements and press action against illegal POP storage in Gdansk next to the Baltic Sea GPA items: 161	Greenpeace CEE—Poland	Poland
	Information to the public on pesticides, water, and drinking water pollution GPA items: 114	Clean Air Action Group and Centrum pre trvalo-udrzatelne alternativy (Center for Sustainable Development Alternatives)	Hungary, Slovakia
	Awareness-raising and a demonstration against the planned giant cyanide gold mine in Rosia Montană GPA items: 135	Greenpeace	Romania
	Information on pesticide residues in food to the public, to supermarkets and to decision makers GPA items: 114	Greenpeace CEE-HU	Hungary
	NGO comments on the National Action Plan on Sustainable Pesticide Use GPA items: 160	Greenpeace CEE-HU and Clean Air Action Group	Hungary
	Multistakeholder trainings on products and chemical safety in Albania, Serbia, and Macedonia GPA items: 163	WECF, Baltic Environmental Forum, Women's Movement for Integral Development, Journalists for Women and Children Rights and Environmental Justice	Albania, Serbia, Macedonia
	Four rounds of fruit and vegetable testing (for pesticides) GPA items: 114	Clean Air Action Group and Pesticide Action Network Europe	Hungary, other EU countries
Governance	Development of waste action plan for the city of Vrbovec GPA items: 69, 72–73, 262	Zelena Akcija	Croatia
	Assessment of effects of Croatian membership in EU on issues of health and environment GPA items: 165	Zelena Akcija	Croatia

SAICM OBJECTIVE	NGO ACTIVITY AND GPA ITEMS	NAMES OF NGOS	COUNTRY
Governance <i>cont.</i>	Campaign against reduction of the Czech Integrated Pollution Register GPA items: 206	Arnika	Czech Republic
	Meetings with Belarusian authorities regarding public involvement in decision-making about planned building of incinerators GPA items: 206	Center for Environmental Solutions, Arnika	Belarus
Capacity Building	Seminar with four lectures on pesticides prevention and integrated pest management followed by a booklet for farmers GPA items: 223, 255	Institute for Rural Development and Ecology	Croatia
	Development of a 23-page manual on integrated pest management for producers GPA items: 255–256	Institute for Rural Development and Ecology	Croatia
	Waste management symposium and waste action plan workshop GPA items: 262	Zelena Akcija	Croatia



EASTERN EUROPE CAUCASUS AND CENTRAL ASIA (EECCA)

Contributions by
Eco-Accord
IPEN EECCA Regional Hub

Since 2009, EECCA countries shifted to a qualitatively new level of implementation of SAICM. In the period of 2006-2009, SAICM-related activities were of a rather fragmentary nature, and only separate projects were implemented that were heavily dependent on available funds. Projects generally ceased after termination of their financing. In the majority of cases, the countries lacked understanding of the need to apply a more comprehensive and structured approach for achievement of sound chemicals management. However, the situation started to improve gradually after the second session of the International Conference on Chemicals Management in 2009.

In several EECCA countries, coordination centers for SAICM implementation were established under ministries and agencies in charge of chemicals management. Some coordination centers seek to cooperate with NGOs.

EECCA countries also started to develop their national legislation for long-term strategic planning in to advance chemical safety. National environmental policy strategies incorporate objectives, key priorities, and dimensions of national environmental policy and are accompanied by development of draft long-term National Environmental Action Plans.

The development of national chemical management profiles was an important step in the establishment of national chemical security policies – the profiles entail comprehensive surveys or existing national legal, institutional, administrative, and technical infrastructures associated with rational use of chemicals. Such profiles were developed in Armenia, Belarus, Georgia, Kyrgyzstan, Kazakhstan, Moldova, and Uzbekistan. In those countries, development of national profiles allowed the governments to ascertain/identify existing and potential chemicals-related problems, as well as available options to address the problems. The national profiles also allowed identification of gaps or shortcomings of existing systems, thus making initial steps in defining areas for future efforts to improve national legislative frameworks. The profiles revealed potential duplicities in control systems and other manifestations of inefficiency hindering rational use of already available resources.

A major step forward in realization of countries' abilities to implement SAICM was made in the course of national assessments of SAICM implementation capacity (National SAICM Capacity Assessments). Such assessments were produced in Georgia, Kyrgyzstan, Kazakhstan, and Uzbekistan. Relevant documents

incorporate Assessments of National Management Frameworks and Assessments of Capacity to Address Priority Problems of Sound Chemical Management.

In recent years, NGOs were increasingly active in implementation of SAICM-related projects. Since 2009, 16 projects were implemented in EECCA countries, including Armenia, Azerbaijan, Georgia, Moldova, Ukraine, Russia, Tajikistan, Kazakhstan, Kyrgyzstan, and Uzbekistan.

NGOs often initiated mobilization of funds of international donor institutions for their countries. As an example, we may refer to the initiative of NGOs of Tajikistan and Kyrgyzstan for development of national systems of chemical classification and labeling with their eventual harmonization with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS). These projects were approved by the Trust Fund of the SAICM QSP. Besides that, in response to an initiative of Tajikistan NGOs, the GEF SGP approved a project on analyzing and strengthening the national environmental policy on mercury pollution. These three projects were supported by national SAICM coordinators of Kyrgyzstan and Tajikistan.

Intensive activities of NGO-run SAICM focal points promoted the growing attention of governments to problems of toxic environmental contamination. As a result, Chemical Safety Commissions were established in several EECCA countries with the participation of NGO representatives. For example, in 2009, in Armenia, a SAICM Steering Committee was established under the Ministry of Nature Protection, and a specialized commission was established under the Ministry of Emergency Response to address safety problems of the burial site of obsolete and banned pesticides. The Ministry of Urban Development of Armenia established a commission in charge of municipal waste collection, transportation and neutralization. It is worth emphasizing that representatives of NGOs were incorporated into all the above Armenian commissions. In July 2012, in Kyrgyzstan, a Coordination Commission was established to facilitate safe management of chemicals. In addition to the first deputy PM and other deputy ministers, the commission also includes representatives of NGOs.

Such active participation of NGOs in activities of governmental chemical safety commissions promotes higher awareness of NGOs and the general public on different on-going and planned national processes and improves transparency of the decisions made. In addition, NGOs have opportunities to promote their opinions actively and to insist on their positions at the high governmental level. For example, the Russian NGO Eco-Accord developed recommendations for public awareness-raising on POPs; the recommendations were incorporated into the Russian National Implementation Plan of the Stockholm Convention. In particular, Eco-Accord proposed to establish an Information Consortium on POPs and Implementation of the Stockholm Convention with participation of national authorities, NGOs, representatives of

industries, local authorities, academic community, and international organizations. Eco-Accord's recommendations particularly focused on synergies of chemical conventions and SAICM. These materials were presented at the session of the Inter-agency Working Group on the Stockholm Convention in March 2012 and were included into the draft of the Russian National Implementation Plan under the Stockholm Convention on POPs.

NGOs participated actively in the development and discussion of papers on chemical safety during the establishment of the regulatory framework of the EurAsEC Customs Union. In particular, the Center "Cooperation for Sustainable Development," being part of the Working Group on the safety of chemical products, was involved in the development of technical regulations of the EurAsEC Customs Union for the safety of chemical products (which introduces the basic principles of the GHS within the Customs Union), the safety of synthetic detergents, as well as paints and varnishes. In the latter document, proposals on the elimination of lead in paint were made.

In October 2010, NGO «Ecoproject» (Belarus), Local Self-Government Development Centre (Kazakhstan), «Independent Ecological Expertise» (Kyrgyzstan), and Eco-Accord (Russia) initiated a CSO Forum on Strengthening Capacities of Civil Society Organizations for National and Regional SAICM Implementation in the EECCA region. More than 40 NGOs working on SAICM implementation participated in the Forum. The discussion was based on the following main documents: Needs Assessment and Identification of Mechanisms for Efficient Dissemination of Information on SAICM among the General Public of the Republic of Belarus, Kazakhstan and Kyrgyzstan; Introduction to SAICM and latest achievements; SAICM and three chemical conventions, synergy and COP outcomes; EECCA NGO participation in the implementation of SAICM at the international, regional, national, and local level; NGO position at SAICM regional meetings and other meetings related to SAICM implementation; and NGO resolutions on SAICM emerging policy issues. In addition, a strategy for involvement of NGOs from Belarus, Kazakhstan, and Kyrgyzstan on SAICM implementation for the period of 2011-2020 was presented. A resolution was signed as the forum outcome which was further presented to the EECCA Ministers on Environment at the Ministerial Environment for Europe Conference held in September 2010 in Astana.

In October 2011, Independent Ecological Expertise NGO (Kyrgyzstan) developed its draft Concept for Development of Comprehensive Measures for Kyrgyz Republic for Mercury Management at All Stages of its Life Cycle. The document was circulated among CSO representatives and submitted to the government for review. Later on, the draft concept was posted on the web-site of the KR State Agency for Environment and Forestry and other websites.^{1 2}

1 www.nature.kg

2 www.caresd.net, www.ekois.net, www.eco-expertise.org, www.nature.kg

FIRST STUDY OF BISPHENOL A IN FOOD IN RUSSIA

Prior to a study carried out by the NGO Chapaevsk Medical Association, data about bisphenol-A (BPA) in products sold to the public was unavailable in Russia. The Chapaevsk Medical Association therefore measured the endocrine disrupter BPA in 21 samples from three cities.

They first developed an assay using Gas Chromatography-Mass Spectrometry (GC-MS) for BPA analysis with good sensitivity and accuracy. Following this, they collected food samples from grocery stores in Moscow, Samara, and Chapaevsk.

The analysis of the food samples showed that BPA was identified in 17 of 21 samples (81%), noting the highest levels were found in canned (tin) food.

High levels of BPA were also found in baby food and in a baby's dummy (pacifier / soother) (17,04 ng/g). None of the samples were labeled to indicate the presence of the toxic chemical.

Chapaevsk Medical Association compared the results to a study published in Canada and learned that the average level of BPA in Russia was similar (slightly higher) to that of the level of BPA for beverages and infant formulas in Canada.

Chapaevsk Medical Association reported the results to the authorities from the Ministry of Natural Resources and the Environment as well as to experts from the Ministry of Health and Social Development.

GAPS

Notwithstanding some progress of activities to advance chemical safety efforts in EECCA region, there are some specific problems that need to be addressed urgently. Main problems that prevent efficient SAICM implementation in many EECCA countries include the following:

1. Lack of national SAICM coordinators that might bridge efforts of different agencies and organizations for development of chemical safety systems.
2. Lack of national centers for synergies of chemical conventions and SAICM.
3. Poor coordination of activities of different ministries, agencies and organizations in charge of chemical management and ensuring chemical safety.
4. Gaps in collection, exchange, and provision of information

on chemicals in relations between different agencies and organizations and in the provision of the information to the general public.

5. Low public participation in substantive decision-making on matters related to ensuring chemical safety.
6. Lack of monitoring of chemical contamination of the environment as well as timely and accurate information on hazardous emissions and discharges from fixed pollution sources to air, water, and soils.
7. Lack of systems for inventorying, classifying, recycling, neutralizing, and eliminating industrial waste (including chemicals waste) that often pose public health hazards and contaminate the environment. Substantial accumulation of stockpiles of chemical waste is observed (including toxic waste).
8. Lack of systems for classification and labeling of chemicals, as well as registers of potentially hazardous chemical and biological substances, such situations substantially complicate mitigation of adverse health and environmental impacts of hazardous toxic substances.
9. Poor technological and laboratory capacity, preventing epidemiological research studies on health impacts of chemicals and analysis of toxic contents in products (including consumer goods). The countries have almost never assessed risks of health impacts of hazardous chemicals, and as a result people are more vulnerable to impacts of some chemicals.

While numerous national level programs and projects were initiated in EECCA countries, general results to ensure chemical safety in the region still remain poor. The underlying causes are associated with uncoordinated activities of governmental agencies, their reluctance to share information and duplication of many efforts – all these factors hinder progress in addressing the problem. On the one hand, the case of the destroyed pesticide burial site in Armenia may be considered as a positive example – monitoring

was ensured and the burial site was temporarily sealed after its destruction. However, on the other hand, the case demonstrated how long it took to adequately respond to a threat that entailed serious environmental contamination.

The majority of EECCA countries lack mechanisms to discuss lessons learned in the course of implementation of projects and programs. All EECCA countries conducted primary inventories of their stockpiles of banned and obsolete pesticides in the early years of this century but later work in this area declined. Repeated inventories in some countries revealed substantially higher amounts of banned and obsolete pesticides compared to earlier data. NGOs provided substantial information about real amounts of obsolete pesticides. Projects that helped NGOs to provide additional information on obsolete pesticides were implemented in Armenia, Azerbaijan, Russia, and Ukraine. However, the situation is still far from being settled. No complete elimination of big obsolete pesticide burial sites and stockpiles has been conducted. It is still necessary to focus on problems of long-term pesticide contamination of soil, water, and food caused by numerous pesticide storages at national territories, as well as the elimination of large-scale pesticide burial sites.

Environmental agencies of EECCA countries have difficulty controlling the import of hazardous chemicals and contamination of national territories by pesticides and other chemicals, including phenols, heavy metals, etc. It is necessary to address the problem of management of medical, household, and electronic waste, as well as the problem of control of quality of imported food products, toys, and consumer goods.

The problem of mining and export of raw materials is equally grave in EECCA countries. For example, Geopro Mining, Vallex Group, Allumin Corporation, Geotim, Deno Gold Mining, and Cronimed Mining extract mineral resources in Armenia causing economic and irreparable environmental damages. These companies operate open cast mines with all associated consequences, including the contamination of soils, air, and water, as well as adverse health impacts. It is worthwhile to note a new and disturbing trend observed in Armenia: new mining sites are launched in protected territories and in forested areas. The industry receives licenses for new mining facilities without prior consultation with the general public and local residents, thus ignoring the human right to safe and healthy environments.

Another important chemical security problem is associated with regular releases of toxic chemicals to the ambient air and the accumulation of toxic waste. For example, according to the State Committee for Statistics of Uzbekistan, the annual generation of consumption and production waste in the country reaches more than 100 million tons, with over 14% comprised of toxic waste. In Ukraine, according to expert estimates, the overall amount of accumulated industrial waste reaches more than 25 billion



Chapaevsk Medical Association sampled foods for bisphenol A (BPA) finding the highest levels of BPA in baby foods and canned foods.

tons, covering an area of over 160 thousand hectares. The level of industrial pollution (waste per land area) in Ukraine is 6.5 times higher than in the U.S. and 3.2 times higher than in EU countries. The situation in Azerbaijan is also serious. According to findings of a project implemented by NGOs in the framework of SAICM, the country annually generates over 1.5 million burned, broken, and unusable fluorescent bulbs. However, these mercury-containing devices are still disposed of in municipal landfills (sometimes even in illegal waste dumps), where they are broken and release their mercury contents into the soil.

The problem of mercury contamination by broken mercury-containing instruments is rather acute in all EECCA countries. In particular, according to the Institute of Mineralogy, Geochemistry, and Crystal Chemistry of Rare Elements in Russia, every year from 1998 to 2002 up to nine million mercury-containing thermometers were broken, releasing about 18 tons of metal mercury. Application of mercury-containing bulbs and thermometers in household settings and childcare and public health facilities results in numerous cases of mercury contamination. As budgetary facilities (education, public health, and culture facilities) lack sufficient funds, they cannot transfer burned mercury-containing fluorescent bulbs to specialized utilization facilities. As a result, these bulbs are accumulated and stored in inadequate sanitary conditions. A similar situation is observed at many industrial facilities that accumulated serious stockpiles of such bulbs for several years (from 150 to several thousand bulbs).

The problem of collection and recycling of e-waste is also very serious in the EECCA countries. In particular, in Kazakhstan, producers and suppliers of electrical and electronic waste are not responsible for collection and disposal of waste. As a result, e-waste ends up in municipal landfills and continuously pollutes ground-water and air during smoldering and toxic chemical degradation. In the meantime, citizens and business companies are interested to delivering e-waste to companies that recycle. To address the issue of sound e-waste management, the principle of EPR should be included into national legislation of all EECCA countries.

Uncontrolled waste collection and processing pose serious health and environmental hazards, as does the incineration of municipal, industrial, and medical waste (a source of releases of dioxins and furans). Many EECCA countries still lack facilities for organized waste collection, separation, and processing. All types of waste (including wastes with hazardous substances) are collected in major cities at landfills, then covered by soil or incinerated. In many EECCA states, there is no system of waste inventory or waste classification, nor is there waste recycling and safe disposal. In some countries, the problem of organic waste at landfills was partially resolved by methane generation and its use as a fuel, but inorganic waste continues to accumulate, facilitating infiltration of hazardous substances to soil and then to water.

The problem of stockpiles of obsolete pesticides in EECCA countries is associated with a grievous heritage of political leadership of the former USSR who sought to ensure total “chemicalization” of all economic sectors. Many countries of the region inherited tens of thousands of tons of obsolete pesticides that, like “delayed action bombs,” now pose serious health and environmental hazards to all EECCA countries and their neighbors. From 2008 to 2010, research studies were conducted in the course of the World Bank project “Obsolete pesticides technical study in Kyrgyz Republic, Republic of Tajikistan and the Republic of Uzbekistan” at burial sites of obsolete pesticides “Navruz” and “Yangibazar” in Surkhandaryinskaya and Navoininskaya oblasts of Uzbekistan. The studies revealed serious problems, including the technical quality of pesticide storages and 13 burial sites, the quality of packaging materials for hazardous chemicals, cases of intrusion into burials, and the application of pesticide packaging for household purposes. It is clear that awareness-raising activities in the sphere of chemical safety are ineffective and local residents are not duly informed of the adverse health and environmental impacts of pesticides.³ The problem of pesticide-contaminated drums is considered as a serious one in EECCA. Local citizens often use empty drums to store potable water, vegetable oil, or flour, as well as other types of food and animal feedstuff. Drums are partially thrown to the landfills, including illegal landfills. There have been cases of acute poisoning among people who used pesticide-contaminated drums for their household needs. Livestock poisoning was also registered in Tajikistan as a result of pesticide-contaminated drums use. According to the available information in Tajikistan, local citizens use about 40,000 pesticide-contaminated drums. In the frame of GEF/UNEP project on the development of National Implementation Plan to the Stockholm Convention on POPs in Tajikistan, 264 samples of missed pesticides and contaminated soils were analyzed. Mainly DDT and its metabolites were diagnosed in the samples. In some regions, many samples also contained aldrin, dieldrin, endrin, HCB, and heptachlor. Thus preliminary inventory revealed 17.55 tons of DDT as well as 8,266.6 kg of other POPs pesticides. Further inventory is needed to obtain more accurate data as well as analyze the health status of people affected by obsolete pesticides. In the frame of the IPEN project in Tajikistan, a pesticide burial site (including DDT-based pesticides) in Vakhsh district of the country was observed. The fairly poor state of the site was revealed: the burial site was looted and the toxic chemicals are easily accessible. The burial site was not guarded, and it was not even fenced.

Particular concerns are associated with practically inactive systems of public information on hazardous toxic chemicals in consumer goods, including items for children and toys. Huge amounts of substandard goods reach EECCA countries by different ways, including children’s toys and other items for children’s use; however, almost no information is available on

³ <http://www.adb.org/documents/translations/russian/lss-strategy-ru>.

contents of hazardous chemicals in these goods. The EECCA market is dominated by imported Chinese toys. Most often the consumers complained of the following: bad smell, “easily crumbled,” “electrical disturbance,” “flammable,” and color loss. Usually toys are only analyzed for the presence of toxic chemicals after consumer request. In the majority of EECCA countries, regulation allows both uncontrolled operations of minor producers and import of small number of toys by private businessmen. The same troubling situation is observed in the case of cosmetics. For example, according to results of a research study conducted by Armenian Women for Health and Healthy Environment NGO, mercury was found in 82 of 100 samples of cosmetic items (skin-bleaching creams, soap, etc.), but the packaging provided no information on mercury contents.

Having serious concerns in connection with inflow of toys and other goods for children containing hazardous chemicals to EECCA markets, NGOs of the region issued a Statement to governments of EECCA countries, requesting:

- to ensure that national legislative acts meet the needs of guaranteed chemical, toxicological, and hygienic safety of toys’ contents
- to ensure availability of a sufficient laboratory capacity allowing to control compliance of all batches of children’s toys with the due applicable regulations
- to ensure marking of toys with clear description of their chemical composition and recommendations on their safe use and disposal
- to maintain strict control of toys’ contents, to control safety of toys regularly and carefully, covering products of both national and foreign producers
- to prevent entry of children’s toys with hazardous chemical components to national markets
- to abandon the practice of selling children’s toys at uncontrolled marketplaces, to provide preconditions for their sale in specialized sales facilities only

- to establish a regional working group for development of a system of notification on presence of hazardous chemicals in toys at all stages of their production and use, from producers of toys to consumers and to the disposal (recycling) of waste
- to implement a broad public information campaign in the countries on the safety of children’s toys
- to ensure involvement of all stakeholders into the campaign

The Statement was submitted to representatives of EECCA countries in the course of Environment for Europe Conference in September 2011. Notwithstanding the importance of the problem highlighted by NGOs, it is still not incorporated into the range of priorities of EECCA countries.



Chemicals in products booklet produced by Independent Ecological Expertise, Kyrgyzstan with other EECCA regional partners

SAICM IMPLEMENTATION BY NGOS IN THE EECCA REGION

CSOs affiliated to IPEN have carried out various activities related to the national implementation of the SAICM GPA. Below are some examples of SAICM implementation from NGOs in the region.

SAICM OBJECTIVE	NGO ACTIVITY AND GPA ITEMS:	NAMES OF NGOS	COUNTRY
Risk Reduction	Facilitate the promotion of non-combustion technologies of obsolete pesticide phase-out in Russia GPA items: 47–48, 68	Volgograd-Ecopress	Russia
	Survey of bisphenol A in Russian foods GPA items: 44, 54, 108, 111	Chapaevsk Medical Association	Russia
	Alternatives to medical waste management GPA items: 44, 57, 59, 66, 82, 166	Armenian Women for Health and a Healthy Environment	Armenia
	Investigation of mercury in skin lightening creams GPA items: 44, 54, 108, 111	Armenian Women for Health and a Healthy Environment	Armenia
	Heavy metals in fish products GPA items: 44, 54, 108, 111	ECOTOX	Moldova
	Role of NGO in prevention of mercury pollution in Azerbaijan GPA items: 44, 57, 59, 66, 82, 166	Ruzgar	Azerbaijan
	Global Mercury Monitoring Project GPA items: 44, 54, 108, 111	Armenian Women for Health and a Healthy Environment, ECOTOS, Volgograd-Ecopress	Armenia, Moldova, Russia
	Global Lead in Paint Project GPA items: 44, 54, 108, 111	Eco-Accord, Greenwomen, HAZER	Kazakhstan, Russia, Armenia
	Introducing Code of Conduct In Order To Reduce The Environmental and Health Risks From Pesticides GPA items: 27, 29-30, 51, 66	Armenian Women for Health and a Healthy Environment	Armenia
	Elimination of acute risks of obsolete pesticides in Ukraine GPA items: 47, 68, 70	UNENGO “MAMA-86”	Ukraine
	Elimination of toxic pesticides in Lviv region GPA items: 27, 29-30, 51, 66	Environment-People-Law (EPL)	Ukraine

SAICM OBJECTIVE	NGO ACTIVITY AND GPA ITEMS:	NAMES OF NGOS	COUNTRY
Risk Reduction <i>cont.</i>	Preliminary inventory of POPs and other chemicals, and analysis of chemical contamination of food products GPA items: 47, 68	Surhan, Forish, Ecoservice, Chance, Women for Sustainable Development (Insenim)	Uzbekistan
	Waste to profit: sound municipal waste management GPA items: 68–72	Armon, Consumer Rights Protection	Tashkent, Uzbekistan
Knowledge and Information	Public Participation in the Civil Society Forum on Involving civil society and business community into “green growth” policy promotion: Priorities, solutions, perspectives GPA items: 164, 206	Eco-Accord, Greenwomen	Russia, Kazakhstan
	Toxic Free Toys Information Campaign GPA items: 44, 54, 108,111	Eco-Accord, Armenian Women for Health and a Healthy Environment, Center for Environmental Solutions, Greenwomen, Independent Ecological Expertise, MAMA-86	Armenia, Belarus, Russia, Kazakhstan, Kyrgyzstan, Ukraine
	Mercury country situation report and awareness-raising on SAICM implementation in Ukraine GPA items: 44, 57, 59, 66, 82, 157, 166	Mama-86-Kharkiv	Ukraine
	Awareness-raising campaign on SAICM implementation in Ukraine (2010-2012) GPA items: 164, 206	UNENGO “MAMA-86”	Ukraine
	How Much Do We Know About POPs in Eastern Europe and Russia? GPA items: 164, 206	Chapaevsk Medical Association	Russia
	Consultations and information meetings on asbestos GPA items: 11–20	Eco-Accord, Volgograd-Ecopress, SPES, Novorossiysk children, Novorossiysk youth organization “Centre of Environmental Education”	Russia
	Side event on Green Mechanisms and Green Decision in Mining: Move to Green and Sustainable Economy at Asia and Pacific Region Ministerial Conference in Astana in 2010 GPA items: 164, 206	Eco-Accord, Ecoforum NGO Kazakhstan, WECF	Kazakhstan, Russia, Germany
	Raising awareness on legal environmental rights; Educational module on environmental legislation for local communities in rural areas GPA items: 164, 206	Armon	Uzbekistan

SAICM OBJECTIVE	NGO ACTIVITY AND GPA ITEMS:	NAMES OF NGOS	COUNTRY
Knowledge and Information <i>cont.</i>	High-level conference on asbestos GPA items: 11–20	Mama-86	Ukraine
	Raising public awareness on chemical impact on human health-seminars for students GPA items: 164, 206	Hazer, Armenian Women for Health and a Healthy Environment	Armenia
	Seminars on chemicals and health and SAICM requirements GPA items: 164, 206	Armenian Women for Health and a Healthy Environment	Armenia
	Educational modules on SAICM GPA items: 164, 206	Independent Ecological Expertise	Kyrgyzstan
	Educational modules: PRTR development, and Toxic Free Future Goal GPA items: 124, 126	Greenwomen	Kazakhstan
	Video materials, documentaries on toxic chemicals and wastes GPA items: 164, 206	Armon	Uzbekistan
Governance	Development a Communication Strategy for the Russian National Implementation Plan to the Stockholm Convention on POPs GPA items: 165–167	Eco-Accord	Russia
	Synergy of three conventions: workshop on SAICM and three chemical conventions, and elaboration of recommendations GPA items: 171–173	Eco-Accord, SPES, Ecotox, MAMA-86, Independent Ecological Expertise	Russia, Moldova, Ukraine, Kyrgyzstan
	Development of the National NGOs Action Plan on SAICM implementation in Kazakhstan GPA items: 165–167	Greenwomen	Kazakhstan
	Participation in the development of the National Chemical Profile and SAICM Capacity Assessment in Uzbekistan GPA items: 165–167	Armon, Eco-Accord	Uzbekistan, Russia
	National Action Plan for Khaidarkan mercury mining: Strengthening Environmental Policy and Implementing Outreach Campaign in Kyrgyzstan GPA items: 165–167	Independent Ecological Expertise	Kyrgyzstan
	To promote sound chemical management at the regional level to prevent mercury pollution of the Volga river and Caspian coastal area GPA items: 47–48	Volgograd-Ecopress	Russia

SAICM OBJECTIVE	NGO ACTIVITY AND GPA ITEMS:	NAMES OF NGOS	COUNTRY
Governance <i>cont.</i>	Analysis of electronic and electric waste disposal system in the Republic of Kazakhstan GPA items: 69–71	Social Fund “Promotion of Sustainable Development”	Kazakhstan
	Improving waste management legislation GPA items: 69–71	Environment-People-Law (EPL), “MAMA-86”	Ukraine
Capacity Building	NGO Forum “Strengthening Capacities of Civil Society Organizations for National and Regional SAICM Implementation in the EECCA Region” GPA items: 154–155, 163-164	Ecoproject, Independent Ecological Expertise, Greenwomen, Centre of Development of National Self , Governance, Eco-Accord	Belarus, Kyrgyzstan, Kazakhstan, Russia
	A side event on chemical safety and green growth during the 7th Ministerial Conference “Environment for Europe” GPA items: 154-155, 163-164	Eco-Accord, Independent Ecological Expertise	Russia, Kyrgyzstan
	Chemical education in the context of chemical safety: problem and perspectives GPA items: 164, 206	Mama-86	Ukraine
	International High Level Expert Conference on Chemical Safety and Rotterdam Convention: Policies and Practices (2012) GPA items: 11-20	Mama -86	Ukraine
	Analyzing the Situation of Asbestos Use and its Health Impact in Russia GPA items: 11-20	Eco-Accord, Volgograd-Ecopress, Eco-SPES NGO, Novorossik children and youth organization “Centre of Environmental Education”	Russia
	Capacity building on Obsolete and POPs pesticides GPA items: 68-70	Armenian Women for Health and a Healthy Environment	Armenia
Illegal Traffic	Investigation of illegal toxic waste import to Ukraine GPA items: 268-271	Bureau of Environmental Investigation (BEI)	Ukraine
	Illegal pesticide use in Central Asia: Sirdarinsky region, Uzbekistan GPA items: 268-271	Armon	Uzbekistan
	Transboundary obsolete pesticide pollution in Uzbekistan from Suzaksky stockpiles (Kyrgyzstan) and Kanibadamsky stockpile GPA items: 268-272	Armon	Uzbekistan



FRANCOPHONE AFRICA

Contributions by
Centre de Recherche et d'Education
pour le Développement, Cameroon
IPEN Francophone Africa
Regional Partner

Countries in the region have many challenges and priorities. However, despite these challenges, improvements in chemical safety are occurring through the combined efforts of various stakeholders including governments and public interest NGOs.

In general, work in Benin, Cameroon, and Senegal indicates that SAICM implementation is being done by countries with the participation of CSOs. For example, Pesticide Action Network Africa has carried out various activities in several countries of West Africa that fall within the objectives of SAICM (see table below). Colleagues in Togo and Cote d'Ivoire are still working to assess overall implementation of SAICM in the country.

SAICM implementation has provided the opportunity to raise and bring to the table many issues related to the problem of toxic chemicals, including lead, mercury, dioxins and furans, HHPs, old batteries, and chemical safety in waste management including electronic wastes. In several countries, SAICM has actually helped create an appropriate framework with the participation of many stakeholders interested in the issue of chemicals management (i.e., public and private services, industrial development corporations, research institutes, universities, NGOs). Information seminars, workshops, and capacity building sessions have allowed actors to be informed on issues and have the tools to integrate the management of toxic chemicals and hazardous electronic waste in their various activities. Discussions are often conducted with SAICM national focal points, including personnel in Mali and Senegal in particular, through the implementation of the proposed PAN Africa project funded by the SAICM QSP.

In Cameroon, although the key sectoral ministries, such as those in charge of agriculture, environment, public health and industry, contribute significantly to the implementation of activities consistent with the objectives of SAICM, NGOs such as Centre de Recherche et d'Education pour le Développement (CREPD) and Cameroon Pesticide Action Network (CAPANET) benefited earlier from financial support for the implementation of SAICM on the problems of lead paints and HHPs, respectively.

The government began SAICM activities four months ago with the support of the United Nations Environment Programme (UNEP) and UNITAR. CREPD strongly contributed to the SAICM focal point and in partnership with UNITAR for the development of a government project entitled *"Enabling Activities for Development*

of a SAICM implementation plan through integrated sound management of chemicals and support of capacity building of the GHS in Cameroon" NGOs (CREPD and Yaoundé Initiative Foundation or YIF) are members of the National Coordinating Committee of SAICM and partners in implementation activities. CREPD is deeply involved in the process of inventory of dioxins and furans as well as awareness-raising. YIF handles most of the components of inventory of pesticides. The National Committee for Implementation of SAICM in Cameroon includes all key stakeholders in the management of chemicals and wastes (public and private services, ministries, industries, NGOs, research centers, universities). These partners are chosen on the basis of their past activities relating to chemical and environmental issues.

The government of Cameroon through the Ministry of Environment, Nature Protection and Sustainable Development (MINEPDED) contributes to the QSP Trust Fund to fund the implementation of SAICM through counterpart funding provided by the Ministry. It is early to assess the state of coordination between the Ministries of Environment and Health on the management of chemicals within the strict framework of SAICM.

The NGO CREPD, through the implementation of its SAICM project on lead paint, has had the experience of good coordinated work between NGOs, government, local authorities, standards agency and faculties of medicine in different local universities, association of consumers, paint manufacturers, wholesalers, and importers of paints. This project also benefitted from a successful collaboration between Northern NGOs (Occupational Knowledge International, USA), and Southern NGOs (CREPD) in line with paragraph 16n of the SAICM OPS.

In Senegal, PAN Africa is a member of the National Commission for Management of Chemicals (CNGPC) set up by the authorities to advise them on the management of chemicals. The ministries in charge of health, environment, trade, industry, and transport, as well as industries, private companies, associations, and NGOs are represented in the CNGPC. The community monitoring of pesticide impacts on health in the cotton zones of Senegal and Mali is an example of partnership between PAN Africa and community based organizations in both countries.

In Mali, artisanal mining is a serious environmental problem, noting that contraband mercury is widely used and presents a real danger to vulnerable populations. One of the missions of the SAICM focal point in Mali is to reduce (eliminate) the use of mercury in artisanal mining. Moreover, NGO efforts have attracted the attention of groups concerned with children exposed to mercury. The NGO Fondation pour le Développement au Sahel (FDS) conducted a case study on small-scale mining in 2010, which was later references in a Human Rights Watch report on which investigates mercury exposure and child labor



Fondation pour le Développement au Sahel staff interviewing small-scale gold miners in Mali to assess mercury use and exposure, and to educate them about the dangers of mercury use in gold mining.

as it relates to small scale gold mining.¹ In addition, PAN Mali also participates in the National Commission for Management of Chemicals, which addresses management activities of hazardous pesticides in Mali.

In Tunisia, special attention is given to the management of chemicals and especially to chemical pollution generated by industries. We note that NGOs are not part of a governmental committee or process for implementation of SAICM; however, the National Focal Point accessible to NGOs. Cooperation between the Ministry of Environment and Ministry of Health already exists independently of SAICM but this cooperation could help further the objectives of SAICM. The government presented a project on implementation of SAICM in which it will participate in kind. The emphasis of the project is research on the elimination of POPs. At present, activities are limited to awareness-raising. This strong government involvement will support food safety through the development of agricultural practices that respect the environment and consumers.

Similar agricultural activities make up most of the work conducted in Cameroon by Cameroon Pesticide Action Network (CAPANET). They have developed activities in accordance with FAO's good phytosanitary practice guide, contributing to the elimination of pesticides and encouraging the adoption of sustainable agriculture practices.

In Benin, cooperation between the government and NGOs on issues of chemical safety is advancing. This is illustrated in the project on the inventory of chemicals in both the agricultural and industrial sectors through the implementation of the Stockholm Convention (POPs) in Benin, with a particular focus on raising awareness on chemical safety. Within the framework of a "demonstration project *"of a sub-regional approach to environmentally sound management of PCBs and equipment contaminated with PCBs,"* Benin has developed a *"strategy and communication plan and stakeholder awareness"* that was validated in May 2012 in Abidjan by 14 African members of the project. Benin is preparing to assist other countries in developing their strategy. NGO Groupe d'Action pour la Promotion et la Protection de la Flore et la Faune (GAPROFFA) led, with funding from IPEN's ISIP project, studies on the impact of POPs (endosulfan and others) on the health of farmers and artisans of mattress makers in Benin and Togo, and worked to raise awareness of good practice. With funding from Global Greengrants Fund (GGF) and the technical support of PAN-Africa, GAPROFFA also trained 60 technicians and held training workshops for agricultural producers on international management and best practices of agricultural chemicals. With technical support from UNITAR, GAPROFFA and the National Focal Point have developed a project entitled "Development of an Integrated National Programme for the Sound Management of Chemicals and Supporting GHS Capacity Building in the Republic of Benin," financed by the SAICM QSP Trust Fund. The project's launch is planned for September 2012.

GAPS

There are still real difficulties impeding the implementation of all five objectives of the SAICM OPS and in some countries activities are limited to only one or two objectives. The difficulties can be grouped into three main categories: economic, infrastructural, and institutional.

1. **Economic difficulties:** The low level of funding and resources given despite the numerous problems identified is a very obvious problem, observe NGOs from Cameroon, Senegal and Tunisia. Cameroonian farmers cite lack of finances often results in purchase of smuggled or reconditioned expired pesticides.
2. **Infrastructure challenges:** The lack of adequate laboratories for investigation and enforcement inspections is well known. Those that exist are often under-equipped.
3. **Institutional challenges:** The National Commissions for Chemicals Management are struggling to function properly given the institutional problems and inadequate resources. For example, there are few seminars, even though NGOs active in the environmental sector want to be informed on the implementation of SAICM. In addition, there is a lack of involvement of research institutions and industrial participation in the implementation of SAICM. In Cameroon, there are deficiencies in the regulation of chemicals management which is added to low level of enforcement of existing laws

¹ http://www.hrw.org/sites/default/files/reports/mali1211_forinsertWebUpload_0.pdf

4. and regulations. As a result of these deficiencies on one hand, and because of ignorance of producers on the other, pesticides are circulating and large stocks are listed. Finally, producers are using them in a very inadequate way.

Priority emerging issues identified by NGOs in the Region that require immediate action actions include:

1. the use of energy-saving lamps (LBC) containing mercury
2. the use of mercury in artisanal small scale gold mining
3. the use of cosmetic products containing toxic chemicals
4. the recycling of batteries containing lead
5. the development of alternatives to hazardous chemicals
6. awareness of nanotechnology and nanomaterials
7. the widespread use of electronic products and wastes containing lead
8. the import, production, and distribution of lead paint
9. synergy of actions between NGOs and the implementation of international conventions on chemicals



Youth awareness campaign about the threat of mercury exposure, conducted by Jeunes Volontaires pour l'Environnement Côte d'Ivoire (JVE)

PROMOTING POLICIES TO PROTECT CHILDREN FROM LEAD PAINT IN CAMEROON

The NGO Centre de Recherche et d'Éducation pour le Développement (CREPD) conducted a study of paint sold in Cameroon to gauge the number that contained lead-based paint. From the shops and wholesalers participating, 60 samples of new paintings, 14 samples of liquid dyes, 16 samples of scales of old paintings, and 9 samples of dust in residential schools were surveyed. Five young people were trained in rigorous collection and preparation of paint samples. Once the samples were analyzed, the results showed that about 67% of new oil paintings contained lead-based paints (containing over 90 ppm of lead, which is the reference standard). All the old paintings collected contained lead-based paints.

Based on these findings, CREPD carried out awareness-raising workshops and trainings of key stakeholders at the national level to highlight the dangers of lead. Press releases, radio and TV programs, and more awareness-raising activities (including distribution of brochures, posters, and leaflets) were undertaken in ten regions of Cameroon.

This project catalyzed the development of a national framework law for the protection of the consumer; the establishment of a Technical Committee by the Agency for Standards and Quality to develop a mandatory standard limiting the amount of lead in paint in Cameroon. In addition, CREPD engaged the Ministry of Public Health to support the rapid development of a standard; the faculty of medicine is also developing a project on the analysis of blood lead levels among children in the city of Yaoundé. This project was financed by the SAICM Quick Start Programme.

SAICM IMPLEMENTATION BY NGOS IN FRANCOPHONE AFRICA

CSOs affiliated to IPEN have carried out various activities related to the national implementation of the SAICM GPA. Below are some examples of SAICM implementation from NGOs in the region.

SAICM OBJECTIVE	NGO ACTIVITY AND GPA ITEMS	NAMES OF NGOS	COUNTRY
Risk Reduction	Reducing the use of POPs in the city of Bohicon; and in the agricultural sector in Allahé, Ganhoua, and Za-Kpota villages using public aware-raising for behavior change GPA items: 54, 56, 114	Groupe d'Action pour la Promotion et la Protection de la Flore et la Faune (GAPROFFA)	Benin
	Awareness-raising of civil society actors, NGOs, farmer association, phytosanitary firms, and the Minister of Agriculture and Rural Development (MINADER) on the dangers of pesticides; FAO Code implementation of pesticide use; training in good agricultural practices; and training in developing alternative, local, herbal insecticides GPA items: 31, 50—53	Pesticide Action Network Cameroon (CAPANET)	Cameroon
	Production, collection, and dissemination of information on the dangers of lead paint on health and the environment; and national and regional workshops to raise awareness of lead paint GPA items: 2, 57, 60	Centre de Recherche et d'Education pour le Développement (CREPD)	Cameroon
	Collection and storage of stocks of premium pesticides and their packaging GPA items: 32, 68	Yaoundé Initiative Foundation (YIF)	Cameroon
	Training of 35 persons on the manufacture of biological pesticides with support from the Entomology Laboratory of the University of Lomé GPA numbers: 51, 116, 158	Jeunes Volontaires pour l'Environnement (JVE); Association de Secours et d'Orientation Lisungi du Togo (ASOL)	Togo
	Promotion of sustainable agriculture (reduced use of pesticides and chemical fertilizers) with women's groups in the prefectures of Kpele and Vo GPA items: 116	Jeunes Volontaires pour l'Environnement	Togo
	Production of leaflets on alternatives to chemical pesticides to control locusts; and workshop information and awareness on pesticides used for locust control and stockpiles GPA items: 163	Pesticide Action Network Mali; Pesticide Action Network Africa; Association d'Éducation Environnementale et de Protection des Oiseaux au Maroc (SEEPOM)	Francophone West Africa, Morocco

SAICM OBJECTIVE	NGO ACTIVITY AND GPA ITEMS	NAMES OF NGOS	COUNTRY
Risk Reduction <i>cont.</i>	Study on the ban of endosulfan by the member countries of Comité permanent inter-État de lutte contre la sécheresse au Sahel (CILSS) GPA items: 15	Pesticide Action Network Africa	Francophone West Africa
	Conducting a nationwide awareness campaign on the effects of mercury on both health and the environment GPA items: 57–58, 60	Jeunes Volontaires pour l'Environnement	Ivory Coast
	The implementation of a project on the application of alternatives to pesticides and chemical fertilizers as part of the educational program with the Ministry of Education and Agriculture; promotion of the reduction of health and environmental risks through the reuse of organic waste at a minimum to reduce domestic waste; the use of scientific approaches in the context of environmental and sustainable agriculture; awareness of the Stockholm Convention on POPs; raising awareness of college students through an educational program to reduce the end of poisoning caused by various chemicals; educating students on mercury; and raising awareness on obsolete pesticides GPA items: 51, 116, 155, 158	Association de l'Education Environnementale pour les Futures Générations; Association Tunisienne pour l'Agriculture Environnementale; Association Provinciale des Eleveurs et Détenteurs de Bétail; Agir en Faveur de l'Environnement	Tunisia
Knowledge and Information	Production of leaflets, T-shirts, caps, posters, and banners on community monitoring of pesticide impacts GPA items: 2,155	Pesticide Action Network Mali; Pesticide Action Network Africa	Mali, Senegal
	Case study of small-scale gold miners and mercury use and exposure GPA items: 2,155	Fondation pour le Développement au Sahel (FDS)	Mali
	Production and distribution of posters on the risks associated with pesticide use on health and the environment, but also on sustainable alternatives GPA items: 2, 155	Pesticide Action Network Africa	Senegal, Francophone West Africa
	Information days and awareness of farmers' organizations about the risks associated with the use of pesticides and empty pesticide containers GPA items: 2, 155	Pesticide Action Network Mali; Pesticide Action Network Africa	Mali, Senegal
	Dissemination of leaflets (English and French) on environmental strategies to replace DDT and malaria control in collaboration with PAN offices in Germany and North America GPA items: 2, 155	Pesticide Action Network Africa	Francophone West Africa

SAICM OBJECTIVE	NGO ACTIVITY AND GPA ITEMS	NAMES OF NGOS	COUNTRY
Knowledge and Information <i>cont.</i>	Radio programs (French and local languages) for communities and authorities on various pesticides topics, DDT, malaria, etc. GPA items: 2, 155	Pesticide Action Network Africa; Pesticide Action Network Mali	Mali, Senegal
	Information Handbook for NGOs on the African Programme on stocks of obsolete pesticides (produced as part of the Africa stockpile program and in collaboration with PAN UK) GPA items: 2, 155	Pesticide Action Network Africa	Francophone West Africa, Morocco, Tunisia
	Consolidated Guide on the codes and conventions on chemicals (produced as part of the Africa stockpile program in collaboration with PAN UK and Ecosphere) GPA items: 2, 155	Pesticide Action Network Africa	Francophone West Africa, Morocco, Tunisia
	Making a film in French about the environmental strategies of the fight against malaria without DDT in a village in Senegal, in collaboration with PAN Germany and North America) GPA items: 2, 155	Pesticide Action Network Africa	Senegal, Francophone West Africa
	Organizing a multistakeholder seminar on sustainable agriculture; producing posters and flyers outlining the dangers of pesticides; mapping of obsolete pesticide stocks on national territory; and demonstrating correct use of processing equipment and EPI GPA items: 2, 155	Pesticide Action Network Cameroon (CAPANET)	Cameroon
	Production and distribution of leaflets, posters, and brochures of information to assist in the removal of lead paint on the basis of scientific data from work done or bibliography; and publication of press releases, press articles and radio show on the results of analysis of the paintings sold in Cameroon; and work in collaboration with OK International GPA items: 2, 155	Centre de Recherche et d'Education pour le Développement (CREPD)	Cameroon
	Making a film on the invasion of locusts in the Sahel in 2003-2005 and the fight against locusts in Senegal, in collaboration with PAN UK GPA items: 2, 155	Pesticide Action Network Africa	Senegal
	Survey on producers' perceptions on the risks related to the use of endosulfan in Benin and Togo; and contribution to the study of the issue of handling of chemicals (POPs) by mattress artisans in Benin and Togo GPA items: 2, 155	Groupe d'Action pour la Promotion et la Protection de la Flore et la Faune (GAPROFFA)	Benin

SAICM OBJECTIVE	NGO ACTIVITY AND GPA ITEMS	NAMES OF NGOS	COUNTRY
Governance	Production and dissemination of leaflets, t-shirts, video, banners, and posters on the theme “Be conscious of mercury effects” GPA items: 2, 155	Jeunes Volontaires pour l’Environnement	Ivory Coast
	Demonstration project of a sub-regional approach to environmentally sound management of PCBs and PCB-contaminated equipment; and stakeholder awareness GPA items: 195	Groupe d’Action pour la Promotion et la Protection de la Flore et la Faune	Benin
	Seminar on the implementation of the FAO Code of Conduct GPA items: 23	Pesticide Action Network Cameroon (CAPANET)	Cameroon
	Preparation of the draft (first draft) standard limiting the amount of lead in paint sold in Cameroon, in collaboration with OK International; and the establishment of the National Alliance for the Elimination of lead paint in Cameroon GPA items: 186—187, 195	Centre de Recherche et d’Education pour le Développement (CREPD)	Cameroon
	National workshops, including modules for capacity building of actors (five key ministries, industrial painters, general public, and pediatricians) on exposures and effects of lead on the health of vulnerable groups (children under six years, women of childbearing age), in collaboration with OK International; and training of five children, two young boys and three girls, on sampling techniques paints and lead-contaminated dust, and packaging techniques for analysis GPA items: 163, 186—187, 195	Centre de Recherche et d’Education pour le Développement (CREPD)	Cameroon
	Sending a letter of recommendation to decision makers and funders (government departments and UN agencies) March 30, 2012, for the establishment of committees for management of chemicals GPA items: 167	Jeunes Volontaires pour l’Environnement (JVE); Association de Secours et d’Orientation Lisungi du Togo (ASOL)	Togo
	International Workshop: Water and water pollution by pesticides in Africa GPA items: 196	Pesticide Action Network Africa	Francophone West Africa, Morocco, Tunisia
Capacity Building	Training modules on community monitoring of pesticide effects on human health and the environment, in collaboration with PAN UK and Asia Pacific GPA items: 163	Pesticide Action Network Africa	Francophone West Africa

SAICM OBJECTIVE	NGO ACTIVITY AND GPA ITEMS	NAMES OF NGOS	COUNTRY
Capacity Building <i>cont.</i>	Three-day multistakeholder seminar for capacity building of producers; raising awareness of MINADER for better orientation of the legislation; and raising awareness of firms for better management of pesticides GPA items: 212, 216	Pesticide Action Network Cameroon (CAPANET)	Cameroon
	Organization of two training days at the location of the different players who can work with people and provide information on the various issues of pesticides; and training focused on the risks to human and environmental health by pesticides, and showing participants the misdeeds of unregistered pesticides and poor marketing practices around these products GPA items: 212	Jeunes Volontaires pour l'Environnement (JVE); Association de Secours et d'Orientation Lisungi du Togo (ASOL)	Togo
	Use of chemical pesticides: training workshop for the Southern Benin market gardeners supervising staff GPA items: 212	Groupe d'Action pour la Promotion et la Protection de la Flore et la Faune; Pesticide Action Network Africa	Benin
	Case study of small-scale gold miners and mercury use and exposure GPA items: 212	Fondation pour le Développement au Sahel (FDS)	Mali
	Training of facilitators in community monitoring GPA items: 212	Pesticide Action Network Africa	Senegal
	Training of field guides on the techniques and monitoring tools GPA items: 212	Pesticide Action Network Mali; Pesticide Action Network Africa	Mali, Senegal



LATIN AMERICA AND THE CARIBBEAN

Contributions by
Red de Acción en Plaguicidas y sus Alternativas (RAPAM)/ Centro de Análisis y Acción en Tóxicos y sus Alternativas (CAATA), México
IPEN Latin America Regional Hub

The impact of actions carried out around SAICM on national chemicals management policies in countries in the region has moved forward but it has not been significant enough to transform the institutional framework in order to allow progress toward reaching the 2020 goal. Although most Latin American and Caribbean governments have developed activities related to some of the elements of the implementation of the SAICM GPA, the number and scope of these activities is uneven throughout the region. These activities include first time development or updating of national chemicals inventories, contaminated sites inventories, the ban of some HHPs in some countries, strengthening chemicals management institutions, projects to implement the GHS, the implementation of discussion or diagnostic workshops on some of the new emerging issues like nanotechnology, and even a Regional SAICM Implementation Plan for Central America, among other actions. In recent years, some of these actions have even received support from the QSP with backing from UNITAR, UNIDO, and UNDP agencies (see complete list in SAICM/ICCM.3/INF/16). Without disavowing the positive contribution of many of these activities, these actions however have not been sufficient to have a significant impact on national chemicals management policies to transform the institutional framework so that they may move towards reaching the general objective of SAICM and thus meet the 2020 goal.

Significant work needs to be done to implement the chemical safety agenda with a multisectoral approach and coordinated and effective participation of other authorities involved in the chemical products life cycle. In practice, the SAICM theme is considered to be an issue that is mainly the responsibility of the technical authorities in charge, usually environmental authorities. In addition, the national SAICM implementation plans often do not include policies with clear goals.

Public budgets allocated to the chemical safety agenda are insufficient. This results from the fact that the so-called “gray agenda” regarding chemicals management ranks extremely low within the priority policies of the environmental agenda. It ranks even lower in the national development plans, compared to the importance granted to the commitments to adapt and mitigate climate change or the green agenda linked to biodiversity protection. As a result, there is generally low public investment in the chemical safety

agenda. The problems of full SAICM implementation can be further aggravated by neoliberal macroeconomic policies that reduce public expenditure and continue to privilege foreign investment protection regimes.

No proposals exist for the private sector to contribute fiscal participation towards public expenditure in chemicals management. On the other hand, no fiscal cost recovery measures have been promoted in the region to increase private sector taxation by the main users of chemicals and those who are responsible for environmental pollution. It would be important to explore successful experiences articulating priority chemical substance reduction policy goals selected by volume and toxicity, taxes on chemical substance use, and the creation of an independent fund to support an institute specializing in toxic chemicals use reduction. This institute would provide services to industry in order to achieve

REGIONAL NGO COORDINATION TO PHASE-OUT AND PROMOTE ALTERNATIVES TO ENDOSULFAN

From 2009 to 2011, the Latin American Action Network on Pesticides and their Alternatives (Red de Acción en Plaguicidas y sus Alternativas en América Latina / RAP-AL) carried out research, public dissemination, and awareness-raising activities on the health and environmental effects of endosulfan and its substitution possibilities, particularly with agro-ecological alternatives. Throughout this campaign, a broad alliance with scholars, producers, and environmental organizations was achieved in different countries of the region. Awareness-raising workshops, national consultation meetings, and mass media dissemination work was carried out.

The information gathered during the course of the campaign was sent to IPEN and Pesticide Action Network representatives participating on the Stockholm Convention's POPs Review Committee (POPRC). In April 2011, the POPRC recommended global elimination of endosulfan at the Fifth Conference of the Parties (COP5) in Geneva, Switzerland. This recommendation also included the implementation of a program that contains alternatives, as well as non-chemical control alternatives.

Phase-out of or ban on endosulfan has been attained in Argentina, Brazil, Chile, Paraguay, and Uruguay. The Stockholm Convention's COP5 listed endosulfan for global elimination with a few temporary crop and pest-specific exceptions. A follow-up on compliance of the ban with all countries in the region is still pending, as is updating information on the non-chemical alternatives POPRC will be recommending.

input substitution, redesign processes and products as well as higher efficiency. It would be useful to examine, for example, the experiences of the Toxic Use Reduction Institute in the U.S. state of Massachusetts, among others examples worldwide.

More work needs to be done to change the dominant modes of production and consumption as well as the search for and implementation of alternatives. Chapter 19 of Agenda 21 adopted at the 1992 Earth Summit highlighted the un-sustainability of the dominant modes of production and consumption. However, 20 years later, the dominant production and consumption modes remain unsustainable. This is aggravated by a financial crisis that can reduce social, economic, and environmental rights acquired in recent decades. On a broader scale, restrictions to public expenditure can restrict development support and the contribution of donor countries to multilateral environmental conventions, including SAICM.

The deep link between chemical safety and sustainable development is not only an issue of mainstreaming SAICM themes into the national development plans, but also one of asking what kind of “development” should be promoted and what macroeconomic policies should be established in order to reach “development.” In this sense, CSOs are questioning both the economic policies and the extractive model based on the exportation of raw materials, such as oil or valuable minerals, to the international market without sufficient assessment of its social, environmental, and health impact, and without answering the question of who will mainly benefit from these investments.

GAPS

Except for rare exceptions, there are no ongoing civil society participation structures capable of developing and carrying out SAICM activities with the participation of health and environmental protection organizations, consumers, and local social organizations.



Children spraying pesticides in Mexico

Greater coordination as well as the participation of local and regional authorities (state or provincial authorities, depending on how they are referred to in each country) is required in the national committees or national working groups dedicated to discussing SAICM and in the National SAICM Implementation Plan activities. The reinforcement of citizen participation mechanisms at a local level is also required.

It is important to notice that in the context of Rio+20, the governments of Costa Rica, Dominican Republic, Ecuador, Jamaica, Mexico, Panama, Paraguay, Peru, and Uruguay urged increased commitments on Principle 10 on access to information, justice, and public participation, and stated their commitment to drafting and implementing a Plan of Action 2012-2014, with the support of the Economic Commission for Latin America and the Caribbean (ECLAC). In their statement, they requested ECLAC (CEPAL in Spanish) to act as the technical secretariat and to conduct a study on the best practices and requirements on access to information, justice, and participation on environmental issues in Latin America and the Caribbean. This may represent an opportunity to include chemical management and policy in this study.¹

HHPs promoted by production strategies based on single-crop farming are still being used in the region with serious adverse impacts on worker and community health, affecting biodiversity and scarce strategic resources like water, and encouraging a dependence on fossil fuel consumption. This situation is aggravated by the promotion of herbicide-resistant genetically-modified crops, such as transgenic glyphosate- and 2, 4-D-resistant soybeans. It is necessary to promote policies and programs that change pest control strategies to rely more heavily on more sustainable agroecology-based proposals, reduce energy costs in transportation that favor both the domestic market and the local supply chains, and prevent water pollution, rather than merely responding to the demands of the global market.

Proposals to strengthen the FAO Code of Conduct must be supported in order to include the possibility of substituting HHPs defined by criteria that not only consider higher acute toxicity (1a and 1b in the WHO classification), but also by criteria related to chronic health effects, like cancer, harm to reproductive development, and greater environmental concerns like those included in the Stockholm and the Rotterdam Conventions. The List of Highly Hazardous Pesticides developed by the Pesticide Action Network in Germany is a useful tool for a first diagnosis.² This list can be compared to the list of pesticides registered in the country, thus obtaining a hazard profile for the authorized HHP. This profile should be complemented with information on current use and location in top national priority areas. Knowledge of both volume

¹ For more info see <http://sids-liisd.org/news/ten-latin-american-and-caribbean-countries-commit-to-drafting-plan-of-action-on-principle-10/>

² http://www.pan-germany.org/download/PAN_HHP-List_1101.pdf

and location of HHPs must be recognized as a public right as it has so far been confidential information that only the pesticide chemical industries can access.

It is essential to recover the proposals of the 2010 International Assessment of Agriculture Science and Technology for Development (IAASTD), which has been the broadest and most rigorous agricultural assessment so far. It highlights the imperative need to make radical changes in agricultural policies and business practices, as well as to count on the support of small farmers to create the vigorous, fair and sustainable food systems that the world needs. The IAASTD Report highlights the contributions made by agro-ecology to assessing agricultural system multifunctionality, productivity, resilience, sustainability, and equity vis-à-vis the challenges of environmental crises and the environmental pressures agriculture faces in the 21st century. Several useful references are available.^{3 4 5}

Institutional reforms are needed to achieve integrated effective policies on chemical safety. According to the *Bahia Declaration*, *Chemical Safety* can be understood as a preventive approach to health and environmental harm caused by chemicals. Several assessments consider that some countries need to create a general law on chemicals that allows more efficient management control throughout the life cycle, or that other countries must create unique public agencies to supervise the life cycle so as to avoid overlapping functions and regulatory gaps.

In institutional and regulatory adjustments, it is important to apply the general principles of prevention, and substitute the chemicals of highest concern. If the idea is to keep on marketing the products, then the burden of testing must be transferred to the producer rather than to the public sector. This would be an adaptation of the “no data, no market” principle used in REACH European legislation.

It is also necessary to reinforce the national capacity to carry out an independent assessment of hazardous properties and the potential risks of both chemicals themselves and chemicals in products in order not to exclusively depend on information provided by industry.

The revision of the legislative framework regarding themes related to responsibility and damage repair in case of accident and polluted sites must be broadened on order to ensure clean sites and care for victims, themes that are also linked to access to environmental justice, which is included below.

Access to public information throughout the life cycle of chemical substances must be broadened. Within the labor sphere it is necessary to strengthen access to hazardous material data safety

sheets as well as worker participation in commissions ensuring appropriate protection and accident prevention. It is worrisome that these conditions deteriorate above all in countries that adopt the so-called “flexibility measures” in labor contracting conditions, thus weakening the capacity of worker organizations and labor authorities to inspect and correct the problems.



Brazilian NGO workshop, which established a Brazilian chemical safety/toxics-free NGO network with members from several provinces.

With regard to the development of PRTRs by industrial sources, these registers must be updated with new available scientific information in order to expand both the list of chemical substances that must be declared and the tolerance thresholds. Access to environmental information must be broadened to include the more hazardous chemicals in relation to use, volume, type, and location. HHPs must be included, linking them to goals regarding pesticide use reduction in ecosystems and communities where there is greater negative impact.

Actions should be taken to phase-out PBTs, which cause chronic harm to health, and greater emphasis should be placed on the clean production of safer alternatives. Governments face limitations not only in developing a hazardous chemicals use inventory based on data provided by industry but also in designing policies that promote both use reduction and substitution in order to allow a transition towards cleaner forms of production.

Greater participation of health authorities is required so that they can contribute with the toxicological information pertaining to each chemical to the national inventory of chemical substances, including acute toxicity and chronic effects (carcinogenesis, mutagenesis, and reproductive effects, affecting both the nervous system and the immune systems, among others). Epidemiological information must also be included focusing on the most polluted sites or places with a higher incidence of chronic diseases of concern.

Some citizen organizations in industrial corridors have obtained updated and regular information from epidemiological

³ www.agassessment.org

⁴ <http://www.panna.org/science/agroecology/science>

⁵ <http://www.agroeco.org/socla>

surveillance registers regarding certain chronic diseases per location, particularly cancer. This allows that diseases can be located geographically and the development of geo-referenced maps. However the information about the industrial use of these carcinogenic chemicals is often not required by authorities and this prevents the development of programs to reduce their use and to substitute them in industrial processes for cleaner forms of production.

New reduction strategies in residue generation should move toward a Zero Waste Approach. The increasing generation of solid waste in cities continues to be a serious environmental problem that is being faced through false solutions such as incineration and similar technologies (e.g., gasification and pyrolysis) in waste-to-energy projects that generate new pollutants. A change of strategy is required in order to promote chemicals management that emphasizes reducing waste generation, adequate waste separation at source, and reuse and recycling measures. This change of strategy must be accompanied by compulsory measures of EPR throughout the product life cycle so that waste recollection and management costs are not transferred to local authorities and consumers, and it must include the promoting of product re-design for greater reuse and recycling, as well as the elimination of hazardous chemicals and materials substitution.

Measures need to be implemented that insure effective access to justice, enforcement, and environmental justice. Unless legislation is enforced and appropriate surveillance and sanctioning mechanisms are created, it is not enough to improve the regulatory aspect in chemicals management throughout their

life cycle. Otherwise, the poorest and most vulnerable sectors will continue to pay the highest costs through their health and deterioration of their environment. Greater efforts are required to fight environmental corruption and impunity. Autonomous justice administration bodies must be strengthened with effective reporting mechanisms in the labor, environmental, public health, and chemical emergency response spheres.

It would be useful to see collaboration possibilities between SAICM and the *Aarhus Convention on Access to Information, Public Participation in Decision-Making and Access to Justice* with different groups of interest in Latin America in order to strengthen this aspect of chemical and environmental governance. SAICM goals for addressing the harms of toxic metals contrast with the growth of large-scale metal mining exploration and exploitation projects. Mining is one of the main sources of territorial environmental conflict in the region, not only because of the extension of the affected surfaces and impact on the use and pollution of scarce strategic resources such as water, but also because of the use of toxic chemicals like cyanide and the release of mercury into the environment. The enormous volumes of material removed in the extraction and thermal treatment processes during mineral refining are responsible for the release of mercury as by-products. Conflicts increase when the ancestral rights of indigenous communities over their territory are infringed as well as when this infringement places fragile ecosystems at risk. An extractive growth model is not environmentally sustainable and generates greater social inequality as well as environmental conflicts in the region. Several references are available on the impact of mining.^{6 7 8}

6 El cianuro, la cara tóxica del oro” (Cyanide: Gold’s Toxic Face) written by William Sacher from Canada at: <http://es.scribd.com/doc/54235978/Cianuro-cara-Toxica-Del-Oro>

7 See Observatory of Mining Conflicts in Latin America (Observatorio de Conflictos Mineros en América Latina / OCMAL) at: <http://www.conflictosmineros.net/>

8 Mexican Network of People Affected by Mining (Red Mexicana de Afectados por la Minería / REMA) at: <http://rema.codigosur.net/>

SAICM IMPLEMENTATION BY NGOS IN LATIN AMERICAN AND THE CARIBBEAN

CSOs affiliated to IPEN have carried out various activities related to the national implementation of the SAICM GPA. Below are some examples of SAICM implementation from NGOs in the region.

SAICM OBJECTIVE	NGO ACTIVITY AND GPA ITEMS	NAMES OF NGOS	COUNTRY
Risk Reduction	Public information national and regional campaign on the harmful effects of the pesticide endosulfan on health and the environment from 2009 to 2011 and dissemination of information on alternatives, in coordination with IPEN and PAN through their participation in the POP Review Committee (POPRC) GPA items: 1, 2, 23, 27, 29, 51	Red de Acción en Plaguicidas y sus Alternativas de América Latina (RAPAL)	Argentina, Brazil, Costa Rica, Cuba, Chile, Ecuador, Mexico, Paraguay, Uruguay
	Substitution of mercury-based medical devises in the health sector GPA items: 2, 18, 57, 59, 61	Health Without Harm (Salud Sin Daño)	Argentina, Brazil, Costa Rica, Chile, México, and Nicaragua
Knowledge and Information	Quarterly publication of a journal called Revista Enlace that includes news and fact sheets regarding different HHPs, for example endosulfan, carbendazim, methomyl, methamidophos, acephate, iprodione, and atrazine, among others GPA items: 105–106, 109, 112, 114– 116, 146, 160	Red de Acción en Plaguicidas y sus Alternativas de América Latina (RAPAL)	Argentina, Brazil, Chile, Costa Rica, Cuba, Ecuador, Honduras, México, Paraguay, Uruguay
	Dissemination of the brochure An NGO Guide to SAICM prepared by IPEN and issued in Spanish in November 2008. GPA items: 105–106, 109, 163	IPEN	GRULAC and SAICM national meetings in 2010 and 2011
	2010–2011 Participation in the Global “Mercury-Free: You, Me and the Babies” Campaign with the dissemination of the Spanish version of the book “An NGO Introduction to Mercury Pollution,” prepared by IPEN throughout Latin American countries, and the brochure on IPEN Views on a Global Mercury Treaty GPA items: 105–106, 109, 112, 140, 141 Organization of national brochures and collective petitions to ban mercury thermometers and submit letters to support negotiations towards a Mercury Convention launched by the UNEP GPA items: 105, 106, 109, 112, 140, 141	IPEN members; Red de Acción en Plaguicidas y sus Alternativas de América Latina (RAPAL); Associação de Proteção Meio Ambiente de Cianorte (APROMAC); Centro de Análisis y Acción en Tóxicos y sus Alternativas (CAATA)	Latin America, Brazil, México
	Participation in the project coordinated by IPEN Arnika with GRS on the market analysis of some mercury-based products and mercury-free alternatives, in March 2010, with batteries, skin-lightening creams, thermometers, and dental amalgams analyzed GPA items: 82, 87	Associação de Proteção Meio Ambiente de Cianorte (APROMAC); Centro de Análisis y Acción en Tóxicos y sus Alternativas (CAATA)	Brazil, México

SAICM OBJECTIVE	NGO ACTIVITY AND GPA ITEMS	NAMES OF NGOS	COUNTRY
Knowledge and Information <i>cont.</i>	Mercury: Preparation of information sheets on environmental and health risks from mercury exposure plus other discussion themes in negotiating the UNEP call for a Mercury Convention GPA items: 105–106, 109, 112, 140–141	Asociación Argentina de Médicos por el Medio Ambiente (AAMMA)	Argentina
	Presentation of the epidemiological report of cancer morbidity and mortality by department from 2003 to 2008, generated by the Cancer Register of the Santa Fe Province with geo-referencing, and GPS map location, and presented to the Health Ministry of the Santa Fe Province; along with the Health Ministry presenting a second report locating cases in each of the cities in Gran Rosario and a study of the province GPA items: 2, 81, 87, 106	Taller Ecologista, and Taller Permanente de la Mujer del Cordón Industrial de la Cd. de Rosario	Argentina
	Weekly information on SAICM-related themes in a special one-page section in a Venezuelan national newspaper (called Tal Cual) since 2007, radio programs and interviews, a 22-week course for journalists and NGOs with legal and technical elements regarding the human right to a healthy environment recognized by the Monte Avila University GPA items: 106, 109, 112, 163	Aguaclara Foundation	Venezuela
Governance	Participation in different institutional consultation mechanisms for capability assessment or discussions on the National SAICM Implementation Plan or specific themes such as the National Profile of Chemicals, Pesticides and Mercury GPA items: 169, 170, 174, 206, 207	Asociación Argentina de Médicos por el Medio Ambiente (AAMMA)/Intl. Society of Doctors for the Environment (ISDE)-Alianza por una Mejor Calidad de Vida-Red de Acción en Plaguicidas y sus Alternativas de América Latina (RAPAL) Chile; Red de Accion en Plaguicidas y sus Alternativas (RAPAM)/ Centro de Análisis y Acción en Tóxicos y sus Alternativas (CAATA) Mexico; Fronteras Comunes México; Associação de Proteção Meio Ambiente de Cianorte (APROMAC)/ Toxisphera Brazil.	Argentina, Brazil, Costa Rica, Chile, México, Paraguay

SAICM OBJECTIVE	NGO ACTIVITY AND GPA ITEMS	NAMES OF NGOS	COUNTRY
Governance <i>cont.</i>	Participation in 2012 in a working group with scholars, industry, and environmental authorities to update the Pollutant Emission and Transfer Register/Registro de Emisiones y Transferencia de Contaminantes (RETC), and as a result, a proposal to improve regulations of an increasing number of chemicals was developed, and reporting thresholds were reinforced GPA items: 177	Fronteras Comunes; Unión de Científicos Comprometidos con la Sociedad (UCCS)	México
	The information campaign in Chile regarding HHPs (i.e., endosulfan, aldicarb, and other organochlorine pesticides (chlordecone, Alpha-HCH, Beta-HCH, pentachlorobenzene, and related isomers)) GPA items: 25, 55, 164, 169, 194	Alianza por una Mejor Calidad de Vida-Red de Acción en Plaguicidas y sus Alternativas de América Latina (RAPAL) Chile	Chile
	Participation in the Zero Waste Regulation Follow-up Commission for reducing waste generation at a municipal level in Ciudad de Rosario GPA items: 206	Taller Ecologista	Argentina
	Participation in the Federal Resolution 362/2005 Permanent Monitoring Group on used or polluted lubricant oil management issued by the National Environment Council/ Consejo Nacional del Ambiente (CONAMA), which produced manuals on used lubricant oil management and provided consultation services, workshops, and a piece of research in 2009–2010 to identify state of compliance GPA items: 2, 12, 45, 67, 70, 72, 76, 78, 119–122, 163, 224, 231, 236, 241, 258, 273, 166, 186–188, 190–191, 193–194, 196–197, 199, 204–205	Associação de Proteção Meio Ambiente de Cianorte (APROMAC)-TOXISPHERA	Brazil
Capacity Building	Promotion workshops on agro-ecological pest control alternatives and the risks of exposure to HHPs GPA items: 255–256	Red de Acción en Plaguicidas y sus Alternativas de América Latina (RAPAL)	Argentina, Brazil, Chile, Costa Rica, Cuba, Ecuador, Honduras, México, Paraguay, Uruguay



MIDDLE EAST

Contributions by
IndyACT, Lebanon
IPEN Middle East Regional Partner

Most of the countries in this region have ratified the Basel, Stockholm, and Rotterdam Conventions and are signatories to SAICM. Therefore most countries in the region are aware of the dangers of toxic substances and materials and should try to regulate and ban their use.

Currently, there is national cooperation between governments and NGOs on chemical safety issues in most Arab countries. However, there is a lack of laws regulating toxics in the majority of the Middle East countries and there is limited to no media or public discussion on toxic hazards. SAICM implementation is advancing slowly.

Nonetheless NGOs in the region continue raise awareness and try to improve the situation, by organizing workshops, conferences, awareness-raising campaigns, and trainings. Most notably, efforts to eliminate mercury in the health sector have advanced swiftly.

People are slowly starting to be more aware of the harm of toxics. For example, numerous NGOs in the region (in Egypt, Jordan, Lebanon, Morocco, Tunisia, and Syria) have carried out awareness-raising activities on the health and environmental harms of mercury. In Tunisia, NGO AREMEDD (Association for Sustainable Development) carried out SAICM awareness-raising activities in eight states throughout the country, reaching 52 schools, 1,600 students, 450 educators, 37 NGOs, 300 women, and the media. In Syria, a workshop conducted with Al Akram Red Crescent Medical Center resulted in a signed statement

with the Syrian Red Crescent leadership and Al Akram Medical Center to replace mercury medical equipment with mercury-free alternatives, conduct an inventory of mercury-containing equipment in the medical center, research reliable mercury-free devices, and deliver old mercury-containing equipment to the Ministry of Environment for disposal. In addition the Al Akram Red Crescent Medical committed to eliminate the use of amalgam filling.

There are, however, projects done by governments, such as a project that the Ministry of Environment in Lebanon carried out in 2011 under the name of “Demonstrating and Promoting Best Techniques and Practices for Reducing Health-Care Waste to Avoid Environmental Releases of Dioxins and Mercury.” The project aimed at demonstrating and promoting best practices and techniques for health-care waste management, evaluating commercially available, non-incineration healthcare waste treatment technologies, introducing and evaluating the use of mercury-free devices in model facilities, and establishing or enhancing training programs to build capacity for the implementation of best practices and technologies both within and beyond the model facilities and programs.



*Mercury awareness flyer
produced by SEEPOM, Morocco*

GAPS

There are many gaps in the Middle East that are hindering the implementation of SAICM. The major ones are:

1. the lack of permanent and sustainable financial mechanisms
2. variations in the implementation of international conventions
3. the lack of financial assistance
4. the lack of assistance obtaining data about chemicals
5. difficulty in prioritizing issues to concentrate on specific work areas
6. limited or no information about chemicals
7. insufficient access to safer technologies and alternatives to chemicals
8. the lack of clear and accessible information about chemicals and toxics

Also, there is no communication, cooperation, or coordination between National SAICM Focal points and NGOs working on SAICM Issues.



Youth mercury awareness workshop, organized by APEDDUB, Tunisia

PROMOTING MERCURY-FREE PRODUCTS AND HEALTHCARE IN TUNISIA

The Association pour la Protection de l'Environnement et Développement Durable de Bizerte (APEDDUB) in Tunisia carried out a project titled: "Tunisia Mercury Situation Report - Awareness-raising campaign about mercury: hazardous for health and the environment." The project targeted students, teachers, dentists, doctors, nurses, industrial workers and journalists. APEDDUB held a local conference in the city of Bizerte to highlight the impact and damage of mercury to health and environment. Almost two hundred people attended the conference, learning about the potential harms of mercury.

In addition, ABEDDUB carried out many presentations in schools and children's clubs in the area, where posters, stickers and folders were distributed. In these schools and clubs ABEDDUB launched a local campaign to collect products containing mercury (thermometers, piles, batteries, economic and fluorescent lamps) for safe disposal and replacement with alternatives.

Two important results came from this project: many dentists in the city of Bizerte have stopped using dangerous mercury-containing amalgam for fillings and are demanding alternatives for it, and the regional hospital of CNSS in Bizerte is stopping the purchase of mercury-containing products.

SAICM IMPLEMENTATION BY NGOS IN THE MIDDLE EAST

CSOs affiliated to IPEN have carried out various activities related to the national implementation of the SAICM GPA. Below are some examples of SAICM implementation from NGOs in the region.

SAICM OBJECTIVE	NGO ACTIVITY AND GPA ITEMS	NAMES OF NGOS	COUNTRY
Risk Reduction	"Zero Mercury Conference" on the use of mercury in the healthcare sector; the harm it causes and alternatives to it, and raising awareness among dental students of the complications resulting from amalgam GPA items: 2, 17, 57–58	IndyACT	Lebanon
	Regional Awareness Campaign on PCBs , Dioxins and Furans GPA items: 2, 54, 70	Biblos Ecolgia—Jbeil, Mount Lebanon	Lebanon
	Regional Awareness Campaign on POPs GPA items: 2, 54, 70	The Association for Environmental and Traditional Protection-AETP Nabatieh, South Lebanon	Lebanon
	National Awareness Campaign to Eliminate Harmful Chemicals in Compounds in Children's Toys in Tunisia GPA items: 44, 54	Association pour la Protection de l'Environnement et Développement Durable de Bizerte (APEDDUB)	Tunisia

SAICM OBJECTIVE	NGO ACTIVITY AND GPA ITEMS	NAMES OF NGOS	COUNTRY
Risk Reduction <i>cont.</i>	Tunisia Mercury Situation Report - Awareness-raising campaign about mercury including: hazardous for health and the environment; including a conference with presentations in schools; posters, stickers, and a brochure were created; dentists committed to stop the use of amalgam; the regional hospital of CNSS in Bizerte is stopping the purchase of Hg-containing products; students are engaged to collect the Hg-containing products; workshop attendees learned about Hg-spill clean-up; and the president of APEDDUB being interviewed by the local radio station about the health and environmental impacts of mercury GPA items: 1, 44, 57, 59, 66	Association pour la Protection de l'Environnement et Développement Durable de Bizerte (APEDDUB)	Tunisia
	Reduce, Eliminate, and Replace Mercury in Healthcare Facilities GPA items: 44, 54, 57, 59	Environmental Protection and Sustainable Development Society	Syria
Knowledge and Information	Advantages and Disadvantages of Nanotechnology, with workshop participants have increased awareness about nanotechnology GPA items: 89, 105, 106, 135, not specifically in GPA	Association pour la Protection de l'Environnement et Développement Durable de Bizerte (APEDDUB)	Tunisia
	Testing lead in paint on the public market GPA: 81, 85, 89, 150	IndyACT; Land and Human to Advocate Progress (LHAP)	Lebanon, Jordan
	Intoxication by Heavy Metals and the need for better medicine to deal with it, with local newspapers reporting on the workshop and people became more aware of the dangers GPA items: 112	Moroccan Society for Clinical and Analytical Toxicology (SMTCA)	Morocco
	Awareness Campaign to Educate Community about the Hazards of Mercury to Health and Environment; a regional workshop held for 40 participants representing NGOs, media, experts, and parliamentarians from eight Middle East and North African countries to enhance the international efforts towards reducing Hg usage; and a mercury country situation report was prepared GPA items: 163	Arab Network for Environment and Development (RAED)/ Arab Office for Youth and Environment (AOYE)	Egypt
	Current Status of Mercury in Jordan; a mercury country situation report was prepared GPA items: 82, 84, 87	Baytuna Society	Jordan

SAICM OBJECTIVE	NGO ACTIVITY AND GPA ITEMS	NAMES OF NGOS	COUNTRY
Knowledge and Information <i>cont.</i>	Information and awareness-raising on Hg meant for government, NGOs, professional organizations, and the press; a national workshop on Hg, in collaboration with the National Drinking Water Office, IPEN, PAN Morocco, and Day Hospital, aimed to develop the current status of mercury both at the national and international level and to discuss issues related to the production, uses, emissions, and alternatives of Hg, and its risks on health and the environment, as well as national and international action to implement Hg sustainable solutions in order to protect health and the environment; participation of 27 experts and managers; and the developing of brochures and press releases and conducting of radio and newspaper interviews conducted. GPA items: 84, 87, 105–106, 109	Association d'Education Environnementale et de Protection des Oiseaux au Maroc (SEEPOM)	Morocco
	Electrical and Electronic Waste: a New Emerging Danger: E-waste National Awareness Campaign; an assessment of electrical and electronic (EE) waste in Jordan; distribution of questionnaires (to schools and electronic shops) to measure knowledge on e-waste; development of a brochure that contains basic info on EE-waste for the purpose of raising community awareness; and organization of community consultations to present the facts derived from the assessment study and discuss possible actions and recommendations GPA items: 82, 87, 112	Land and Human to Advocate Progress (LHAP)	Jordan
	Awareness raising in schools on SAICM and chemicals; awareness-raising programs throughout eight states; discussion of chemical hazards of pesticides, POPs, and used batteries (heavy metals) via workshops, presentations, brochures, publications, and photos; and collection of used batteries for safe disposal GPA items: 87, 112	Association for Sustainable Development (AREMEDD)	Tunisia
	Campaign and policy dialogue for action to remove the Saida Waste Dump; meetings with the local municipality of Saida, Ministry of Environment officials, and agents for tourism in order to put together a plan and action to minimize the dump; and distribution of informational leaflets to the public GPA items: 161–162	AMWAJ of the Environment	Lebanon



SOUTH ASIA

Contributions by
Toxics Link, India
IPEN South Asia Regional Hub

All the countries in the South Asia region signed the SAICM declaration in 2006 and abide to take steps to minimize harmful effects of chemicals on human health and the environment. During the last three to four years, the countries in the region have made some efforts to move the chemical safety issues forward to achieve the 2020 goal. However, the approach and state of the progress to achieve SAICM goals varies from country to country in the region.

In Bangladesh, the Ministry of Environment and Forest is the focal point for SAICM and responsible for implementation of SAICM goals. The government has intervened in some issues; however, the impacts are not visible. The point person in the ministry responsible for the implementation has also been frequently shifted, thus creating a serious bottleneck in the implementation of SAICM. The lack of a dedicated SAICM implementation budget has also made it difficult for any meaningful action by the national focal point. Bangladesh has strong CSOs and many are engaged on issues of chemicals management and continue to do excellent work in this direction. However, the government has not been able to create any platform for active interaction and involvement of NGOs, so involvement of NGOs in governmental SAICM implementation has been minimal. The overall chemical safety situation in Bangladesh has not witnessed any significant changes since 2009.

Select public interest NGOs in Bangladesh have tried to formulate their own arrangements to take up the issues in association with the concerned stakeholders, among others. They have intervened on a wide range of issues, from e-waste, lead in paints, and pesticides to workers' safety from chemicals exposures, as per the mandate of SAICM. Some of these civil society interventions have also received support and encouragement from the government. The public interest NGOs have been consistent in creation of new data and in creating conversations with various stakeholders aiming for full implementation of the Strategic Approach.

Bhutan is committed to the SAICM declaration; nevertheless, chemical safety issues are not very high on the priority of the government. Chemical issues are in their infancy in the country and there is very little capacity among stakeholders to understand the issue in detail. There is a common perception that the country does not produce chemicals and its usage is also very limited; hence, they are not a high priority of the government. However, the Bhutan government is implementing a project in the QSP called "Strengthening National Capacities for Sound Management

of Priority Carcinogenic Chemicals in Bhutan." As chemical safety issues are very new in Bhutan, NGOs do not have adequate capacities to take them up.

India is an important country in the SAICM development process. However, the progress of SAICM implementation in India has been slow and no established system exists for public interest NGO participation in the SAICM process. The government has notified Hazardous Materials (Management, Handling, and Transboundary Movement) rules and e-waste rules for electronic waste management. In addition, the government has notified a draft Pesticides Management Bill and draft National Chemical Policies-2012 for India. Despite this, there are many gray areas related to chemicals management and a critical need to build capacity and deeper understanding among regulators, industry, and public interest NGOs. These policies and regulations require further strengthening and operationalizing across the country. The lack of coordination among the concerned Ministries is also one of the factors responsible for slow implementation of the rules in India.

In spite of the lack of an official participatory process that is managed by the government, many public interest NGOs have taken new initiatives to implement SAICM goals.

Nepal has been passing through political instability in the past few years, which has impacted governance in the country. However, the Nepalese government has taken steps to achieve some of the SAICM goals. There are discussions at the government level about bringing about new policies on these issues. Though there is no established mechanism in place by the government to coordinate

PROMOTING PCB-FREE ALTERNATIVES

In Nepal, PCB-contaminated oil from old transformers was very commonly used for welding machines. The NGO Center for Public Health and Environmental Development (CEPHED) therefore conducted a study on the health impact of PCBs on grill workers (metal fabricators), and met with them to raise their awareness about the impact of PCBs on their health and the environment. At the same time, CEPHED also pushed for the best alternative, environmentally-friendly technology, which had the potential to replace the existing welding machines. CEPHED organized meetings and campaigned rigorously on the issues involving the stakeholders. Finally, the efforts of CEPHED led to the adoption of a new, environmentally-friendly technology: dry welding machines. The new dry machine is now becoming increasingly popular among grill workers in Nepal.

with public interest NGOs for SAICM interventions, there are examples of public interest NGO participation in the implementation and decision-making process. The NGOs are quite accessible to the focal points and regularly in dialogue to take issues forward. The relationship between government, public interest NGOs, and other stakeholders is very much cordial and symbiotic in nature. The government has even financed some of the initiatives undertaken by the NGOs on these issues.

Through the support of the QSP Trust Fund, Nepal is developing a national chemicals management profile and a national SAICM capacity assessment and holding a national SAICM priority setting workshop. However, there are some hindrances in the SAICM implementation process in Nepal. Apart from political instabilities, the lack of adequate financial resources, the inaccessibility to the technology, and limited policy interventions are posing bottlenecks in implementing SAICM goals to the fullest.

In Sri Lanka, implementation of SAICM is not a high priority for the government. There has not been very active involvement of public interest NGOs in the SAICM decision-making and implementation process because there is neither an established mechanism for public interest NGO participation nor a dedicated budget for SAICM implementation.

The government has undertaken two projects funded by the SAICM QSP: “Strengthening National Capacities for Sound Management of Priority Industrial Carcinogens and Updating National Chemicals Profile in Sri Lanka” and “Chemical Accident Prevention and Preparedness Programme for Sri Lanka.” Public interest NGOs have not been consulted or involved in either of these projects and are not part of the implementation process. The government has also initiated measures for work on mercury, asbestos, and the safe handling of electronic waste, and measures for the elimination of lead in paints.

Center for Environment and Justice (CEJ), the NGO focal point for SAICM in Sri Lanka, has organized a capacity-building workshop to take up the issues with the stakeholders, including academics. Furthermore, CEJ has also undertaken projects for SAICM implementation in a GEF-SGP Project. Like colleagues in other South Asian countries, public interest NGOs are critical in Sri Lanka for the improvement of the national chemical safety situation.

GAPS

During the period of 2009-2012, efforts have been made by the governments and the NGOs in the region to intervene on chemical safety issues in order to achieve SAICM goals. The governments of the region have tried to address the challenges through suitable policies and on-the-ground interventions. The QSP has helped the government to intervene in some countries and build capacities of regulators and policy makers on chemical safety issues.

Public interest NGOs have also developed capacities to undertake new interventions to achieve SAICM goals. Some NGOs also have access to resources to carry out activities on SAICM issues. The activities of public interest NGOs have helped communities and other stakeholders such as health professionals, media, and academics to access new information and create awareness on SAICM issues. Networks have been set up among public interest NGOs and other stakeholders to exchange information. Information sharing and exchange between the public interest NGOs of the North and South have helped to build confidence among NGOs in the region.



Preparing to spray pesticides in India

Nevertheless, in totality, the governments of the region have been slow in initiating major interventions towards achieving SAICM goals. With the exception of Nepal, government engagement with public interest NGOs in SAICM implementation has been slow and inadequate. The problem is exacerbated by the fact that no country in the region has set up an intersectoral committee to look into specific SAICM issues. More work is needed to build synergy among the public interest NGOs and the governments. There is also a further need to upscale knowledge and information on these issues for effective implementation of SAICM processes.

There is a lack of understanding among all stakeholders on chemicals issues in the region and therefore a need to build capacity. There are serious gaps in the regulatory framework in almost all countries of the region, which requires immediate attention. The governments of the region need to put chemicals management at a higher priority and act on some of the identified gaps. The region also has a high population density and a high growth rate, both leading to progressively higher consumption of chemicals. The demand for higher consumption will have to be met through domestic production and through some international trade of chemicals; hence, there is an urgency to more fully develop sound chemicals management that involves all stakeholders. The countries of South Asia will need to draft improved laws and also effectively implement these laws. In addition, the South Asian region is particularly vulnerable to climate change, and attention is required to

conduct more research and information linking chemical safety issues and climate change. Specific required actions need to be undertaken, as the vulnerable populations and weaker sections of societies in the region bear the brunt of the growing climate crisis. This should also be part of SAICM implementation in the region. Finally, there is an urgent need to improve and strengthen overall environmental governance by the respective countries of the region to achieve SAICM goals.

There are some specific gaps in the region that require adequate attention to achieve the desired results:

1. establishing a participatory process for meaningful involvement of public interest NGOs in government activities to implement SAICM
2. allocating a governmental budget for SAICM implementation
3. developing and implementing mechanisms for information exchange on SAICM between stakeholders
4. implementing a sound monitoring system for chemical safety initiatives and laws involving all stakeholders
5. creating and implementing an inter-ministerial, intersectoral, and multistakeholder coordination committee for SAICM implementation
6. insuring adequate legal and institutional infrastructure is in place for upstream and downstream solutions
7. increasing the capacity and knowledge of the regulators, policy makers and public interest NGOs
8. implementing proactive and responsible initiatives from the industry to achieve SAICM goals
9. Creating transparency in decision-making processes
10. enhancing stakeholders' participation in policy decisions
11. developing and implementing suitable policies and regulations



E-waste youth education session, organized by ESDO, Bangladesh

SAICM IMPLEMENTATION BY NGOS IN SOUTH ASIA

CSOs affiliated to IPEN have carried out various activities related to the national implementation of the SAICM GPA. Below are some examples of SAICM implementation from NGOs in the region.

SAICM OBJECTIVE	NGO ACTIVITY AND GPA ITEMS	NAMES OF NGOS	COUNTRY
Risk Reduction	Campaign to phase out of mercury from health sectors in India; guidelines issued for the Ministry of Health of India to phase out mercury from hospitals and managing the mercury bearing wastes; many hospitals are shifting to mercury free in Delhi GPA items: 57	Toxics Link	India
	Campaign for Lead Free Paints in South Asia Region GPA items: 85 152	Environment and Social Development Organization; Toxics Link, Center for Public Health and Environmental Development (CEPHED)	Bangladesh, India, Nepal
	Promotion of dry welding machine over wet welding machine using PCB contaminated transformer oil GPA items: 54	Center for Public Health and Environmental Development (CEPHED)	Nepal
	Program to phase out mercury from health care in some Uttar Pradesh districts, India GPA items: 57, 216	Youth Round Table Society (YRT)	India
	Campaign to phase out of hazardous pesticides in Bangladesh GPA items: 27, 29, 51, 66, 68	Bangladesh Occupational Safety, Health and Environment Foundation (OSHE)	Bangladesh
	Workshops; mercury-free health care system in some districts of Gujarat, India GPA items: 57	Paryavaraniya Vikas Kendra	India
	Program to phase out mercury from hospitals in Coimbatore, Tamil Nadu GPA items: 57	Arulagam	India
	Campaign for Mercury Free Dentistry in Bangladesh GPA items: 57	Environment and Social Development Organization (ESDO)	Bangladesh
Knowledge and Information	Study, Awareness Raising and Capacity building about Electronic Waste in Nepal GPA items: 121	Center for Public Health and Environmental Development (CEPHED)	Nepal
	Study of lead in children's jewelry GPA items: 152	Toxics Link	India

SAICM OBJECTIVE	NGO ACTIVITY AND GPA ITEMS	NAMES OF NGOS	COUNTRY
Knowledge and Information <i>cont.</i>	Estimation of mercury use in health care sectors and dental sectors in India GPA items: 57, 89	Toxics Link	India
	Research on mercury content in CFL bulbs GPA items: 57, 89	Toxics Link, Center for Public Health and Environmental Development (CEPHED)	India, Nepal
	Research on Recycling of Brominated Flame Retardant Contaminated Plastics GPA items: 89	Toxics Link	India
	Waste Electrical and Electronic Equipment: The EU and India sharing best practices GPA items: 119	Toxics Link	India
	Mercury monitoring through hair and fish samples GPA items: 57, 85	Center for Public Health and Environmental Development (CEPHED), Toxics Link	India, Nepal
	Study of Lead in cosmetics and Artificial Jewelry GPA items: 80–81, 85	Center for Public Health and Environmental Development (CEPHED)	Nepal
	Report on the breakage of mercury appliances in hospitals and health clinics GPA items: 57, 85	Centre for Environmental Justice (CEJ)	Sri Lanka
	Study on mercury level in working environment and aquatic environment to promote alternatives to mercury GPA items: 57, 85	Health Care Foundation Nepal (HECAF)	Nepal
Governance	Campaign for e-waste and EPR rule for a sound e-waste management in India GPA items: 195–196	Toxics Link	Sri Lanka
	Strengthening Governance and Accountability on SAICM in Nepal GPA items: 206	Forum for Justice	Nepal
	Raising awareness and making policy intervention for reduction of mercury in health sector and safe handling of mercury in institution laboratories in West Bengal GPA items: 57, 195	Society for Direct Initiative for Social and Health Action (DISHA)	India

SAICM OBJECTIVE	NGO ACTIVITY AND GPA ITEMS	NAMES OF NGOS	COUNTRY
Capacity Building	Capacity building workshop on SAICM in Sri Lanka GPA items: 57, 195	Center for Environmental Justice (CEJ)	Sri Lanka
	Capacity building of farmers for ecological agriculture; farmers clubs formation and capacity building on organic agriculture, farmers' setting up of composting units GPA items: 51, 114, 160	Parivartan Pariharpur Sansthan, LokKalyan Samajik Sanstha	India
	Sharing E-waste information among the young communities in Bangladesh GPA items: 258	Environment and Social Development Organization (ESDO)	Bangladesh
	Advocacy and awareness campaign on mercury GPA items: 57, 216	Centre for Environmental Justice (CEJ)	Sri Lanka
	Awareness and Learning Initiative of E-waste Hazard in Bangladesh GPA items: 216, 260	Environment and Social Development Organization (ESDO)	Bangladesh
	Awareness Programme on Mercury Hazards in Health and Education Sectors GPA items: 57,150, 216	Society for Direct Initiative for Social and Health Action (DISHA)	India
	National Conference on Persistent Organic Pollutants GPA items: 54, 216	Toxics Link	India
	Farmer awareness of judicious use of pesticides and adoption of organic agriculture; 300 farmers and 42 sprayers benefitted by the training GPA items: 51, 114, 160	Indian Agricultural Development Foundation	India
	Capacity building programs on the impact of heavy metals GPA items: 216	Center for Public Health and Environmental Development (CEPHED)	Nepal
	Training programs for preventing the exposure of waste handlers and recyclers, particularly waste scavengers, to hazardous chemicals and waste GPA items: 161	Environment and Social Development Organization (ESDO)	Bangladesh
	Raising awareness among informal e-waste recyclers for and providing support to bring them in formal channel in Kolkata GPA items: 161–162	Toxics Link and Society for Direct Initiative for Social and Health Action (DISHA)	India

SAICM OBJECTIVE	NGO ACTIVITY AND GPA ITEMS	NAMES OF NGOS	COUNTRY
Capacity Building <i>cont.</i>	State level capacity building workshop of stakeholders on mercury; initiative to issue guidelines for mercury free hospitals by State PCB, in Manipur state of India GPA items: 57, 214	Rural Health Organization	India
Illegal Traffic	Mobilization Against Arsenic Poisoning due to illegal pesticides use in Sri Lanka GPA items: 266	Centre for Environmental Justice (CEJ)	Sri Lanka
	Study on illegal trafficking of e-waste from China and India. GPA items: 272–273	Center for Public Health and Environmental Development (CEPHED)	Nepal
	Strengthen national strategies for prevention, detection and control of illegal trans boundary movements of waste GPA items: 272–273	Environment and Social Development Organization(ESDO)	Bangladesh



SOUTHEAST ASIA AND EAST ASIA

Contributions by
Southeast Asia POPs Elimination
Network, Philippines
IPEN Southeast Asia Regional Hub

Southeast Asia and East Asia is economically and politically diverse. This leads to different types of challenges and needs with respect to chemical safety and this has been evident in how SAICM has been implemented in the region. Overall, the speed of SAICM implementation has been unhurried and uneven and, in most cases, still evolving and far from being complete and effective. Progress in elevating chemical safety as an integral piece of any national agenda and plan of action for socially just and sustainable development has been slow and gradual.

Several countries in the region have moved toward SAICM implementation in a variety of activities. Thailand has incorporated SAICM into the country's National Master Plan on Chemical Safety and has set up a corresponding national coordinating committee that includes representatives from government, industry, and civil society. Korea has fully analyzed the GPA and developed an implementation plan and a coordinating committee that includes two public interest NGO representatives. Most governments have initiated measures to strengthen sound chemicals management that have yet to be concluded. For instance, Malaysia has drafted a Chemical Classification, Labeling and Safety Data Sheet regulation and an Environmentally Hazardous Substances Notification and Registration Scheme that have yet to be approved. In 2012, Indonesia formed a technical committee that will work toward the establishment of a National Hazardous Chemical Substances Commission as directed by a government regulation that was issued in 2001. In 2011, the Philippines decisively resumed a process that has been idle since 2007 that will adopt a Chemical Control Order for lead and lead compounds, which will, among others, prohibit lead-added decorative paints.

While several countries in the region have severely restricted or banned some HHPs, much remains to be done to enforce such directives. Regional information sharing on HHP bans and their rationale could be helpful to governments in the region who seek to address HHPs in their country. Attention must be given to the registration review process to phase out HHPs and to prevent new ones from entering the market. Also, government policies aimed at reducing HHPs should include promoting toxic-free, sustainable agriculture and providing incentives to farmers to move away from harmful chemicals. An alarming issue is the illegal movement of pesticides from manufacturing countries across the long porous borders of countries that have a long tradition of sustainable agricultural practices and which do not manufacture

synthetic agrochemicals. A regional mechanism could help ensure that pesticide manufacturing countries respect pesticide bans of other countries.

As in other regions, waste management is a key issue in Southeast Asia and East Asia. There are increasing public and governmental concerns with POPs, metals, and other types of toxic chemicals from municipal and hazardous waste management, cement kilns, and various types of incineration including waste-to-energy incinerators. SAICM stakeholders anticipated this problem when they proposed GPA item 258, which calls for implementing “capacity building programs on waste minimization and increased resource efficiency, including zero waste resource management, waste prevention, substitution and toxics use reduction, to reduce the volume and toxicity of discarded materials.”

NGOs have worked actively to help implement SAICM in the region by working alongside impacted communities and many

TESTING FOR TOXIC HEAVY METALS IN TOYS

The NGO EcoWaste Coalition initiated a project to measure toxic metals in children's products; to our knowledge, the first publicly available investigation of toxic metals in children's products in the Philippines. EcoWaste Coalition representatives, together with an IPEN Advisor, visited numerous different kinds of stores in Cebu, Davao and the metro Manila area, where they purchased toys to be analyzed. In total, 435 products were tested. The measurements were performed using a hand-held X-ray fluorescence analyzer (XRF) and focused on antimony, arsenic, cadmium, chromium, lead, and mercury. Approximately 29% of the products contained at least one toxic metal above levels of concern. The data revealed 67 products (15%) that contained lead at or above the US regulatory limit. Fifty-seven samples (13%) contained more than one toxic metal. The study also found children's toy cosmetics with mercury levels ranging from 4 - 77 times higher than the regulatory limit in the Philippines. The findings raised safety concerns for exposure in children and highlighted the need for protective national regulatory policies. Vast numbers of media stories were circulated about the project and its findings, and government decision-makers were motivated to further investigate toys' ingredients and propose regulatory actions. Since the initiation of this project in August 2011, the Food and Drug Administration of the Philippines have acquired their own XRF analyzer to conduct on-site rapid assessment monitoring for toxic heavy metals in products in stores in Manila.

other sectors. Their efforts have ranged from conducting creative and evidence-based information and education activities, sampling and data analyses, initiating chemicals policy reforms, providing policy papers, and addressing SAICM's emerging policy issues.

GAPS

Despite the steady efforts of countries in Southeast Asia and East Asia to promote the sound management of chemicals since SAICM was adopted in 2006, gaps still remain in implementation. These gaps include:

1. insufficient financial resources to fully and effectively implement SAICM and related multilateral chemicals and environmental agreements, nationally and at the ASEAN-level
2. a lack of concrete efforts to mobilize additional resources from the chemicals industry to pay for the costs of sound chemicals management
3. weak incorporation of the precautionary principle and other essential tools in current or emerging chemicals policies such as “no data, no market,” toxics use reduction, materials substitution, “polluters pay,” and “right to know,” among others
4. slow progress in crafting national chemicals profiles and frameworks for the sound management of chemicals throughout their life cycle
5. a lack of a holistic mechanism or system for inter-agency coordination on chemicals management in terms of data



Informal recycler in the Philippines breaking apart a CFL (compact florescent light) bulb, as a young boy watches.



Press conference where the Foundation For Consumers and the Ecological Alert and Recovery-Thailand (Earth) released the results of their study of 47 different skin lightening creams that they tested for mercury in various markets in Thailand. 20% of the products contained mercury at levels above concern.

- collection and repository, information sharing, enforcement, compliance measures, etc.
6. inadequate infrastructure and personnel to effectively enforce bans and/or restrictions on the trade, sale, use, and disposal of chemical substances, products, and wastes of concern, including inefficient customs control to prevent illegal traffic in dangerous and toxic goods
7. a lack of an ASEAN-level policies and corresponding cooperative plans to respect national pesticide bans and prevent transboundary movement of banned pesticides
8. a lack of robust and unified legislations, and general as well as specific regulations, to advance the goals of chemical safety and sustainable development in agriculture, industry, and commerce
9. insufficient assessment and guidance on the use of nanomaterials and nanotechnology, and their impact on human health and the environment
10. a lack of documentation on the health, environmental, and economic impacts of HHPs and other products and wastes of equivalent concern
11. ineffective policies to prevent and reduce the growing volume and toxicity of discards and establish functional systems for the environmentally-sound management of municipal solid waste, healthcare waste, and hazardous waste
12. poor public access to essential information, such as chemicals transported, used, and stored industrial facilities, as well as chemicals discharged from pollution sources, chemicals in products, chemicals in wastes, chemicals poisonings, etc.
13. a lack of effective civil society engagement and participation in the implementation of SAICM, especially at the policy level

SAICM IMPLEMENTATION BY NGOS IN SOUTHEAST ASIA AND EAST ASIA

CSOs affiliated to IPEN have carried out various activities related to the national implementation of the SAICM GPA. Below are some examples of SAICM implementation from NGOs in the region.

SAICM OBJECTIVE	NGO ACTIVITY AND GPA ITEMS	NAMES OF NGOS	COUNTRY
Risk Reduction	Contributed to the development of a national chemicals profile GPA items: 1, 165	Ban Toxics, EcoWaste Coalition, Health Care Without Harm	Philippines
	Participated in government-initiated policy discussions on developing chemicals laws and regulations GPA items: 12	Ban Toxics, Centre d'Etude et de Développement Agricole Cambodgien , EcoWaste Coalition, Health Care Without Harm	Cambodia, Philippines
	Promoted phase out and ban on major chemicals of public health concern (i.e., asbestos, HHPs, phthalates, toxic metals) GPA items: 20, 54	Consumers' Association of Penang, EcoWaste Coalition, Pesticide Action Network - Asia Pacific	Malaysia, Philippines
	Collaborated with the government on a megaposter on pesticide and chemical fertilizer GPA items: 52, 54	Centre d'Etude et de Développement Agricole Cambodgien	Cambodia
	Conducted air, water, sediment, fish and hair sampling to determine mercury levels in hotspots and encourage action to curb mercury pollution GPA items: 57	Balifokus, Ban Toxics, Ecological Alert and Recovery-Thailand, EcoWaste Coalition, Global Alliance for Incinerator Alternatives, Health Care Without Harm	Indonesia, Philippines, Thailand
	Mercury monitoring in artisanal small-scale gold mining hotspots in West Java, Central Palu, and West Lombok to develop health and environmental indicators, identify feasible non-mercury extraction, and explore phytoremediation approach to clean up the contaminated sites; in collaboration with Bandung Institute of Technology, Tadulako University, and Mataram University GPA items: 57	Balifokus	Indonesia
	Conducted studies on mercury in cosmetics and personal care products such as skin whitening creams GPA items: 57	Ecological Alert and Recovery-Thailand, EcoWaste Coalition, Green Beagle	China, Philippines, Thailand
	Conducted paint sampling activities to know lead levels in decorative paints and organized awareness-raising activities based on the findings GPA items: 88–89, 108, 157	Balifokus, Ecological Alert and Recovery-Thailand, EcoWaste Coalition	Indonesia, Philippines, Thailand

SAICM OBJECTIVE	NGO ACTIVITY AND GPA ITEMS	NAMES OF NGOS	COUNTRY
Risk Reduction <i>cont.</i>	Conducted heavy metals study and monitoring near hotspots (hazardous waste landfills and gold and zinc mining sites) GPA items: 57, 69, 76	Ecological Alert and Recovery-Thailand	Thailand
	Promoted non-incineration alternatives to managing industrial, hazardous, healthcare, and municipal waste GPA items: 54, 70, 258	Balifokus, Bangon Kalikasan Movement, Cavite Green Coalition, Community Sanitation and Recycling Organization, Consumers' Association of Penang, Ecological Alert and Recovery-Thailand, Renewal EcoWaste Coalition, Global Alliance for Incinerator Alternatives, Green Beagle, Indonesia Toxics-Free Future Network, Interface Development Interventions, Korea Zero Waste Movement, Greenpeace, Mother Earth Foundation, Philippine Earth Justice Center, Wuhu Ecology Center and many other groups in China	Cambodia, China, Indonesia, Malaysia, Philippines, South Korea, Thailand
	Conducted public awareness activities on health and environmental effects of pesticides GPA items: 27, 54, 64, 78, 88	Centre d'Etude et de Développement Agricole Cambodgien, Research Centre for Gender, Family and Environment in Development, Gita Pertiwi, Pesticide Action Network-Asia Pacific, Pesticide Action Network Philippines, Pesticide Eco-Alternatives Center, Sustainable Agriculture and Environment Development Association, Tenaganita	Cambodia, China, Laos, Indonesia, Malaysia, Philippines, Vietnam, Asia-wide
	Performed information, education, and research activities on healthcare waste management and non-incineration alternatives GPA items: 54, 56, 70, 84, 119, 162, 258	Balifokus, Consumers' Association of Penang, EcoWaste Coalition, Health Care Without Harm	Indonesia, Malaysia, Philippines

SAICM OBJECTIVE	NGO ACTIVITY AND GPA ITEMS	NAMES OF NGOS	COUNTRY
Risk Reduction <i>cont.</i>	Carried out community-based monitoring on the use of pesticides GPA items: 13, 23, 46	Centre d'Etude et de Développement Agricole Cambodgien, Research Centre for Gender, Family and Environment in Development, Gajad Muda University, Gita Pertiwi, Pesticide Action Network-Philippines, Pesticide Eco-Alternatives Center, Sustainable Agriculture and Environment Development Association, Tenaganita	Cambodia, China, Indonesia, Laos, Malaysia, Philippines, Vietnam
	Organized training on health and environmental risks of pesticides GPA items: 46, 112	Research Centre for Gender, Family and Environment in Development, Pesticide Action Network-Philippines, Pesticide Eco-Alternatives Center	China, Malaysia, Philippines, Vietnam
	Campaigned against paraquat and endosulfan, sent out information to governments in the region, presented risks of paraquat use to Institute for the Control of Agrochemicals, Ministry of Agriculture GPA items: 27	Pesticide Action Network—Asia Pacific, Pesticide Eco-Alternatives Center	China, Asia-wide
	Organized knowledge sharing activities, trainings, and demonstrations on ecological agricultural practices, including health effects of pesticides, chemicals-free farming, and benefits of organic food GPA items: 51, 54, 56, 112, 160	Centre d'Etude et de Développement Agricole Cambodgien, Research Centre for Gender, Family and Environment in Development, Consumers' Association of Penang, Pesticide Action Network Asia Pacific, Pesticide Action Network Philippines, Pesticide Eco-Alternatives Center, Sustainable Agriculture and Environment Development Association, Research Center for Rural Development	Cambodia, China, Laos, Malaysia, Philippines, Vietnam, Asia-wide
	Participated in multistakeholder project to develop a national framework on chemical accident prevention and preparedness GPA items: 71	EcoWaste Coalition	Philippines

SAICM OBJECTIVE	NGO ACTIVITY AND GPA ITEMS	NAMES OF NGOS	COUNTRY
Risk Reduction <i>cont.</i>	Developed guidelines for hazardous substances such as boric acid, chlorinated paraffin, ethanol amine, and alkyl phenol in metalworking fluids, in collaboration with eight manufacturers with 80% of the market share GPA items: 3, 6, 13, 20–21	OUR Network; Korean Steelworkers Union	South Korea
Knowledge and Information	Monitored compliance of FAO Code of Conduct in pesticide retail shops GPA items: 23	Pesticide Action Network Philippines	Philippines
	Organized information, education, and communication activities to promote community and consumer right to know and be protected against harmful chemicals in products, toxic releases in industrial processes, and environmental pollutants from waste treatment and disposal facilities GPA items: 72, 105, 124, 147, 150, 161, 163, 177, 187	Consumers' Association of Penang, Ecological Alert and Recovery—Thailand, EcoWaste Coalition, Greenpeace	Malaysia, Philippines, Thailand
	Organized sampling activities to determine the presence of harmful chemicals like toxic metals in children's products such as toys and school supplies, and conducted awareness-raising and policy activities based on data generated GPA items: 88, 150, 245	EcoWaste Coalition, Greenpeace East Asia, Yayasan Lembaga Konsumen Indonesia (Indonesian Consumer Association)	China, Indonesia, Philippines
	Investigated bisphenol A in canned foods used in Korean public schools and conducted public awareness-raising with parents GPA items: 88, 150, 245	OUR Network	South Korea
	Implemented mercury inventory and mercury storage project; in collaboration with Bandung Institute of Technology, Ban Toxics, Health Care Without Harm, PPLi (Waste Management International) GPA items: 57	Balifokus	Indonesia, Philippines
	Initiated risk communication and conflict mediation regarding industrial pollution and community livelihood and sustainable solutions GPA items: 105–106, 109–110	Ecological Alert and Recovery-Thailand	Thailand
	Developed and distributed fact sheets and monographs on HHPs (i.e., endosulfan, paraquat, glyphosate, chlorpyrifos, fipronil) and safer alternatives GPA items: 81, 89, 114	Research Centre for Gender, Family and Environment in Development, Pesticide Action Network Asia Pacific, Pesticide Action Network Philippines, Pesticide Eco-Alternatives Center	Cambodia, China, Laos, Malaysia, Philippines, Vietnam, Asia-wide

SAICM OBJECTIVE	NGO ACTIVITY AND GPA ITEMS	NAMES OF NGOS	COUNTRY
Knowledge and Information <i>cont.</i>	Organized activities with consumer brigades, schools, consumers and nature environment clubs to promote consumer information and education GPA items: 112	Consumers' Association of Penang	Malaysia
	Translated and published Thai version of "In Harms' Way" to educate Thai health professionals and public about the impact of chemicals on child development, and collected relevant reports in Thailand on chemicals and children's health GPA items: 150	Ecological Alert and Recovery-Thailand	Thailand
	Organized workshop series on the precautionary principle, chemical safety and children's health GPA items: 150	EcoWaste Coalition	Philippines
	Held regional workshop on curriculum development for community education on pesticide risk reduction GPA items: 112	Research Centre for Gender, Family and Environment in Development, Pesticide Eco-Alternatives Center	Cambodia, China
	Contributed to the Report by the Special Rapporteur to Right to Health GPA items: 149	Pesticide Action Network Asia Pacific	Malaysia
	Conducted local radio shows to highlight ecological agricultural practices including bio-diversity based ecological agriculture GPA items: 159	Centre d'Etude et de Développement Agricole Cambodgien	Cambodia
	Sent out 2704 short messages to farmers, consumers and partner CSOs regarding risks of endosulfan GPA items: 119, 140	Pesticide Eco-Alternatives Center	China
	Distributed 1000 calendars with information on pesticide risk to farmers and government officials GPA items: 119, 140	Research Centre for Gender, Family and Environment in Development, Pesticide Eco-Alternatives Center	China, Vietnam
	Risks of paraquat were presented in Institute for the Control of Agrochemicals, Ministry of Agriculture in 2011 GPA items: 27, 119	Pesticide Eco-Alternatives Center	China
	Organized public awareness-raising and media activities on the ecological management of spent mercury-containing fluorescent lamps to combat unsafe recycling and disposal GPA items: 57, 69	EcoWaste Coalition	Philippines

SAICM OBJECTIVE	NGO ACTIVITY AND GPA ITEMS	NAMES OF NGOS	COUNTRY
Knowledge and Information <i>cont.</i>	Co-organized with the FTA Watch a review of the social and environmental challenges under the ASEAN Economic Community (AEC) policy, and the problems with transboundary transfer or trade of hazardous waste from Japan to ASEAN countries and/or from other industrial countries through the economic agreement GPA items: 163–164, 268, 273	Ecological Alert and Recovery-Thailand	Thailand
	Workshop on mercury-free health care in collaboration with Ministry of Health and medical device industry GPA items: 57, 59	Global Village of Beijing	China
Governance	Participated in public hearings and technical working group meetings on the banning of endosulfan; lobbied the local and national authorities to ban the aerial spraying of agrochemicals GPA items: 196	EcoWaste Coalition, Interface Development Interventions, Pesticide Action Network Philippines, various community and farmer groups	Philippines
	Contributed to the development national strategy to environmentally sound management of mercury in Indonesia GPA items: 59, 165, 170, 176	Balifokus	Indonesia
	Lobbied for the ecological management of mercury-containing lamp waste GPA items: 57, 69	EcoWaste Coalition	Philippines
	Campaigned for the development and implementation of PRTR GPA items: 177–179	Ecological Alert and Recovery-Thailand, EcoWaste Coalition, Greenpeace	Philippines, Thailand
	Participated in the development, implementation and/or review of Stockholm Convention's National Implementation Plans (NIPs) GPA items: 206, 211	EcoWaste Coalition, PAN Philippines	Philippines
	Filed a legal complaint in order to assert the genuine representation of the public interest in the National Hazardous Substance Commission GPA items: 164, 188	Ecological Alert and Recovery-Thailand	Thailand
Capacity Building	Conducted trainings and provided inputs and suggestions on chemical conventions addressing human and environmental impacts of pesticides GPA items: 225	Research Centre for Gender, Family and Environment in Development, Pesticide Action Network Philippines, Pesticide Eco-Alternatives Center	China, Vietnam, Asia-wide

SAICM OBJECTIVE	NGO ACTIVITY AND GPA ITEMS	NAMES OF NGOS	COUNTRY
Capacity Building <i>cont.</i>	Organizing training activities on community environmental and health monitoring GPA items: 227	Ecological Alert and Recovery-Thailand	Thailand
	Provided training opportunities on hazard classification and GHS GPA items: 249	EcoWaste Coalition	Philippines
	Carried out capacity building programs and projects on waste prevention and reduction, including zero waste resource management, and more sustainable consumption practices GPA items: 258	Cavite Green Coalition, Consumers' Association of Penang, EcoWaste Coalition, Mother Earth Foundation	Malaysia, Philippines
	Conducted seminars and workshops to equip informal waste recyclers with information and knowledge on chemical hazards and basic exposure prevention tips GPA items: 260	EcoWaste Coalition and informal recyclers' groups	Philippines
	Organized a survey and capacity building workshop on better management of e-wastes GPA items: 260	Institut Hijau Indonesia in cooperation with local waste recyclers in Jakarta	Indonesia
	Launched E-Waste Action Now, produced e-waste advocacy documentary and conducted awareness raising activities, including seminars and media events GPA items: 260	Ban Toxics, EcoWaste Coalition, Greenpeace, Philippine Earth Justice Center	Philippines
Illegal Traffic	Conducted a survey to assess the transboundary movement of pesticides with focus on banned pesticides GPA items: 265–269	Centre d'Etude et de Développement Agricole Cambodgien, Pesticide Action Network Asia Pacific, Sustainable Agriculture and Environment Development Association	Cambodia, Laos
	Organized policy advocacy and public pressure to repatriate the contaminated imported metal scraps from the UK and the Netherlands GPA items: 268, 272, 273	Indonesia's Toxics-Free Network (Balifokus, Indonesian Centre for Environmental Law, Yayasan Lembaga Konsumen Indonesia (Indonesian Consumer Association), Wahana Lingkungan Hidup Indonesia, Gita Pertiwi and Greenpeace Indonesia)	Indonesia

SAICM OBJECTIVE	NGO ACTIVITY AND GPA ITEMS	NAMES OF NGOS	COUNTRY
Illegal Traffic <i>cont.</i>	Raised concern, disseminated information, and conducted investigative work on illegal shipment of dangerous and toxic wastes GPA items: 268, 272–273	Balifokus, Consumers' Association of Penang, Ecological Alert and Recovery-Thailand	Indonesia, Malaysia, Thailand
	Promoted media efforts to alert customs authorities on possible entry of illegal products containing lead, mercury and other toxic metals GPA Item: 273	EcoWaste Coalition	Philippines

SAICM IN DEVELOPED COUNTRIES

Some developed countries appear to view SAICM as an issue only for developing and transition countries despite agreeing to the Strategic Approach in Dubai. In fact, in a number of developed countries there remain significant gaps in implementing SAICM and considerable work is still needed to achieve the SAICM goal. This appears to reflect a low political priority on SAICM implementation and few actions to ensure the implementation of the OPS and GPA in their own countries.

Many developed countries have not yet established inter-ministerial coordination committees as recommended by the SAICM agreement, and there is a serious lack of public awareness or involvement in SAICM national implementation. In many developed countries, workers and the public still cannot access adequate information on toxic chemicals, their impacts and where and how they are used. Industrial and agricultural workers in particular continue to suffer serious and irreversible impacts of toxic chemicals. Research into alternatives to chemical pesticides in agriculture is not well supported nor is there sufficient policies and programs to promote safe and effective alternatives and substitutes to persistent, bioaccumulative, and toxic substances (PBTs) as called for in the SAICM GPA. Ironically, some developed countries have some of the highest levels of PBT contamination in their human populations in the world.

SAICM cannot be viewed as a process by which only developing and transition countries improve chemical management. All signatory countries of SAICM made a firm commitment in Dubai that the sound management of chemicals is essential to achieve sustainable development and that concerted actions need to be taken to reach the 2020 goal.

CONCLUSION

SAICM implementation by IPEN Participating Organizations increased during the period of 2009-2012. In part this was due to the SAICM Global Outreach Campaign and parallel efforts that helped broaden the awareness of SAICM in all regions during the period of 2006-2009. IPEN Participating Organizations have implemented over 300 activities in over 50 countries from the local to the international level to promote chemical safety. Activities include work on all areas of the OPS, work on all four SAICM emerging policy issues, and building national support for a strong mercury treaty during the ongoing negotiations. To advance chemical safety at Rio+20, more than 1000 public interest NGOs and CSOs signed on to the *Global Common Statement for a Toxics-Free Future*.

SAICM implementation has advanced in the period of 2006-2009 but the pace needs to quicken to meet the 2020 goal. SAICM implementation needs a sustainable financial mechanism and strong links to sustainable development. In the SAICM Dubai Declaration, governments acknowledged that public health and environmental NGOs, trade unions and other CSOs have made important contributions to promoting chemical safety, and they stated their intent to engage actively in partnerships with civil society in SAICM implementation. This requires financial resources to build NGO capacity and to support SAICM activities so that the commitment of civil society to chemical safety can be harnessed to accomplish the 2020 goal.

ANNEX 1: NGO/CSO GLOBAL COMMON STATEMENT FOR A TOXICS-FREE FUTURE

NGO/CSO Global Common Statement for a Toxics-Free Future

We, (*Name of organization*), a civil society organization, join in the global campaign for a toxics-free future where exposure to toxic and hazardous chemicals is no longer a source of harm and where people have the right to enjoy healthy and sustainable green livelihoods that do not harm their bodies or the environment. Green livelihoods encompass the right to safe and secure communities and workplaces that are free from toxic threats to people, surrounding environments and to future generations. This is the sustainable future we want for the world and our children.

We further affirm our obligation to intergenerational equity and the protection of all children's right to a safe environment, recognizing their unique vulnerability to hazardous chemicals.

We recognize that fundamental changes are needed in the unsustainable patterns of consumption, production, resource extraction and disposal that dominate the world economic system. We further, recognize that *'fundamental changes are needed in the way that societies manage chemicals,'* including their design, use and 'end of life.'¹ We note that the large majority of the pesticides and industrial chemicals currently in production and use have still not been adequately tested for their impact on human health and the environment, particularly in the area of emerging concerns that challenge the central dogma of toxicology such as endocrine disruption, epigenetics², ongoing low dose exposures, and the impacts of chemicals mixtures.

Furthermore, we recognize that diseases such as cancer, heart disease, reproductive and developmental disorders, asthma, autism, diabetes, degenerative diseases and mental health illnesses have been shown to have links to the pollution of air, water, soil and food, as well as toxic consumer products and wastes.³

We stress that peoples' right to green livelihood and a sustainable future are being affected by exposure to toxic chemicals in the workplace, schools, agricultural areas and in the home, and that

this may cause serious and irreversible damage such as cancer, birth defects, impaired development, negative impacts in the immune system, neurotoxicity and metabolic impairment.

We stress with concern that persistent and bioaccumulative chemicals remain in the human body long after exposure and can be passed from mother to baby, in utero and via breast milk, and further cross the blood brain barrier to affect a child's central nervous system and its development.

We uphold the 2009 SAICM NGO Global Statement and the World Summit on Sustainable Development's 2020 goal and affirm that *'living in a pollution-free world is a basic human right'* and that the *'fundamental right to life is threatened by exposures to toxic chemicals, hazardous wastes, and contaminated drinking water and food.'*⁴

We acknowledge that the sound management of chemicals including much needed chemical reform is *'essential to achieving sustainable development, including the eradication of poverty and disease, the improvement of human health and the environment and the elevation and maintenance of the standard of living in countries at all levels of development,'* consistent with the Millennium Development Goals.⁵

We stress that meaningful and active participation including the right to free, prior and informed consent by all sectors of civil society, particularly women, workers and indigenous peoples, is essential in regulatory decision-making related to chemical safety, and recognise the urgent need for *"information and knowledge on chemicals throughout their life cycle, including the risks that they pose to human health and the environment"*⁶

We acknowledge that the chemical industry plays a significant role in the global economy with annual sales of over 3,000,000,000,000 U.S. dollars. We note with concern that a steadily increasing share of the world's chemical production is shifting to developing and transition countries with limited capacity to manage and regulate these operations and without the compliance mechanisms to mitigate risks to human health and the environment.

1 Para 7 Dubai Declaration on International Chemicals Management, Strategic Approach to International Chemicals Management Dubai, 2006 <http://www.saicm.org>

2 Epigenetics is the study of heritable alterations in gene expression caused by mechanisms other than changes in DNA sequence. An epigenetic trait is a stably inherited phenotype resulting from changes in a chromosome without alterations in the DNA sequence. www.sciencedaily.com/releases/2009/04/090401181447.htm

3 WHO Media Release 'Almost a quarter of all disease caused by environmental exposure' 16 June 2006, Geneva Available at <http://www.who.int/mediacentre/news/releases/2006/pr32/en/index.html>

4 Press Release, 27 Apr 2001 'Living In A Pollution-free World A Basic Human Right' Available at <http://www.grida.no/news/press/2150.aspx>

5 Para 1 Dubai Declaration

6 Para 21 Dubai Declaration

We note that almost all countries are increasing their use of synthetic pesticides and industrial chemicals, including hazardous substances and nanomaterials contained in consumer products. Yet, the majority of countries especially developing and or those with economies in transition do not have adequate infrastructure or resources to ensure the sound management of pesticides, industrial chemicals and their subsequent wastes. This is particularly so for the escalating quantities of electronic wastes; the ever increasing solid and liquid wastes from mining and petroleum and gas extraction; obsolete pesticides and their containers; and the vast hazardous industrial waste stockpiles – the toxic legacy of our past.

And we recognize the cost of inaction on chemicals is not fully quantified but substantial. We take note of the World Health Organization's conservative estimate that industrial and agricultural chemicals and acute chemical poisonings are responsible for 1.2 million deaths per year and at least 1.7 percent of the global burden of disease.⁷ The significant costs that these deaths and disease place on individuals, communities and nations (particularly their poor and most vulnerable) are not borne by the chemical producers or shared down the production supply chains. Instead, they impose an unacceptable burden on developing and transition countries.

In response, we:

- Support the demands and struggles of workers, women and children, indigenous peoples, peasant farmers, consumers and communities affected by toxic chemicals in their exercise of their rights for a healthy environment, worker protection, right to know, fair compensation, medical treatment and environmental justice
- Commit our organizations to curb the rising tide of toxic chemicals building up in our bodies, and those of our children, which threaten the health and sustainability of the next generation and beyond
- Commit to the principles that underpin our toxics-free future mission: precaution, right to know, no data— no market, substitution and elimination of hazardous substances, polluter pays, and extended producer responsibility.
- Recognize that to achieve a sustainable future, a profound transformation of the chemical industry is fundamental and where the protection of workers, indigenous peoples, community health and the environment are not sacrificed to profit.
- Stress that a sustainable and responsible chemical industry must have the goal of eliminating all pollution and pay the true cost of its products throughout their life cycles. Cost

internalization mechanisms and fiscal reforms, which truly reflect ecological values can assist in this and help provide the resources needed for the development of sound chemicals management policy, assessment, monitoring and practices.

- Support clear criteria and policies that encourage investments in a sustainable chemical industry to help phase out the production of unsustainable chemicals; to support green design and green chemistry; to fully assess using a life cycle approach all new technologies prior to their entering the market, and to protect developing and transition countries from unfair health, environmental and economic burdens.
- Recognize that to achieve a sustainable future in which everyone can have access to safe, nutritious food, a profound transformation of agriculture to biodiversity-based ecological agriculture is fundamental.
- Noting the threats posed to consumers globally from unregulated toxic product ingredients, we support and promote the implementation of precautionary, cradle to cradle, life cycle approaches to product design as well as green procurement policies, preferably with third party certification, so that toxic chemicals do not find their way into consumer products and the ensuing wastes; and we call for mandatory labeling of hazardous substances in products and in the workplace, ensuring the protection of all people and the environment.
- Support full chemical and material ingredient transparency and information access throughout supply chains and with the public.
- Work to achieve a global phase-out of hazardous, unmanageable chemicals including highly hazardous pesticides, persistent bioaccumulative toxins (PBTs), very persistent and very bioaccumulative substances (vPvBs), genotoxins, carcinogens, chemicals affecting reproduction, the immune and nervous systems, endocrine disruptors, substances that undergo long-range transport, toxic metals such as mercury, cadmium, and lead, and hazardous nanomaterials. A global phase out is essential in order to avoid banned and restricted chemicals from one country being sold or dumped in another, particularly in those countries that do not have the capacity to enforce sound management of chemicals.
- Commit ourselves and call upon all stakeholders including governments, non-governmental organizations, businesses, private sector institutions, academia, intergovernmental organizations, media, and others to work together to urgently reform and harmonize chemicals assessment, regulation and management internationally, regionally, and domestically so as to achieve a toxic free future for all. We call for a recommitment to SAICM at the highest political level and urge governments and stakeholders to fundamentally increase financial support to the implementation of SAICM and the multilateral chemical and waste agreements.

⁷ A. Pruess-Ustun, C. Vickers, P. Haefliger, and R. Bertollini, "Knowns and Unknowns on the Burden of Disease due to Chemicals: A Systematic Review", *Environmental Health*, 10: 9, 2011.

ANNEX 2: PROJECT ACTIVITIES SUPPORTED BY THE INTERNATIONAL SAICM IMPLEMENTATION PROJECT

COUNTRY	ORGANIZATION	TITLE OF PROJECT
Albania	EDEN Centre	How safe are our food products?
Albania	EDEN Centre	Lead battery recycling plants and raising community health and safety awareness
Albania	EDEN Centre	Raising public awareness and generation of new data about HG pollution in Albania
Argentina	Taller Ecologista with GAIA collaboration	Zero Waste videos
Argentina	Asociación Argentina de Médicos por el Medio Ambiente (AAMMA)	Strengthening info to civil society to protect health from mercury exposure w/ a focus on vulnerable populations
Armenia	Armenian Women for Health and Healthy Environment (AWHHE)	Introducing Code of Conduct In Order To Reduce The Environmental and Health Risks From Pesticides
Armenia	Armenian Women for Health and Healthy Environment (AWHHE)	Health and Environmental Hazards of Mercury in Fish in Armenia
Azerbaijan	Ecological Society “Ruzgar”	No Mercury “Hot-Spots” in Azerbaijan
Bangladesh	Environment and Social Development Organization (ESDO)	Awareness and Learning Initiative of E-waste Hazard in Bangladesh
Bangladesh	Environment and Social Development Organization (ESDO)	E-Waste Education for the Next Generation
Bangladesh	Occupational Safety, Health and Environment Foundation (OSHE)	Organizing the multistakeholder national workshop on use of Chemical Pesticides in Agriculture: Reality and Way forward towards Phasing-out hazardous pesticides from Bangladesh
Belarus	Center for Environmental Solutions	Preparation of the assessment report and conducting awareness raising activities on E-waste and batteries management in Belarus
Belarus	Center for Environmental Solutions	Preparation of the assessment report and conducting awareness raising activities on E-waste and batteries management in Belarus (extension of ISIP 1 project)
Benin	Groupe d'Action pour la Promotion et la Protection de la Flore et la Faune (GAPROFFA)	Market analysis of certain medical devices containing mercury and their alternatives in cities with special status (Cotonou, Porto-Novo, and Parakou) in Benin

COUNTRY	ORGANIZATION	TITLE OF PROJECT
Brazil	Associação de Proteção ao Meio Ambiente de Cianorte (APROMAC)	Civil Society Participation in CONASQ – National Commission on Chemical Safety
Brazil	TOXISPHERA	Building a Website for Raising Awareness on Chemicals in Brazil
Brazil	Associação de Combate aos Poluentes (ACPO)	Civil Society capacities towards the National and International Chemicals Policies
Burkina Faso	Association pour la Recherche et la Formation en Agro-écologie (ARFA)	Implementation of agronomic trials in order to create a network for the promotion and distribution of bio-pesticides based on <i>Trichoderma harzianum</i> in Burkina Faso
Cameroon	Cameroon Pesticide Action Network (CAPANET)	Contributing to training in IPM and safe occupational practices in support of improved implementation of the Code
Chile	Alianza por una Mejor Calidad de Vida	Awareness among legislators, rural workers, and the general public on phase-out of highly hazardous pesticides
Chile	Acción Ecológica	E-Waste Proposals for the New Chilean General Waste Act
Chile	Observatorio Latinoamericano de Conflictos Ambientales (OLCA)	Mercury: Byproduct and Source of Contamination of Large-Scale Gold and Silver Mining
Costa Rica	Red de Acción en Plaguicidas en America Latina (RAPAL) Costa Rica	Fish and Community Mercury Monitoring Project in Costa Rica
Cote d'Ivoire	Jeunes Volontaires pour l'Environnement Côte d'Ivoire (JVE)	Be Conscious of Mercury Effects
Croatia	Zelena Akcija	Vrbovec Waste Project
Croatia	Zelena Akcija	Waste action plan for City of Vrbovec (an extension of the ISIP 1 project)
Croatia	Institute for Rural Development and Ecology (IRRE)	The future of IPM in Croatia
Czech Republic	Arnika	Waste Incineration Residues, a Significant Source of POPs in the Czech Republic
Egypt	Arab Network for Environment and Development (RAED) / Arab Office for Youth and Environment (AOYE)	Awareness Campaign to Educate Community about the Hazards of Mercury to Health and Environment

COUNTRY	ORGANIZATION	TITLE OF PROJECT
Ethiopia	Pesticide Action Network Ethiopia / Institute for Sustainable Development (ISD)	Awareness Raising on E-Waste Management in Ethiopia
Georgia	ECOVISION - the Union for Sustainable Development	Promoting pesticide pollution prevention programs to reduce exposure and to improve national regulatory frameworks.
Ghana	Ecological Restorations	POPS Pesticide Elimination Strategy for Vegetable Production in Tuba
Ghana	Ecological Restorations	Awareness creation on the effects of mercury on human health and the environment in Ghana.
India	Society for Direct Initiative for Social and Health Action (DISHA)	Awareness Programme on Mercury Hazards in Health and Education Sectors
India	Youth Round Table Society	Awareness to phase out Mercury in Health care in some districts of Uttar Pradesh (India)
India	Paryavaraniya Vikas Kendra	Promoting mercury-free health care systems in two districts of the Gujarat state of India
India	Parivartan Pariharpur Sansthan	Promotion for Chemical-Free Agriculture for Ecological Balance
India	Toxics Link	Compile and produce an information booklet on POPs for the general community in India
Indonesia	Gita Pertiwi	Monitoring on Advertisements and Distribution of a Restricted Pesticide in Indonesia
Indonesia	Balifokus	Medical Waste Management and Mercury Devices in Health Sector Assessment and its Alternatives in Bali, Indonesia
Indonesia	Gita Pertiwi	Participatory Monitoring of banned household pesticides (Dichlorvos and Chlorpirifos) by Consumers Group in Solo City and Boyolali District
Indonesia	Balifokus	Assessment of the Socio-Economic Impact and Human Rights Aspect of Mercury Use in Artisanal and Small-Scale Gold Mining Hotspots in Indonesia

COUNTRY	ORGANIZATION	TITLE OF PROJECT
Jordan	Land and Human to Advocate Progress (LHAP)	Electrical and Electronic Waste: a New Emerging Danger: E-waste National Awareness Campaign
Jordan	Baytuna Society	Current Status of Mercury in Jordan
Jordan	Land and Human to Advocate Progress (LHAP)	Phasing out Lead in Paint through Advocacy and Awareness Raising
Kazakhstan	Greenwomen	Public Participation (Civil society and public interest NGO participation)
Kazakhstan	Greenwomen	Public Participation in the Civil Society Forum at the 6th Asia and the Pacific Ministerial Conference where National NGOs Action Plan on SAICM implementation were presented
Kazakhstan	The Center “Cooperation for Sustainable Development” (CSD)	Analysis of electrical and electronic equipment waste management system in the Republic of Kazakhstan
Kenya	Eco-Ethics	Reducing exposure of slum dwellers to lead in Mombasa
Kenya	Eco-Ethics	Addressing Lead Poisoning Exposure Problem in Ownio Uhuru Slums, Mombasa (extension of previous project)
Kenya	iLima	Fish and Community Mercury Monitoring Project in Kenya
Kyrgyzstan	Independent Ecological Expertise	National Action Plan for Khaidarkan mercury mining: Strengthening Environmental Policy and Implementing Outreach Campaign in Kyrgyzstan
Lebanon	AMWAJ for the Environment	Campaign and Media Activities to eliminate Saida Waste Dump
Macedonia	Eco-Sense	Disseminating information on chemicals in Macedonia
Macedonia	Eco-Sense	Raising awareness on mercury
Macedonia	Eco-Sense	Raising awareness on Mercury (extension of the ISIP 2 project)
Mali	Fondation pour le Développement au Sahel (FDS)	Mercury use in Mali : case study of artisanal and small scale gold miners
Mauritius	Pesticide Action Network Mauritius	Mercury-Free Campaign in Schools

COUNTRY	ORGANIZATION	TITLE OF PROJECT
Mexico	Centro de Diagnostico y Alternativas para Afectados por Tóxicos (CEDAAT)	Children's Neurotoxicity in communities exposed to cement and other industries in Apaxco-Atotonilco
Mexico	Red Latinoamericana de Nanotecnología y Sociedad (ReLANS)	Societal and Environmental Implications of Nanotechnology development in Latin America and the Caribbean
Mexico	Fronteras Comune	Tóxicos en el Hogar 2 (Toxic Chemicals at Home)
Moldova	Association of Ecotoxicologists from Republic of Moldova (ECOTOX)	Heavy metals in fish products
Morocco	Association d'Education Environnementale et de Protection des Oiseaux au Maroc (SEEPOM)	Information and awareness-raising on mercury meant for government, NGOs, professional organisations and the press
Nepal	Center for Public Health and Environmental Development (CEPHED)	Study, Awareness Raising and Capacity building about Electronic Waste in Nepal
Nepal	Forum for Justice	Advancing the SAICM Mission: Convening Multi-Sectoral National Nepalese SAICM Implementation Forums
Nepal	Center for Public Health and Environmental Development (CEPHED)	Biomonitoring of Mercury Contamination in Nepal
Nigeria	Sustainable Research and Action for Environmental Development (SRADev)	Impact Assessment of Electronic Waste Handlers and Livelihood in Lagos, Nigeria
Nigeria	Sustainable Research and Action for Environmental Development (SRADev)	Mercury- Establishing framework for "Mercury free healthcare in Nigeria": Campaign for Alternatives to Mercury in the Health Care Sector in Lagos State, Nigeria
Paraguay	Altervida	Conducting of a Seminar called "Very dangerous, obsolete pesticides and towards the removal of Endosulfan" and lobbying before the national authorities
Philippines	Citizens Unified for Sectoral Empowerment - Davao del Sur (CAUSE-DS)	Community Action Monitoring and Education Campaign on Highly Hazardous Pesticides in Davao del Sur
Philippines	Cavite Green Coalition (CGC)	Strengthening Community Participation for Safety against Chemical Pollution

COUNTRY	ORGANIZATION	TITLE OF PROJECT
Philippines	Citizens Unified for Sectoral Empowerment - Davao del Sur (CAUSE-DS)	Community Action Monitoring and Education Campaign on Highly Hazardous Pesticides in Davao del Sur (extension of ISIP 1 project)
Philippines	Pesticide Action Network Philippines	Preliminary investigation on the health effects of paraquat in Mindanao, Philippines
Russia	Chapaevsk Medical Association	Survey of bisphenol a in Russian foods
Russia	“Volgograd-Ecopress”	Facilitate the promotion of non-combustion technologies of obsolete pesticide phase-out in Russia
Russia	“Volgograd-Ecopress”	To promote proper management of mercury containing equipment at the regional level to prevent mercury contamination of the Volga river and Caspian coastal area
Russia	Nizhegorodskaya regional public organization “Ecological Center “Dront”	Tackling Mercury in Local Waste Streams: Review and Recommendations for managing waste - lamps containing Mercury
Russia	EcoSPES	Toxic contamination of surface water reservoirs and small farms located in the vicinity of chemical enterprises which are sources of POPs and heavy metal pollution in Dzerjinsk
Senegal	Association pour la Défense de l'Environnement et des Consommateurs (ADEC)	Mobilize consumers' participation for different ways of managing waste
Serbia	Resource Centre Leskovac	Fostering Importance of Chemical and Product Safety in Local Communities
South Africa	groundWork	Understanding and Phasing out of Pesticides in Small Scale Farming in South Africa
Sri Lanka	Centre for Environmental Justice (CEJ)	Advocacy and awareness campaign on Mercury
Sri Lanka	Centre for Environmental Justice (CEJ)	National SAICM Forum: Promoting a Civil Society and Government Dialogue on Chemical Safety
Sri Lanka	Center for Environmental Justice (CEJ)	Mobilizing People on Arsenic Poisoning due to Illegal Pesticides Use in Sri Lanka

COUNTRY	ORGANIZATION	TITLE OF PROJECT
Syria	Environmental Protection and Sustainable Development Society (EPSDS)	Reduce and Eliminate and Replace Mercury in Healthcare Facilities
Tanzania	Tanzania Association of Public Occupational and Environmental Health Experts (TAPOHE)	Situational Analysis of Morogoro Hotspot Area in Tanzania for Persistent Organic Pollutants
Tanzania	Agenda for Environment and Responsible Development (AGENDA)	Awareness-raising on lead paint poisoning in Tanzania
Thailand	Ecological Alert and Recovery, Thailand (EARTH)	Survey and Policy Advocacy on the Management of Used Cellphone Batteries
Thailand	Ecological Alert and Recovery, Thailand (EARTH)	Mapping toxics in surrounding of Phuket as a contribution to global debate about POPs in wastes
Thailand	Ecological Alert and Recovery, Thailand (EARTH)	A Study of Mercury Contamination in Face Whitening Products in Thailand
Tunisia	Mediterranean Network Association for sustainable Development (AREMEDD)	Awareness raising in schools on SAICM and chemicals
Tunisia	Association pour la Protection de l'Environnement et Développement Durable de Bizerte (APEDDUB)	Tunisia Mercury Situation Report - Awareness-raising campaign about mercury: hazardous for health and the environment
Tunisia	Association pour la Protection de l'Environnement et Développement Durable de Bizerte (APEDDUB)	National Awareness Campaign to Eliminate Harmful Chemicals in Compounds in Children's Toys in Tunisia
Uganda	Pro-biodiversity Conservationists in Uganda (PROBICOU)	Country Level Assessment for Mercury in Uganda
Uganda	Uganda Network on Toxic-Free Malaria Control (UNETMAC)	Collection of Lead Based Paint Samples in Uganda
Uganda	Pro-biodiversity Conservationists in Uganda (PROBICOU)	Fish and Community Mercury Monitoring Project in Uganda
Ukraine	Ukrainian National Environmental NGO (UNENGO) "MAMA-86"	Mercury country situation report and awareness-raising on SAICM implementation in Ukraine
Uruguay	Red de Acción en Plaguicidas en America Latina (RAPAL) Uruguay	Fish and Community Mercury Monitoring Project in Uruguay

COUNTRY	ORGANIZATION	TITLE OF PROJECT
Uruguay	Red de Acción en Plaguicidas en America Latina (RAPALI Uruguay	Press events related to mercury testing and participation in mercury negotiations
Uzbekistan	ARMON Women Environmental Centre	Identification of pesticide hotspots in Sirdarinsky region, Uzbekistan

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**Implementation of the Strategic Approach to International
Chemicals Management: Evaluation of and guidance on
implementation and review and update of the Strategic Approach**

Cooperation with intergovernmental organizations

**Activities of the Inter-Organization Programme for the Sound
Management of Chemicals to support SAICM Implementation**

Note by the secretariat

1. The secretariat has the honour to circulate in the annex to the present note information on activities of the Inter-Organization Programme for the Sound Management of Chemicals (IOMC) to support SAICM implementation. The annex describes IOMC and its role in implementation of SAICM, collective IOMC activities in support of SAICM, including a matrix of IOMC activities in countries, analysis of how IOMC activities contribute to the achievement of development goals, an analysis of implementation of the Global Plan of Action, IOMC documents and tools, SAICM emerging issues and Quick Start Programme and SAICM governance. The annex also describes the activities of the IOMC participating and observer organizations, in support of the SAICM objectives.
2. The information is presented for the information of participants as submitted and has not formally been edited.

Annex

Activities of the Inter-Organization Programme for the Sound Management of Chemicals to support SAICM Implementation

17 August 2012

Prepared for the 3rd International Conference on Chemicals Management

Contents

I. IOMC and its role in implementation of SAICM

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III. Activities of the IOMC participating and observer organizations, in support of the SAICM Objectives

I. IOMC and its role in implementation of SAICM

1. The Inter-Organization Programme for the Sound Management of Chemicals (IOMC) comprises nine Participating Organizations: the Food and Agriculture Organization (FAO), the International Labour Organization (ILO), the United Nations Development Programme (UNDP), the United Nations Environment Programme (UNEP), the United Nations Industrial Development Organization (UNIDO), the United Nations Institute for Training and Research (UNITAR), the World Health Organization (WHO) the World Bank, and the Organisation for Economic Cooperation and Development (OECD).

2. The objective of the IOMC is to strengthen international cooperation in the field of chemicals and to increase the effectiveness of the organizations' international chemicals

programmes. The IOMC promotes coordination of policies and activities, pursued jointly or separately by its Participating Organizations, to achieve the sound management of chemicals in relation to human health and the environment.

3. During the first International Conference on Chemicals Management, the IOMC organizations issued a Joint Statement about their participation in the implementation of SAICM and affirmed the commitment of the organizations to:

- Work together to strengthen the sound management of chemicals;
- Contribute to the achievement of SAICM within the mandates and in accordance with decisions of the governing bodies of the organizations;
- Promote coordination of policies and activities, pursued jointly or separately, in order to achieve the sound management of chemicals;
- Cooperate to ensure the most effective use of the organizations human, technical and financial resources;
- Exploit the synergies between IOMC organizations and other organizations;
- Strengthen the capacity of countries, in particular developing countries and countries with economies in transition, to participate fully in SAICM;
- Undertake and support, together with other multilateral, regional and bilateral agencies, and within the resources at their disposal, technical assistance and investment activities to assist countries in the establishment and implementation of appropriate programmes for the sound management of chemicals; and
- Support country efforts at national, regional and international levels as appropriate.

4. Following the adoption of SAICM, each of the IOMC organizations endorsed or otherwise formally acknowledged support for SAICM.

II. Collective IOMC Activities in support of SAICM

5. Activities of the IOMC organizations support the objectives of SAICM as specified in the Overarching Policy Strategy as well as implementation of the Global Plan of Action. Eighty percent of activities listed in the Global Plan of Action identify one or more IOMC organization/s as an actor. These activities are formally coordinated by IOMC, including through its bi-annual meetings.

Matrix of IOMC activities in countries and analysis of how IOMC activities contribute to the achievement of development goals

6. In 2012, the IOMC organizations developed a matrix of IOMC activities in countries. The matrix provides a country-by-country overview of where individual IOMC organizations are working on chemicals issues. It is available at <http://www.who.int/iomc/activity/poactivities/en/index.html>.

7. Also in 2012, the IOMC organizations carried out a survey of IOMC activities in nine countries from different UN regions, and analyzed how the activities contribute to the countries' development goals. The project focuses on national development plans and IOMC organization activities in Ecuador, Georgia, Indonesia, OECD

8. Kazakhstan, Morocco, Peru, Philippines, Vietnam, and Zambia. The survey and analysis reports are available on the IOMC web site, at www.iomc.info.

8. Further information about IOMC organization activities in support of SAICM can be found on each organization's web sites, linked to the IOMC web site.

Analysis of implementation of the Global Plan of Action

9. In preparation for the 3rd International Conference, the IOMC organizations undertook an analysis of the Global Plan of Action in relation to activities where one or more IOMC organizations is an actor. An annotated version of the Global Plan of Action, containing a high level indication of progress is provided on the IOMC web site.

IOMC documents and tools, including the IOMC Toolbox

10. The IOMC organizations have collectively developed a number of SAICM-related documents, including:

- *National Implementation of SAICM: A guide to resource, guidance and training materials of the IOMC Participating Organizations*, updated in August 2012, and available as SAICM/ICCM.3/INF/31 with other languages to be available from the IOMC website later in 2012.
- *Guidance for Developing SAICM Implementation Plans*, 2009 edition, developed by UNITAR and the SAICM Secretariat in collaboration with IOMC.
- *IOMC Strategy for Strengthening National Chemicals Management Capacities*, updated in 2011. The core objective of this strategy is to assist countries in strengthening their national chemicals management capacities throughout the life-cycle in order to implement SAICM and achieve the 2020 goal for sound chemicals management.

11. The IOMC organizations are currently developing a toolbox for making policy choices in chemicals management, and a proof-on-concept version ready for hands-on testing will be launched at ICCM3. The IOMC Toolbox will be a decision support tool that will enable countries to identify appropriate and efficient ways to address national problems related to chemicals management. The toolbox will take into account as far as possible all material developed by the IOMC Participating Organizations, and it will focus on simple, effective solutions. The toolbox will have a web-based framework and will include three detailed examples (road-maps or decision trees) of how specific national chemicals management issues can be addressed. The three examples will involve pesticides, occupational health and safety, and chemical accidents.

SAICM emerging issues

12. During the second International Conference on Chemicals Management, held in May 2009, the IOMC committed to assisting in the implementation of the Conference Resolutions on the emerging policy issues, including by leading or co-leading each of the four issues, plus the activity on perfluorinated chemicals, listed below. Detailed reports on each are available as separate Documents for the 3rd International Conference.

- Chemicals in products: UNEP
- Hazardous substances within the life cycle of electrical and electronic products: UNIDO assisted the Basel Convention Secretariat
- Lead in paint: UNEP and WHO
- Nanotechnology: OECD and UNITAR
- Perfluorinated chemicals: OECD and UNEP

Quick Start Programme and SAICM governance

13. In accordance with Resolution I/4 adopted by the ICCM, the IOMC organizations have formed a Trust Fund Implementation Committee for projects financed by the SAICM Quick Start Programme Trust Fund administered by UNEP. The IOMC organizations also provide assistance to countries, on their request, to implement QSP projects.

14. The IOMC organizations participate in SAICM regional meetings, co-organize back-to-back workshops, and participate in the Core Group/Coordinating Committees of the regions for Africa, Central and Eastern Europe, Latin America and the Caribbean, and Asia-Pacific. The Chair of the IOMC participates as an observer in the Bureau of the International Conference.

III. Activities of the IOMC participating and observer organizations, in support of the SAICM Objectives

15. The following section provides information on activities, organized by SAICM objectives, received from FAO, ILO, UNDP, UNEP, UNIDO, UNITAR, WHO, World Bank and OECD.

Food and Agriculture Organization of the United Nations (FAO)

The key area of FAO activity relating to chemicals management is in the area of pesticides use in crop production and animal husbandry, food safety and the impact of chemicals in the environment on resources such as fish stocks, forests and irrigation water. In the context of SAICM, FAO works to provide guidance and technical assistance to countries in complying with international legislative obligations such as those defined in the Basel, Rotterdam and Stockholm Conventions, and with best international practice in the regulation, management and use of chemicals in agriculture.

FAO's strategic plan integrates sustainable agricultural production with sustainable diets, conservation of natural resources, improvement of rural livelihoods and access to national and international markets. Chemicals management in this context focuses on risk reduction through reduced reliance on and sound use of chemicals in agriculture. With a substantial portfolio of projects that are funded by a diverse range of donors and financing institutions, FAO helps countries to develop capacity for risk reduction and chemicals management. FAO's technical divisions and the extensive network of FAO Regional, Sub-Regional and country offices also provide institutional and technical support.

FAO's work on chemicals management and risk reduction is backed by an extensive programme of standard setting, preparation of technical guidance and development of tools to assist countries. FAO and WHO together recommend Maximum Residue Limits (MRLs) for pesticide residues in food, determine technical specifications for pesticide formulations to ensure product quality, and produce guidelines, training materials and tools to assist countries. The entire programme is framed by the International Code of Conduct on the Distribution and Use of Pesticides; a voluntary agreement that outlines effective life cycle management of pesticides.

SAICM objective: Risk Reduction
A priority area of activity is reduction of risks from Highly Hazardous Pesticides as defined

by the FAO/WHO Panel of Experts on Pesticides Management in 2008 (<http://www.fao.org/agriculture/crops/core-themes/theme/pests/pm/code/hhp/en/>) . Pesticide regulators are guided in identifying HHPs under their conditions of use and finding alternative pest management strategies that can replace the use of or reduce the risks from use of HHPs.

Integrated Pest Management (IPM) is a key risk reduction strategy and is at the core of FAO's crop production and protection approach as defined in the recently published document *Save and Grow* (<http://www.fao.org/ag/save-and-grow/>). In IPM, farmers are informed about ecological approaches to crop production and protection such that their reliance upon chemical pesticides is minimized and the selection of pest management tools is compatible with the ecosystem in which they are operating.

SAICM objective: Knowledge and Information

Currently more than 50 technical guidelines in support of the International Code of Conduct on the Distribution and Use of Pesticides are published and available on-line. Many are translated into UN languages. All technical standards for pesticide specifications and Maximum Residue Limits are published on-line as they are produced. Project summaries and lessons learned are also published on-line.

SAICM objective: Governance

The International Code of Conduct on the Distribution and Use of Pesticides provides a framework for effective life cycle management of pesticides. Legislation and regulation is the foundation of sound chemical management and this applies to pesticides too. Noting that pesticides are largely governed by Ministries of Agriculture or Health, it is vital to support inter-sectorial approaches to sound chemicals management. FAO also hosts half the Secretariat of the Rotterdam Convention which helps governments to control trade in particularly hazardous chemicals, many of which are pesticides.

SAICM objective: Capacity Building and Technical Cooperation

With a programme on pesticide management running since the 1960s, offices, projects support staff in every geographical region, FAO has accumulated a unique body of expertise and knowledge on pesticides management that is applicable to chemicals management in other sectors, as well as to other input management in agriculture and health. Operational projects in November 2011 span 60 countries, and more are in development as others conclude their activities continuously.

Training is offered on an ongoing basis on every aspect of FAO's work on pesticides management and standard setting and collaboration with other agencies through IOMC expands opportunities for capacity development. FAO is also supporting a post-graduate programme on pesticides management at the University of Cape Town.

SAICM objective: Illegal International Traffic

FAO works with countries to build capacity in every stage of the pesticide life cycle. This includes effective import controls which is the most effective point to prevent illegal imports and trade in chemicals. Similarly, FAO, together with WHO, determine pesticide specifications which allow countries to test the quality of pesticides that are imported and traded in their territory. Effective quality control measures identify counterfeit and substandard pesticides and allow countries to remove them from the market and prosecute offenders. The Rotterdam Convention whose secretariat is partly hosted by FAO aims to control trade in particularly hazardous chemicals, including pesticides. This also requires

effective import controls.

International Labour Organization (ILO)

The ILO Governing Body endorsed the SAICM at its 297th Session (November 2006) and approved the follow-up activities proposed by the Office to implement SAICM objectives. This included active involvement by the ILO in the operations of the SAICM Quick Start Programme Trust Fund Implementation Committee, as well as supporting ILO-related activities in the SAICM's Global Plan of Action.

Through the ILO's Programme for Safety and Health at Work and the Environment (SafeWork), focus is placed on assisting member States to implement firstly, the main ILO chemicals-related Conventions, namely the Chemicals Convention, 1990 (No. 170) and the Prevention of Major Industrial Accidents Convention, 1993 (No. 174). These two Conventions provide the basis for the sound management of chemicals at the workplace, as recognised by ICCM 1&2 and SAICM.

Furthermore, implementation by member States of the Globally Harmonised System for the Classification and Labelling of Chemicals (GHS) remains a priority, as well as an important SAICM objective. The ILO, in collaboration with UNITAR, will continue to work through the UNITAR/ILO Global GHS Capacity Building Programme, to assist developing countries and countries with economies in transition to implement the GHS.

SAICM objective: Risk Reduction

Under the auspices of IOMC, the ILO is assisting in developing an internet-based problem-solving tool (toolbox) that will enable countries to identify the most relevant and efficient tools to address specific national problems in chemicals management. Of the 3 current toolkits being developed, the ILO is assisting the IOMC in the development of the toolkits on occupational safety and health management systems for chemicals and prevention of major hazards.

In addition, the ILO is developing and piloting two distinct risk assessment tools. One for large and medium sized and another to small enterprises. Whilst both look at occupational safety and health, they both carry modules that deal with the risk posed by chemicals in the workplace and how they should be assessed.

The ILO, in collaboration with the WHO and European Commission, also develops the International Chemical Safety Cards (ICSC) which are intended to provide essential safety and health information on chemicals in a clear and concise way. To date, 1700 cards are available in English, French, Spanish, Dutch, Finnish, German, Hungarian, Japanese, Polish, Italian, Hindi, Korean, Russian, Swahili, Thai and Urdu.

SAICM objective: Knowledge and Information

The ILO-SafeWork website includes a specific section on chemicals and the environment at www.ilo.org/safework, which provides information on SAICM.

To support national SAICM implementation, the ILO has translated key guidance material prepared by UNITAR such as Guidance for Developing SAICM Implementation Plans, and has provided input into UNITAR's document, *National Implementation of SAICM: A Guide to Resource, Guidance and Training Materials of IOMC Participating Organizations*.

The UNITAR/ILO Global GHS Capacity Building Programme provides guidance documents,

and educational, awareness-raising, resource, and training materials regarding the GHS (http://www.unitar.org/cwm/ghs). The ILO, in collaboration with the WHO and European Commission, also develops the International Chemical Safety Cards (ICSC) which are intended to provide essential safety and health information on chemicals in a clear and concise way. To date, 1700 cards are available in English, French, Spanish, Dutch, Finnish, German, Hungarian, Japanese, Polish, Italian, Hindi, Korean, Russian, Swahili, Thai and Urdu.
SAICM objective: Governance
As indication of support for the outcomes of ICCM, the Governing Body of the ILO endorsed the SAICM at its 297th Session (November 2006) and approved the follow-up activities proposed by the Office to implement SAICM objectives 2006. The ILO has been supporting SAICM development process through participation and contributions to preparatory meetings as well as the ICCM. The ILO, together with IOMC is a member of the SAICM Quick Start Programme Implementation Committee and the Executive Board. The ILO also supports member States implement ILO Conventions 170 (Chemicals) and 174 (Major Industrial Accidents) which have been recognised by SAICM to be the main international agreements for the sound management of chemicals at the workplace.
SAICM objective: Capacity Building and Technical Cooperation
The ILO (SafeWork) has commissioned two studies to raise awareness in countries about the OSH implications of electronic waste and so-called “green jobs”. These studies will be made available to ICCM3 as they focus on one of the emerging issues identified under SAICM as well as one of the main topics that will be discussed at Rio+20. The Theme of the World Day for Safety and Health at Work on 28 April 2012 is “Promoting Safety and Health in a Green Economy”. With this in mind, a report has been prepared and is available on the SafeWork website. This reports forms part of a much more in depth study on hazards associated with green technologies. A study on electronic waste has also been prepared by SafeWork and the ILO SECTORAL activities department. Titled <i>The Global Impact of E-Waste: Addressing the Challenge</i>, it explores the volumes, sources and flows of e-waste, the risks it poses to e-waste workers and the environment, occupational safety and health (OSH) issues, labour issues and regulatory frameworks, and links this growing global problem with the International Labour Organisation (ILO)’s current and future work. In addition, the ILO (SafeWork) is currently undertaking a fact-finding study on electronic waste in the Peoples Republic of China.

United Nations Development Programme (UNDP)

Within the framework of SAICM, UNDP advocates for the integration of sound chemicals management priorities into national environmental and poverty reduction planning frameworks. UNDP supports international chemicals conventions objectives and assists Parties to comply with agreed measures. In addition, UNDP helps countries to identify and access technical and financial resources to improve their chemicals and waste regimes.

As one of the implementing agencies of the Global Environment Facility (GEF) and its Chemicals Focal Area that funds national priority initiatives related to the Stockholm Convention on

Persistent Organic Pollutants (POPs). Mercury, SAICM as well as ODS is CEIT countries. UNDP has supported 36 countries in developing their national implementation plans under the Stockholm Convention and now is implementing three global programmes and supporting 22 countries in implementing national implementation plans with a combined portfolio of projects amounting to US \$84 million of grants through the GEF and co-financing of US \$152 million. UNDP supported activities resulted so far in 91,600 people trained in POPs management/alternatives and 1,500 metric tons of POPs disposed or safeguarded.

UNDP also helps countries to meet their commitments under the Montreal Protocol on Substances that Deplete the Ozone Layer, phase-out HCFCs and introduce Ozone and Climate friendly alternatives with the financial support of the Multilateral Fund for the Implementation of the Montreal Protocol (MLF), the Global Environment Facility (GEF) and bi-lateral donors. Since 1992, UNDP has implemented 2,085 projects in 110 countries. UNDP's portfolio of ozone-related projects has a cumulative total value exceeding US\$ 574 million in grant funding and to date has prevented the release of over 65,000 tonnes of ozone depleting substances into the atmosphere.

SAICM objective: Risk Reduction

UNDP activities on chemicals, such as Persistent Organic Pollutants, Ozone Depleting Substances, and heavy metals help reducing risks to environment and health.

UNDP supports the reduction and elimination of all types of POPs contaminants included under the Stockholm Convention through
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| <ul style="list-style-type: none"> • Sound management and disposal of POPs pesticides, including the promotion and introduction of POPs-free alternatives; • Sound management of PCB stockpiles, including inventories, sound disposal, strengthening of legal frameworks and enforcement capacity; • Reducing releases of unintentional POPs (UPOPs) and brominated flame-retardants resulting from unsound waste management processes/practices as well as recycling operations (e.g. e-waste, health-care and municipal waste etc.); • Gradual implementation of best available techniques (BAT) and best environmental practices (BEP) for existing as well as new POPs sources; and • Minimization of exposure levels of communities living close to contaminated areas. |
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In the framework of the Montreal Protocol, UNDP helps countries to undertake investment activities in refrigeration, air conditioning, foams and solvents sectors to phase out the production and consumption of ozone-depleting substances thus reducing risks to human health and environment. Such supporting activities also include the validation and demonstration of low carbon alternative technologies with zero ozone-depleting potential.
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To protect public health and the global environment from the impacts of heavy metals, such as mercury and lead, UNDP is supporting countries through i) introduction of management schemes that support the waste aspects of obsolete equipment (including mercury waste stream), which arise when more environmentally friendly and energy efficient appliances are being introduced (e.g. as a result of refrigerator replacement programmes); and ii) introduction of Best Environmental Practices (BEP) and Best Available Technologies (BAT) to e-waste processing to avoid harmful releases of heavy metals and other hazardous substances.
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SAICM objective: Knowledge and Information
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UNDP maintains websites at http://www.undp.org/chemicals/ and

http://www.undp.org/ozone/ where it provides information on its activities on chemicals management as well as information about linkages between chemicals development and development. In 2011 UNDP prepared a publication entitled <i>Chemicals and Gender</i> which describes the important linkages between socio-economic development, gender, and chemicals management. A number of factors justify the importance of adopting a gender-differentiated approach to the management of chemicals. The major factors include: differences in physiological susceptibility and the resulting health effects as well as the source of exposure to toxic chemicals (workplace vs. household). The UNDP <i>Guide for Integrating the Sound Management of Chemicals into MDG-Based Development Planning (2012)</i> provides a systematic approach to countries to help assess their capacity for sound management of chemicals, identify needs, and ultimately integrate identified priorities into national MDG-based development policies and plans. The UNDP Guide is based on applied, practical experience accumulated in a number of pilot countries under the UNDP-UNEP Partnership Initiative.
SAICM objective: Governance
UNDP has been supporting SAICM development process through participation and contributions to preparatory meetings as well as the ICCM. UNDP together with IOMC is a member of the SAICM Quick Start Programme Implementation Committee and the Executive Board. Furthermore, with SAICM adoption, UNDP realigned its chemicals' programming to enhance its support to countries with SAICM implementation in order to adequately reflect SAICM priorities in its technical assistance strategy. UNDP supports countries implementing such international agreements and conventions on chemicals as the Stockholm Convention on Persistent Organic Pollutants, Montreal Protocol on Substances that Deplete the Ozone Layer, and the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal.
SAICM objective: Capacity Building and Technical Cooperation
The capacity building and mainstreaming approach follows guidance provided by <i>UNDP Guide for Integrating the Sound Management of Chemicals into MDG-Based Development Planning</i> which provides an explanation of the synergies that exist between SMC and development goals and suggests steps in determining national SMC capacity building needs/priorities and "points of entry" to facilitate the integration of SMC into national development plans and sector-based strategies. First pilot countries including Cambodia, Macedonia, Uganda and Zambia as well as Belize have already undertaken the a SMC "mainstreaming" process resulting in encouraging results in form of engaging development planning officials in understanding the need to take chemicals and waste management as well as showing the economic benefits in investing in chemicals management. The program has entered a full implementation phase with several more countries, including Burkina Faso Ecuador, Honduras, Kazakhstan, Kyrgyzstan, Liberia, Mauretania, Mauritius, Moldova, Nigeria, Suriname and Vietnam, embarking on further integrating chemicals and waste management in the national and sector development plans as per the guidance developed. Within its programmes under the implementation of the Stockholm Convention and the Montreal Protocol, UNDP endeavors to incorporate issues related to POPs and ODS management into national development planning processes, and its projects aim to improve

policy and regulatory frameworks through targeted institutional capacity development. Wherever possible and appropriate, UNDP POPs activities are undertaken within and strengthening a country's framework for sound management of chemicals, to ensure national coordination among chemicals-related activities in support of regional or global conventions and agreements on chemicals. Some other specific examples include support in developing 29 national implementation plans (NIP) under the Stockholm Convention and national ODS phase-out strategies and plans under the Montreal Protocol. Within the framework of Montreal Protocol and funded by the MLF, UNDP supports 21 countries with institutional strengthening projects, with focus on national ozone units.
SAICM objective: Illegal International Traffic
Within the framework of institutional strengthening projects funded by MLF, UNDP assists national ozone units to establish licensing systems for import and export of ozone-depleting substances (ODS) and undertake trainings for customs officials to prevent illegal trade in ODS. In addition to GEF projects on e-waste management that also address illegal international traffic, UNDP works on illegal movement of e-waste at country level through the framework provided by the Partnership for Action on Computing Equipment (PACE) Working group under the Basel Convention

United Nations Environment Programme (UNEP)

UNEP works to protect humans and the environment from adverse effects caused by chemicals throughout their lifecycle, and hazardous waste. The Programme reflects global priorities identified by governments. In response to mandates from UNEP's Governing Council, it facilitates global action, including the development of international policy frameworks, guidelines and programs, to reduce and/or eliminate risks from chemicals. UNEP's activities on chemicals are in its work programme covered in the subprogramme on Harmful Substances and Hazardous Waste, one of the six UNEP work programmes.

UNEP has facilitated the negotiations of a number of international treaties on chemicals and waste, and hosts the secretariats of the:

- Basel Convention
- Montreal Protocol on Substances that Deplete the Ozone Layer.
- Vienna Convention for the Protection of the Ozone Layer
- Rotterdam Convention
- Stockholm Convention
- Global Programme of Action for the Protection of the Marine Environment from Land-based Activities
- Strategic Approach to International Chemicals Management

The table below provides information on some but not all of the UNEP-led activities on chemicals.

SAICM objective: Risk Reduction
UNEP assists countries and regions in managing, within a life-cycle approach,

chemical substances and waste that have potential to cause adverse impact on the environment and human health.

These include:

- mercury, lead and cadmium
- persistent, bioaccumulative and toxic substances (PBTs);
- chemicals that are carcinogens or mutagens or that adversely affect the reproductive, endocrine, immune, or nervous systems;
- chemicals that have immediate hazards (acutely toxic, explosives, corrosives);
- chemicals of global concern such as persistent organic pollutants (POPs), greenhouse gases and ozone-depleting substances (ODS)
- healthcare wastes
- hazardous substances within the life cycle of electrical and electronic products.

UNEP has been working to address mercury issues since 2003. Currently, the UNEP mercury programme has two main facets:

- development of a legally binding instrument on mercury. See section on governance
- UNEP Global Mercury Partnership consists of activities to reduce, and where feasible, eliminate anthropogenic releases of mercury to air, water and land. The Partnership, made up of eight priorities areas, undertakes activities in all regions.

The priority areas are:

- reducing Mercury in Artisanal and Small-Scale Gold Mining
- mercury Control from Coal Combustion
- mercury Reduction in Processes
- mercury Reduction in Products
- mercury Air Transport and Fate Research
- mercury Waste Management
- mercury Supply and Storage
- mercury control in the cement industry

UNEP-led work on lead and cadmium, in coordination with other IOMC members, will:

- continue to promote and facilitate the work in relation to the Partnership for Clean Fuels and Vehicles (PCFV) and the Global Alliance to Eliminate Lead Paint (GAELP);

UNEP continues to assist the implementation and monitoring of the Stockholm Convention on POPs. In doing so, UNEP:

- trained laboratories in 20 countries to analyze POPs in core matrices for the Global Monitoring Plan and established a network of passive air samplers in 32 countries. The results will provide source-related information on present releases of POPs;
- undertook the First Worldwide UNEP Intercalibration Study on Persistent Organic Pollutants, which was the largest inter-laboratory comparison study on POPs so far with 85 laboratories participating and analyzing a variety of biotic and abiotic test samples;
- developed reporting formats for the Global Monitoring Plan on POPs for harmonized reporting of analytical results and established criteria for accurate data generation;
- generated emission factors for unintentional POPs through targeted research

projects and thus, contributes to the further updating and reviewing of the Dioxin/furan Toolkit for release inventory development (mandated through COP decisions and in collaboration with Stockholm Convention Secretariat);

- participates in the expert groups on best available techniques and best environmental practices for POPs and the development of factsheets on POPs waste destruction technologies;
- undertakes an assessment for inclusion of additional dioxin-like chemicals into the scheme of toxicity equivalency factors jointly with the World health Organisation.

UNEP also plays a leading role in the GEF implementation in some key areas of human and environmental protection. UNEP has, among others, initiated the process to design Pollutant Release and Transfer Registers (PRTRs) in 7 countries in three continents, with the aim of facilitating reporting, disseminating information to the public, and monitoring releases of POPs and other chemicals. UNEP has also initiated a project to assess and to eliminate PCBs in the mining sector in Chile and Peru. Most GEF interventions focus on the electrical sector and do not address the PCB problem in other sectors. This project is being implemented with the active participation of the mining sector and the national governments, and will provide a detailed action plan on PCB management in the mining sector and in the participating mining facilities. PCB destruction is also envisaged but will be assumed by the participating mining companies. It will address important issues as PCB in products, mine workers safety, national regulation, guides and norms development, etc.

Further, following decisions from the Fifth Conference of the Parties to the Stockholm Convention on POPs, Chemicals Branch of UNEP's Division of Technology, Industry and Economics has taken over the leadership of the **Global Alliance on DDT uses and alternatives**. UNEP will coordinate the phase out of DDT with the development in accordance with the provisions of the Stockholm Convention, introduction of viable alternative chemicals and non-chemical measures with the goal of reducing incidences of malaria; ensure that the remaining uses of DDT are in compliance with the Stockholm Convention. The basis for this Project Output is decision SC-5/6 on DDT (5th Conference of the Parties to the Stockholm Convention, 25-29 April 2011) to facilitate a transition of the leadership of the Global Alliance, in a sustainable manner, from the Secretariat [of the Stockholm Convention] to one or more United Nations agencies whose mandate is better suited to the implementation of a major project such as the Global Alliance and to cooperate with WHO in its implementation. The Global Alliance works through thematic groups¹ that are advised by a steering committee.

Chemicals Branch also provides the management of the **PCB Elimination Network (PEN)**: The PEN has been established by the Conference of the Parties to the Stockholm Convention at its fourth meeting (May 2009) to coordinate efforts for the phase out and environmentally sound disposal of PCB at global level. In accordance with the Stockholm Convention decision SC-5/7 (25-29 April 2011). The mandate is laid down in the report of the Conference of the Parties to the Stockholm Convention "... the Executive Director had expressed a willingness to consider undertaking work in such areas that were within the mandate of UNEP, if it would facilitate the work of the Convention" (paragraph 63) and subsequent correspondence between the Executive Secretary of the Basel-Rotterdam-Stockholm Conventions Secretariat and the Head of Chemicals Branch. The PEN consists of several working groups and a

¹ 1. Cost-effective alternatives to DDT, 2. Strengthening of in-country decision making on IVM, 3. Malaria vector resistance patterns and mechanisms, 4. Reduce barriers to bring new chemicals/products on market, and 5. Reduce barriers to bring new non-chemicals products on market

steering committee to approve workplans and budgets. Chemicals Branch will provide the secretariat and overall coordination of the PEN to enhance implementation activities and assisting Parties. Chemicals Branch will be assisted by IOMC institutions, Basel and Stockholm Convention Regional Centers, and members of the PEN. The PEN has a long-term objective according to the Convention's provisions and timelines.

With respect to mercury, UNEP with GEF funding is assisting two countries, China and Kirgizstan to implement obligations under the future Minamata Convention on Mercury.

The UNEP, DSSA Programme ('Demonstrating and Scaling up of Sustainable Alternatives to DDT in Vector Management') formally started in 2009 through signing of an agreement between WHO, UNEP and GEF - the Global Environment Facility. The Programme consists of some 10 sub-regional projects in various eco-epidemiological settings aiming at demonstrating and scale enlargement of various alternative approaches to vector management. The Programme, implemented by UNEP and executed by national partners and WHO, mainstreams specific environmental issues in the national programs focusing on a phasing out of DDT in malaria vector control and introducing/demonstrating alternative substitutes as well as alternative approaches like Integrated Vector Management (IVM). These alternative approaches need as well an adaptation in institutional settings which is also supported by the programme in order to sustain the achieved changes.

Some 40 countries are participating in the DSSA Programme, the GEF co-funded budget is about 50 million US \$.

UNEP assists developing countries and countries with economies in transition (CEITs) to enable them to achieve and sustain compliance with the Montreal Protocol. With our programme's assistance, countries are able to make informed decisions about alternative technologies and ozone-friendly policies.

For ozone depleting substances, UNEP has the distinction of implementing more than 1,000 projects and services that benefit of more than 100 developing countries and 17 CEITs that assist another 40 developing countries.

UNEP has three areas of work:

- assisting developing countries in UNEP's capacity as an Implementing Agency of the Multilateral Fund for the Implementation of the Montreal Protocol, through a Compliance Assistance Programme (CAP).
- assisting CEITs in UNEP's capacity as an Implementing Agency of the Global Environment Facility.
- specific partnerships with bilateral agencies and Governments. The Governments of the Czech Republic, Finland, Italy, the Netherlands, Norway and Sweden have also provided bilateral support to UNEP over and above their contribution to the Multilateral Fund to undertake specific projects.

In 2007, UNEP launched an initiative to promote chemical accident prevention worldwide. The initiative is based on the 'Flexible Framework for Chemical Accident Prevention' that offers guidance for national governments wanting to develop, improve, strengthen or review their industrial chemical accidents prevention and preparedness policies and programmes.

The Flexible Framework brings together in one document both in-depth information on critical elements of a the development or review of an industrial chemical accident prevention and preparedness programme based on international references and

practical information addressed to national governments on how to develop such a programme.

More specifically, it provides comprehensive information for establishing a chemical accident prevention programme by:

- describing the steps that are needed before developing and implementing laws, regulations, policies, guidance or other instruments which would make up an effective chemical accidents programme (e.g. for establishing priorities, determining the appropriate administrative arrangements, etc.);
- setting out the possible elements of such instruments; and
- providing resource materials related to how these elements may be implemented, based on international initiatives and the experience of countries that have had chemical accident programmes in place for a number of years.

It has been designed to be flexible to ensure that:

- the guidance can be applied in different national contexts worldwide;
- countries can focus on elements relevant to their particular context and adapt them as required; and
- countries can decide how to define actions, depending on priorities, resources and experience.

The Flexible Framework focuses on prevention and preparedness for industrial accidents at "hazardous installations", which include places where hazardous substances are produced, processed, used, handled or stored in such quantities and under such conditions that a chemical accident could occur. The types of accidents addressed by the Guidance would include any loss of containment, explosion, or fire involving chemicals which pose a risk to human health or the environment.

UNEP is developing a number of expert guidance documents to assist countries in identifying and incorporating determinants related to local environmental conditions, socio-economic aspects, ecosystems sensitivities and their services in management decisions regarding pesticides use and other chemical release issues.

Together with WHO, UNEP has developed training tools for trainers on sound management of pesticides. These tools, including one for teaching schoolchildren about potential risks from pesticides and other chemicals found in the households are undergoing testing in countries.

As requested through a resolution by ICCM2 on the emerging policy issue "Chemicals in Products", UNEP is leading a project to improve the availability and access to information on chemicals in products in the supply chain and throughout their life cycle.

UNEP, working with WHO and a panel of internationally recognized experts, has developed an update to the 2002 IPCS "Global Assessment of the State of Science of Endocrine Disruptors". The update is planned to be completed prior to ICCM3 for which UNEP has nominated endocrine disrupting chemicals as a new emerging policy issue.

The UNEP-led Global Programme of Action for the Protection of the Marine Environment from Land-Based Sources of Pollution addresses the management of nutrients, marine litters and other forms of harmful substances and hazardous waste that have negative impacts on marine environments. A Global Partnership on Nutrient Management has been formed as a platform for dialogue, policy making and actions at national, regional and global levels. The partnership will promote the use of

ecosystem-based management practices in an enabling policy framework such that land-based sources of pollution reaching coastal waters and open seas and leading to eutrophication and the creation of dead zones, are effectively monitored, assessed and ultimately reduced.

UNEP is furthermore developing The Global Platform for Waste Management (GPWM), an open-ended partnership for international agencies, governments, businesses, academia, local authorities and NGOs. GPWM supports the development of work plans to facilitate the implementation of integrated solid waste management at national and local level to overcome environmental, public health, social and economic issues inflicted by waste and its impact.

SAICM objective: Knowledge and Information

UNEP has developed a Global Chemicals Outlook founded on previous OECD industry analysis. The Outlook addresses the consequences of the continuing shift in chemicals production and use of chemicals from developed to developing countries, highlighting potential negative impacts on human health and the environment in developing countries. The Outlook will consist of an analysis of the changes in production and use of chemicals from developed to developing countries for the next decade, the economic and financial implications of these changes if sound management of chemicals is not being improved, and an assessment of the potential policy responses. The Global Chemicals is expected to be published in time for ICCM3. The 5th Global Environment Outlook (GEO5) released June 2012 aims to analyze the way ecosystems and the atmosphere are responding to patterns of unprecedented consumption and production. It contains a chapter on chemicals and waste covering a number of issues such as progress towards the internationally agreed goals relevant for chemicals and waste, the status and trends, life cycle thinking as well as emerging issues.

As a response to a call at ICCM2 for additional research on the economic and social cost of unsound chemicals management, UNEP has initiated a study of the cost of inaction on sound management of chemicals with input from the World Health Organization, the Organization for Economic Cooperation and Development and others. The first phase of the study has been to assess the existing knowledge on the economic cost of the lack of sound management of chemicals. A Baseline Assessment Report on the Cost of Inaction will be prepared in time for ICCM3.

UNEP worked with WHO on a project on Children's Environmental Health. Results of an intensive review of CEH studies done in developing countries affirmed the crucial role of the environment sector in the prevention of chemical releases to reduce children's exposure risks and that improving environmental conditions upstream is likely to be a cost-effective strategy to prevent environment related children's health outcomes. The need for global harmonization of exposure and outcome measures to promote CEH is recognized.

SAICM objective: Governance

UNEP hosts with WHO the SAICM Secretariat and is the trustee for the SAICM Quick Start Programme.

Agreement to negotiate a legally binding instrument on mercury was reached by the twenty-fifth session of the UNEP Governing Council. To date, four sessions of the intergovernmental negotiating committee have been held (June 2010 in Stockholm; January 2011 in Chiba, Japan; October 2011 in Nairobi, Kenya; and June 2012 in

Punta del Este, Uruguay). Regional consultations have been held between each session of the INC to assist regions in preparing for the negotiations.

UNEP and WHO lead the Health and Environment Strategic Alliance. Under this Alliance an African Framework to reduce chemicals risks to human health and the environment has been drafted and is currently undergoing a review process for its finalization. The Framework will be submitted for consideration by ministers of environment at a next AMCEN meeting as well as to the WHO Regional Committee for Africa. The purpose of the African programme for reducing chemicals risks to human health and the environment will be to build the technical and institutional capacities of African countries in support of concrete actions to reduce chemicals risks to health and the environment from the unsound management of chemicals.

UNEP has carried out a number of analyses on the integration of sound management of chemical into poverty reduction strategies and the use of economic instruments. This analysis shows that only to a very limited extend is the sound management of chemicals incorporated in the national strategies and that only limited use is made of economic instrument in developing countries.

A consultative process on financing options for chemicals and wastes was launched by the UNEP Executive Director in recognition of the need for adequate resources in the field of chemicals and wastes management. The fifth meeting of the consultative process was held in Bangkok, Thailand from 6 to 7 October 2011 and delivered recommendations on an integrated approach to financing to the UNEP Executive Director as input to his final report for consideration at the twelfth special session of the Governing Council/Global Ministerial Environment Forum, in February 2012. The GC/GMEF has forwarded the ED's report to the third session of the International Conference on Chemicals Management, in 2012, and will consider further developments at the twenty-seventh session of the Governing Council/Global Ministerial Environment Forum, in 2013. A consultative meeting will take place in **Mexico City from 5 to 6 September 2012** on the draft proposal of the Executive Director on an integrated approach to financing sound management chemicals and wastes. The purpose of the meeting in September, which will be chaired by the secretariat, is to seek advice from those governments and other stakeholders who previously have been invited to the meetings of the consultative process on financing options for chemicals and wastes, on the draft proposal. The outcome of the Mexico City meeting will be presented to the third session of the International Conference on Chemicals Management (ICCM3) in September 2012 for consideration.

SAICM objective: Capacity Building and Technical Cooperation

UNEP partners UNDP to promote the Integration of sound management of chemicals into development strategies and policies. Training programmes and guidance materials on how to perform economic assessment of the lack of sound management of chemicals have been prepared for UNDP to deploy in its country programmes.

UNEP has also developed guidance on the development of legal and institutional infrastructures for sound management of chemicals and on measures for recovering costs of national administrations which are being used in QSP projects in Belize and Cambodia and will be used in additional countries, such as Uruguay and Nigeria based on funding from the SIDA under the Swedish Government.

UNEP has assisted Moldova and Armenia in their assessment of legal needs for sound management of chemicals.

UNEP has furthermore supported a number of country projects on POPs:

28 countries with Global POPs monitoring and POPs laboratory capacity building projects financed through GEF and co-finance from SSC and others. These countries are:

Asia-Pacific: Fiji, Kiribati, Marshall Islands, Niue, Palau, Samoa, Solomon Islands, Tuvalu

- Africa: Democratic Rep of Congo, Egypt, Ethiopia, Ghana, Kenya, Mali, Mauritius, Nigeria, Senegal, Togo, Uganda, Zambia

-GRULAC: Antigua and Barbuda, Brazil, Chile, Ecuador, Jamaica, Mexico, Peru, Uruguay

- 4 Countries with Global POPs monitoring and POPs laboratory capacity building projects with finance from SAICM QSP: Bahamas, Barbados, Cuba, Haiti

- 5 countries for mercury waste project: Burkina Faso, Cambodia, Chile, Pakistan, Philippines

- Dioxin/furan open burn projects with China and Mexico; China also for project on laboratory intercalibration study and environmental indicators

- Expert institutions were contracted from: Australia, Czech Republic, Germany, Japan, Mexico, Netherlands, Spain, Sweden, Switzerland, USA

- Collaboration in IUPAC project: China, Italy, Sweden

UNEP is responsible for the Chemical Information Exchange Network (CIEN) which creates an opportunity to build national capacity, encourage cooperation and reduce duplication of effort related the implementation of various chemical of global concern. Under CIEN a number of activities have been carried out:

- The CIEN project was implemented in 6 countries respectively in Latin America (Peru, Bolivia and Uruguay), Africa (Cote d'Ivoire and Burundi) and in Asia (Vietnam and The Philippines).
- Assistance was provided to Mexico to strengthen their network ([<http://www.semarnat.gob.mx/gestionambiental/riiq/Pages/riiq.aspx>])
- 180 senior officers and decision maker were involved in designing the national information system for the SMC
- 120 were trained on how to access technical and scientific information for the SMC, including ways of disseminating national information for the sound management of chemicals.
- 73 webmasters were trained on the use of the UNEP Environmentally Sound Technology Information System (ESTIS) to build national network
- Discussion is engage with Peru, the Philippines and Cote d'Ivoire to act as a focal point for the establishment of a regional network as requested by ICCM2.
- Monthly global electronic forums were organized in various topics including ICCM2, discussion on Mercury and emerging issues, management of plastic wastes (www.reic-cien.com/dokeos).

UNEP has been supporting capacity building on accident prevention projects supported by SAICM Quick Start Programme (QSP) as follows:

- Chemical Accident Prevention Programme for West Africa supports the development of a Chemical Accident Prevention and Preparedness Programme in Mali and Senegal using the Flexible Framework for Chemical Accident Prevention and Preparedness (an IOMC Document). Project activities carried out include:
- Establishment of a National Chemical Accident Prevention and Preparedness Taskforce and meetings of the task force

Capacity building workshops: One workshop per country as well as a Project Launching Workshop

- An Assessment of the Country Situation (Mali and Senegal individually)
- Chemical Accident Prevention and Preparedness Programme for Sri Lanka:
- Support to SAICM QSP proposal
- Chemical Accident Prevention and Preparedness Programme for Tanzania:
- Support to SAICM QSP Proposal
- Chemical Accident Prevention and Preparedness Programme for Chile:
- Support to SAICM QSP Proposals

Capacity building projects supported by other sources:

- UNEP has supported Capacity building in Sri Lanka through an Awareness Raising Workshop on APELL and Industrial Chemical Accident Prevention and Preparedness
- UNEP has supported Capacity building in the Philippines in Chemical Accident Prevention and Preparedness

SAICM objective: Illegal International Traffic

The UNEP-led Green Customs Initiative is a partnership of international organizations cooperating to prevent the illegal trade in environmentally-sensitive commodities and facilitation of the legal trade in these. Its objective is to enhance the capacity of customs and other relevant enforcement personnel to monitor and facilitate the legal trade and to detect and prevent illegal trade in environmentally-sensitive commodities covered by the relevant conventions and multilateral environmental agreements (MEAs). These include ozone depleting substances (ODS), toxic chemical products, hazardous wastes, endangered species and living-modified organisms. This is achieved through awareness-raising on all the relevant international agreements as well as provision of assistance and tools to the enforcement community. Green Customs is designed to complement and enhance existing customs training efforts under the respective agreements

The partners of the Green Customs Initiative comprise the secretariats of the relevant multilateral environmental agreements (Basel, Cartagena, CITES, Montreal, Rotterdam Stockholm), Interpol, the Organisation for the Prohibition of Chemical Weapons, UNEP, the United Nations Office on Drugs and Crime (UNODC) and the World Customs Organization. The Green Customs Initiative also works closely with a number of other regional and international organizations.

UNEP's regional offices for Asia and West Asia are implementing the project "Combating environmental crime involving harmful substances and hazardous waste". The project is progressing well in both regions after a delayed start in West Asia. In Asia, the governments of Cambodia, Thailand, and Viet Nam have stepped up their fight against environmental crimes through the "Partnership Against Transnational-crime through Regional Organized Law-enforcement (PATROL)" with support from the United Nations Office on Drugs and Crime (UNODC), TRAFFIC, Freeland Foundation, and UNEP.

United Nations Industrial Development Organization (UNIDO)

UNIDO formally recognized SAICM at the 12th session of the General Conference (2007) by adopting Decision GC12/Dec. 17 – Item 15, upon the recommendation of the Industrial Development Board Decision (IDB.33/Dec. 7).

In the area of implementation of the sound management of chemicals UNIDO's efforts are carried out within the Green Industries Initiative, which focuses on promoting greater efficiency in the use of resources by industries to take advantage of cost reductions, better image and less technical barriers to trade.

UNIDO is implementing a number of programmes that promote clean technologies and/or the preventive approach: the National Cleaner Production Centres Programme, the Montreal Protocol Programme, the Transfer of Environmentally Sound Technologies (TEST) approach, Chemical Leasing, Corporate Social Responsibility (CSR) based on the implementation of a Triple-Bottom Line (TBL) approach, Environmental Management Systems (EMS), the elimination of Persistent organic Pollutants (POPs), sector-specific programmes for the reduction of process wastes and pollution from the leather and textile sectors as well as other sectors.

The UNIDO Cleaner Production (CP) Programme, through the application of the Cleaner Production methodology, contributes to building the capacity and implementing sound management practices at company level, offering a set of services which include: information dissemination, training, technical assistance at plant level, Environmentally Sound Technologies (EST) transfer and investment promotion and CP policy advice.

The same network of CP Centres is also supporting the national governmental institutions in implementing the SAICM Global Plan of Action, including through the development and joint implementation of Quick Start Programme projects.

The strong involvement of the Cleaner Production Programme in the area of chemicals management has been reflected in the strategy for the implementation of the Programme for the Resource Efficient and Cleaner Production (RECP) in developing and transition countries, jointly developed with UNEP.

SAICM objective: Risk Reduction

The Cleaner Production Programme strategy focuses on four thematic priorities, one of which is Cleaner Production and environmental sound management of hazardous substances and waste, including chemical leasing, e-waste, chemicals safety and risk assessment.

UNIDO has been strengthening its support to developing and transition countries in the formulation and implementation of projects submitted to the Trust Fund Implementation Committee of the SAICM Quick Start programme.

The projects target the implementation of life cycle analysis for priority chemical product and substances in El Salvador, the establishment of inter-institutional coordination mechanisms in the area of sound chemicals management in Peru, strengthening of national governance for SAICM implementation in Colombia, the safe handling of mercury products in Uruguay, the formulation of an integrated approach to national chemicals management in Sudan and reducing risk from mercury use in artisanal and small scale gold mining in Mali.

UNIDO is also providing a supporting role in two regional projects in the area of reducing mercury risks from artisanal gold mining, respectively in Cambodia and Philippines and Bolivia and Peru.

SAICM objective: Knowledge and Information
UNIDO is supporting countries in the formulation and implementation of QSPTF projects and ensures that all the information developed during QSPTF projects is shared and disseminated at national and regional level. UNIDO has been providing an active contribution in the Global Mercury Partnership, where the organization takes a leading role in the area of artisanal gold mining through the introduction and dissemination of cleaner artisanal gold mining and extraction technologies, the implementation of training and awareness campaigns, the assistance to national and international mercury and artisanal gold mining policy improvement and the introduction or continuation of health and environmental monitoring.
SAICM objective: Governance
UNIDO is developing initiatives that promote the establishment of inter-institutional coordination mechanisms in the area of sound chemicals management. Ongoing activities aim to enable the countries to achieve a coordinated evaluation, control and follow-up in the management of all chemical substances and products, responsibilities which are usually diluted among different national institutions. UNIDO's involvement in the implementation of the Stockholm Convention covers the implementation of three main interventions: UNIDO has been assisting more than 40 countries in the preparation of their National Implementation Plans, meeting the requirements of the Convention. UNIDO is developing initiatives that promote capacity building for national stakeholders. An important element of UNIDO's work is to promote the uptake of best available techniques (BAT) and best environmental practices (BEP) in industry through, for example, demonstration projects to test the local feasibility on innovative technologies and methodologies.
SAICM objective: Capacity Building and Technical Cooperation
UNIDO supports countries in the formulation and implementation of QSPTF projects targeting country specific priorities; benefiting from the role of facilitators and technical assistance of the Cleaner Production Centres. Cleaner Production Centres in developing and transition countries promote capacity building and information dissemination. In terms of capacity building the CP Programme tackles the following areas: 1. <i>Resource Productivity</i>: the efficient utilization of natural resources (materials, energy, water, etc.) for the production of goods and services that bring quality of life; 2. <i>Environmental Management</i>: minimizing the impact of business on the environment to protect the health of workers and community and the ecological integrity of the natural environment; 3. <i>Entrepreneurship</i>: skills, tools and systems of the owners/operators of businesses to run their businesses in a rational and planned way achieving a solid balance between short term profit and medium to long term viability; and 4. <i>Public Private Partnership</i>: recognition by government and business sector that collaboration on issues of national concern (including environmental management and productivity) is necessary. National Cleaner Production Centres (NCPCs) deliver training on CP and CP-related topics to

build local capacity in various target groups. Practical implementation is part of the training activities, in order to strengthen national capacities to plan and execute CP-related actions and solutions. Upon conclusion of their initial financial support from UNIDO and UNEP, NCPCs are expected to achieve their financial self-sustainability. Capacity building for resource mobilization to support the continuation of their operation is therefore another area of intervention of UNIDO and UNEP.

United Nations Institute for Training and Research (UNITAR)

UNITAR's Chemicals and Waste Management Programme supports capacity building in developing and transition countries in a wide range of SAICM-related areas to protect human health and the environment from toxic chemicals and wastes, often in collaboration with other IOMC POs. This includes: (i) infrastructure and capacity assessments: providing guidance, training, and technical support to assist countries in assessing their existing legal, institutional, administrative, and technical infrastructure for sound chemicals management including analysing existing capacities, gaps and needs, and initial priority setting (e.g. National Profiles, Globally Harmonized System of Classification and Labelling of Chemicals (GHS) situation analysis); (ii) integrated national programmes for chemicals and waste management: assisting countries to establish and strengthen a collaborative framework at the national level which can provide a foundation for effective and coordinated action to address both national chemicals management priorities as well as the implementation of international chemicals-related agreements and initiatives; and (iii) specialised training and capacity building addressing, for example, the GHS, pollutant release and transfer registers (PRTR), mercury inventory development and risk management decision-making, nanotechnology and manufactured nanomaterials, and chemicals and waste convention implementation (Basel, Rotterdam, and Stockholm Conventions).

SAICM objective: Risk Reduction

UNITAR supports projects in developing and transition countries to prepare mercury emissions inventories using UNEP's Toolkit for Identification and Quantification of Mercury Emissions. In addition, UNITAR has provided countries with guidance to assist them to prepare national plans to reduce risks related to mercury.

SAICM objective: Knowledge and Information

UNITAR's website includes a specific SAICM section at www.unitar.org/cwm/saicm, which provides information on various UNITAR-assisted SAICM enabling activities and related country outputs.

To support national SAICM implementation, UNITAR has developed/revised and pilot tested a number of key guidance materials, including: *Preparing a National Profile to Assess Infrastructure and Capacity Needs for Chemicals Management*; *Guidance for Developing SAICM Implementation Plans* (in collaboration with SAICM secretariat and IOMC); and *Guidance for Developing a National Nanotechnology Policy and Programme*. With the input of all other IOMC POs, UNITAR developed the document *National Implementation of SAICM: A Guide to Resource, Guidance and Training Materials of IOMC Participating Organizations*.

The National Profile Homepage, www.unitar.org/cwm/nphomepage, provides a global collection of National Profiles, including those prepared/updated within the SAICM framework.

The UNITAR/ILO Global GHS Capacity Building Programme provides guidance documents, and educational, awareness-raising, resource, and training materials regarding the GHS (<http://www.unitar.org/cwm/ghs>).

UNITAR provides support to countries to design PRTRs at the national and regional levels. PRTRs provide information on pollution to governments, communities, and the public, thereby supporting the “right to know” principle. UNITAR’s current PRTR activities provide technical assistance, guidance and reference materials, and support for country-based activities, including development of inventories of releases of POPs.

UNITAR also executes a number of supporting services for capacity building, including the provision of “virtual libraries” on UNITAR’s website related to a variety of topics including the GHS and PRTRs. In addition, the recently launched PRTR:Learn (<http://prtr.unitar.org>) provides an interactive website that has the main objective of sharing insights, information, knowledge, and resources on PRTRs.

To support engagement of civil society in SAICM implementation, UNITAR has also supported the International POPs Elimination Network (IPEN) to develop and disseminate SAICM guidance materials for NGOs.

SAICM objective: Governance

Resolution 4 adopted at the ICCM concerning the QSP includes a number of strategic priorities to support enabling activities at the national level. They include, for example, development or updating of national chemicals management profiles and identification of capacity needs, as well as refer to the development and strengthening of institutions, plans, and programmes. Many of these priorities are specific areas of capacity building for which UNITAR has, over the past years, developed and tested guidance materials in collaboration with a diverse range of countries, IOMC POs, and other partners. UNITAR is in the process of strengthening its support, upon request from countries, and is further developing existing methodologies towards meeting the needs for national SAICM implementation. As a further indication of support for the outcomes of ICCM, UNITAR’s Board of Trustees formally endorsed SAICM in April 2006.

UNITAR, in coordination with the IOMC, participated in SAICM preparatory meetings and the ICCMs and is a member of the SAICM QSP Trust Fund Implementation Committee and QSP Executive Board. UNITAR also supports countries to implement international agreements and conventions through QSP projects as well as by serving as an international executing agency for GEF-funded projects on Stockholm Convention implementation.

SAICM objective: Capacity Building and Technical Cooperation

UNITAR established a SAICM implementation programme in 2006 which began with a 2006-09 pilot phase, followed by the current 2010-12 phase. Core support for the programme is provided by the Government of Switzerland. In the pilot phase, country projects took place in Belarus, Mongolia, Pakistan, Panama, and Tanzania over a period of three years. The 2010-12 phase focuses on strengthening capacities for sound chemicals management with an emphasis on assisting countries and regions with SAICM implementation, nanotechnology (see below), and addressing challenges related to mercury and other heavy metals.

UNITAR also supports QSP Trust Fund projects. To date, UNITAR has been serving as the international executing agency for 79 countries/organizations supported by the QSP Trust Fund (Rounds 1-12). Projects cover a range of topics including, *inter alia*: national SAICM priority setting, strengthening national governance, National Profiles, national SAICM capacity assessments, national chemicals management databases, national policies for SAICM

implementation, SAICM implementation plans, GHS, and PRTRs. Two of the QSP Trust Fund projects are addressing regional cooperation on the GHS in Central and Eastern Europe and the Caribbean.

UNITAR also embarked with partners such as OECD, and within the framework of the IOMC, to raise awareness in countries about nanotechnology/manufactured nanomaterials, including the implications for developing and transition countries as nano-based or nano-containing products are traded across borders. Activities commenced with a series of regional awareness-raising workshops for all UN developing and transition countries between 2009 and 2011. In addition, with the support of the Government of Switzerland, UNITAR is undertaking three pilot projects to assist developing and transition countries to develop programmatic capacities to address nano issues at the national level during 2011-2012. See also the UNITAR/OECD report on nanotechnology (available as document SAICM//ICCM.3/17).

In cooperation with UNIDO and the Secretariat of the Stockholm Convention, and with the support of the GEF, UNITAR has developed guidance documents and training material on updating National Implementation Plans (NIPs) under the Stockholm Convention taking into account the new POPs added to the Convention. The full set of guidance will assist countries to identify chemicals in products/articles, establish inventories, undertake national surveillance of imported products or products in the market to determine whether they contain chemicals listed under the Stockholm Convention in order to ensure implementation of Article 3 and control illegal trafficking, and to handle production and use, recycling and waste disposal of industrial chemicals including PFOS and BDEs. Such guidance will be useful for all countries globally, both Parties and non-Parties, for environmental sound life-cycle management as well as sound trade of chemicals.

SAICM objective: Illegal International Traffic

The project noted above regarding developing guidance documents and training material on updating NIPs under the Stockholm Convention taking into account the new POPs will also help countries address illegal traffic.

World Health Organization (WHO)

Mandate and commitment to SAICM

The World Health Organization (WHO) is the specialised UN entity responsible for directing and coordinating health with the objective of the attainment by all peoples of the highest possible level of health. Efforts to promote a healthier environment, intensify primary prevention, and influence public policies in all sectors so as to address the root causes of environmental threats to health are a key part of the WHO Programme of Work.

WHO comprises 147 country offices and six regional offices. WHO has its headquarters in Geneva. The World Health Assembly, the organization's governing body, has considered the Strategic Approach to International Chemicals Management in 2003 and 2006, during its development and following its adoption, and more recently in 2010 when it received a report on progress following the second session of the International Conference on Chemicals Management and the roles and responsibilities of the health sector in chemicals management.

Provision of the SAICM Secretariat

Since September 2007, WHO has contributed staff resources to the SAICM secretariat in accordance with the provisions of paragraph 29 of the SAICM Overarching Policy Strategy, and

resolution I/1 of the International Conference on Chemicals Management. This has recently been extended to September 2012 but at a reduced rate of 60% of time reflecting current financial restraints.

Health sector engagement in SAICM

World Health Assembly resolutions on the Strategic Approach have been disseminated widely including by regional offices to health-sector contacts in Member States, drawing attention to the need to ensure multisectoral participation, encourage engagement in processes for implementing SAICM, disseminate guidance and application materials for the SAICM Quick Start Programme, and to help identify initial capacity-building activities that reflect identified health-sector priorities.

WHO is also working with the health sector through non-governmental organizations to promote health sector involvement in the implementation of SAICM including those active in its global health-sector networks of poisons centres, emergency alert and response operations for incidents of public health concern, risk assessors, scientific bodies such the International Union of Toxicology (IUTOX), and other organizations which are in official relations with WHO.

In accordance with resolution II/8 of the second session of the International Conference on Chemicals Management, WHO has prepared a draft strategy for strengthening the engagement of the health sector in implementation of the Strategic Approach, in cooperation with the secretariat. This will be considered for adoption by the third session of the International Conference on Chemicals Management.

The following paragraphs summarise some of the relevant WHO activities according to different sections of the Overarching Policy Strategy on risk reduction, knowledge and information, governance, and capacity-building and technical cooperation.

SAICM objective: Risk Reduction
WHO is an established authority for providing evidence-based assessments, norms and standards for protecting human health from major environmental and occupational hazards and contributes an extensive number of guidance materials, technical monographs and other publications on specific chemicals and groups of chemicals, and risk assessment methodologies. Since 2009 WHO has published risk assessment documents on chemicals in both concise and comprehensive formats. Concise International Chemical Assessment Documents (CICADs) have been published on Strontium and Strontium Compounds and on ethylene series glycol ethers (as a compendium). A re-evaluation of the health aspects of DDT in indoor residual spraying was published. A further CICAD on hexavalent chromium has also been progressed. The International Chemical Safety Cards (ICSCs) project has continued to provide concise information on chemicals relevant to occupational settings. There are approximately 1700 ICSCs available in up to 15 languages, with scope for the number of languages to expand through a new database format which greatly facilitates translation. An average of 30-40 ICSCs are created or updated each year. Information on classifications according to the Globally Harmonized System for Classification and Labelling of Chemicals (GHS) are now presented in the WHO <i>Recommended Classification of Pesticides by Hazard</i>, and in ICSCs as they are updated. WHO staff also regularly participate in the work of the UN Sub-Committee of Experts on the GHS. Work on Environmental Health Criteria (EHC) and other methodology documents included publication of a draft EHC on dermal exposure; EHC 240 Principles and Methods for the Risk Assessment of Chemicals in Food, and generic risk assessment models for insecticides used for public health purposes in various settings:- indoor and outdoor space spraying, larviciding,

indoor residual spraying and disinsection of aircraft.

A re-evaluation of the health aspects of DDT in indoor residual spraying was published as Environmental Health Criteria 241. Work on DDT alternatives for malaria control in Mexico and Central America has been supported by the release of a publication, in English and Spanish in 2011, on the role of municipal governments and community participation in the integrated vector management as part of a broader DDT/UNEP/GEF/PAHO project.

Increased attention to chemicals of major public health concern was given by the launch in 2010 of an initiative to raise awareness, advocate for action and facilitate access to tools for action. Short documents for decision makers were published on eight of these chemicals in 2010: arsenic; benzene; cadmium; highly hazardous pesticides; inadequate or excess fluoride intake; lead; mercury; major air pollutants; polychlorinated dibenzodioxins and dioxin-like compounds. Documents on asbestos and mercury had been published earlier.

Work on the harmonization of global approaches to risk assessment continues to increase understanding and approaches on basic principles and to provide international guidance documents on specific issues. The focus of work is on the risk assessment of combined exposures to multiple chemicals; guidance for immunotoxicity risk assessment; mode of action; principles of characterizing and applying physiologically-based pharmacokinetic models in risk assessment; characterizing and communicating uncertainty in chemical risk assessment; and identifying early life stages for characterizing chemical exposures.

The WHO Human Health Risk Assessment Toolkit was further developed and finalised in 2010 to deliver practical tools for risk assessment in a user-friendly format, in particular for use in developing countries and countries with economies in transition. The toolkit was used in the context of a number of capacity-building activities in cooperation with Joint UNEP/FAO convention secretariats, with other intergovernmental organizations and to support relevant SAICM Quick Start Programme projects.

A study to estimate the global burden of disease attributable to chemicals was published in the journal *Environmental Health* (2011). This study estimates that 8.3 per cent of the total or 4.9 million deaths and 86 million disability-adjusted life years (5.7 per cent of the total) were attributable to environmental exposure and unsound management of selected chemicals in 2004. A preview of the findings was presented at the eighteenth session of the Commission on Sustainable Development Meeting and to the OECD Joint Meeting on Chemicals. WHO has contributed his information and other burden of disease expertise to the UNEP *Cost of Inaction* report. This burden of disease information has been made available to the Conference as document SAICM/ICCM.3/INF/13.

A method guide to the quantification of health effects of selected housing risks in the WHO European Region was published in 2011. This publication estimates the risks for children's health of lead, carbon monoxide, and formaldehyde in the context of housing. An additional publication in 2012 titled *Health Effects of Black Carbon* presents the results of a systematic review of evidence of the health effects of black carbon in ambient air. Black carbon is a good indicator of combustion-related air pollution.

WHO is committed to contribute to the development of the global legally-binding instrument to reduce mercury emissions, through the provision of independent authoritative information on the risks posed by mercury, on priority prevention measures and biomonitoring arrangements. WHO, with Health Care Without Harm, is implementing a global initiative to substitute mercury thermometers and sphygmomanometers in health care and in 2011 produced step-by-step technical guidance on the replacement of these mercury devices.

The fourth edition of the World Health Organization's *Guidelines for Drinking-Water Quality* was published in 2011 which builds on over 50 years of guidance by WHO on drinking-water quality, and forms an authoritative basis for the setting of national regulations and standards

for water safety in support of public health. The publication includes guidance on chemical aspects of drinking water quality and provides a significant number of guideline values for helping to control chemicals found in drinking water. A technical publication on pharmaceuticals in drinking-water was published in April 2011.

WHO is in the process of establishing formal WHO guidelines for the diagnosis and treatment of lead poisoning to assist the application of policies to prevent and reduce lead exposure particularly in children. These guidelines will also contribute to the priority actions being promoted by Global Alliance to Eliminate Lead Paint. Further information on work of the Global Alliance to Eliminate Lead Paint is contained in documents SAICM/ICCM.3/14 and SAICM/ICCM.3/INF/21. Two guidance documents on methods for analysing lead in blood and in paint are part of the contribution of WHO to the work of the Global Alliance and are available on the WHO website

(http://www.who.int/ipcs/assessment/public_health/lead/en/index.html). The aim to provide non-specialists with guidance on the available types of equipment for lead analysis. In Central America and Dominican Republic, a document to evaluate the situation of lead exposures with identification of priorities to be addressed has been prepared with support from the WHO Regional Office for the Americas/Pan American Health Organization.

SAICM objective: Knowledge and Information

WHO maintains an up-to-date website where copies of its risk assessments, risk assessment methodology and other technical documents are available (www.who.int/ipcs).

The Global Health Observatory (www.who.int/gho) is WHO's gateway to health-related statistics from around the world presenting interactive data repository, maps and customised data views on global health priorities such as the health-related Millennium Development Goals, women and health, mortality and burden of disease, disease outbreaks, health equity and health systems. Public Health and Environment topics include data on chemical-related burden of disease and children's environmental health.

WHO also provides its chemical assessment related documents through the IPCS INCHEM website which enables dissemination to a wider audience of professionals with particular interests in chemical safety and is linked to OECD e-chem portal. In 2010, there were more than 2 million visitors to the INCHEM website (www.inchem.org).

Maintenance and development of the WHO INTOX Data Management System continues to provide a means to improve the knowledge-base on the toxic effects of chemicals through facilitating the comparison and pooling of harmonized case data collected by different poisons centres (<http://www.who.int/ipcs/poisons/package/en/index.html>).

WHO's work relevant to communication to vulnerable groups, includes a significant body of work and publications on children's environmental health including information directed at health-providers and pediatricians (www.who.int/ceh). It also includes a Global Plan of Action on Children's Environmental Health that calls for a coordinated multi-sectoral work at local regional and global level to improve the health of future generations. Similarly the WHO Global Plan of Action on Workers' Health includes a number of high priority actions to protect vulnerable workers including those exposed to priority carcinogens including asbestos. The prevention of asbestos-related disease is a major concern in Asia and WHO is working together with the International Labour Organization on this priority.

The European Environment Health and Information System (ENHIS) has been established as a web-based information service and provides several products focusing on environment and health issues relating to the Children's Environment and Health Action Plan for Europe including 26 indicator-based assessments, country profiles and methods and tools, including a tool for health impact assessment of outdoor pollution in European cities. In addition ENHIS

indicators supporting the Parma Declaration on Environment and Health, have been developed that include those relating to the human biomonitoring of heavy metals and chemicals policy matters.

In the Americas, a virtual library of sustainable development and environmental health provides access to different toxicology information data bases in English, Spanish and Portuguese. Virtual communities on toxicology have been interacting on different themes including clinical toxicology, chemical accidents and emergencies, training opportunities and other related events, information and a focus for networking in the region and information in English, Spanish and Portuguese.

A global network of poisons centres known as INTOX links together more than 200 specialists in over 75 countries. Members work in poisons centres, clinical treatment units, analytical toxicology laboratories and chemical incident response services and use the network to share knowledge and experience on the diagnosis and management of poisoning, and on poisons centre operations.

WHO also maintains an informal network known as ChemiNet which was set up in response to the need for strengthening international cooperation in chemical incident reporting, verification, investigation and response. Members of ChemiNet include the INTOX network; WHO Collaborating Centres; departments at WHO HQ, in regions and countries; analytical laboratories and academic institutions, as well as individual consultants and experts.

SAICM objective: Governance

WHO plays an active role and is committed to strengthen the support awareness and need for engagement of the health sector in implementation of SAICM and provides an active contribution to the SAICM secretariat and to governance of the Strategic Approach's QSP Trust Fund Implementation Committee along with other participating organizations of the Inter-Organization Programme for the Sound Management of Chemicals. The WHO Regional Office for the Americas/Pan American Health Organization acts as a technical advisor to the regional coordinating committee for the SAICM Latin America and Caribbean region.

WHO is an Executing Agency for nine SAICM QSP projects in the following 15 countries: Bahamas, Bhutan, Cook Islands, Gabon, Indonesia, Kenya, Kiribati, Madagascar, Morocco, Samoa, Solomon Islands, Sri Lanka, Thailand, Tonga, and Zambia. Projects focus on assessment of priority needs for environment and health; management of industrial carcinogens, public health management of chemical incidents, poisons centres, recycling of insecticide-treated nets and the management of public health pesticides.

WHO is also actively working in collaboration with the Joint UNEP/FAO secretariat to the Rotterdam Convention to build awareness of chemical risk assessment and management and to improve notification of severely hazardous pesticides formulations, with the Stockholm Convention POPs Review Committee to promote common principles and approaches in global risk assessment. WHO joined efforts with UNITAR and ILO in the organization of work in South-East Asia in relation to GHS implementation.

WHO provides the secretariat to the International Health Regulations (2005) and is engaged in significant activities to build core capacities, including for chemical incidents, for implementation of the Regulations in all Member States. Activities have been initiated in collaboration with the secretariat of the Basel Convention for the Control of Transboundary Movements of Hazardous Wastes and their Disposal to identify mutually supportive actions in this regard.

WHO is jointly providing with UNEP the secretariat to the Global Alliance to Eliminate Lead Paint, considered an emerging issue by the second International Conference on Chemicals

Management.

WHO Regional Office for Europe provides the secretariat of the Joint WHO-Convention Task Force on Health for the UN Convention on Long Range Transboundary Air Pollution is actively engaged in the assessment of the health risks of particulate matter from various sources.

The Fifth Ministerial Conference on Environment and Health, organized by WHO/Europe was held in March 2010, Parma, Italy focused on protecting children's health in a changing environment. The Conference set Europe's agenda on emerging environmental health challenges for the years to come.

The Second Inter-Ministerial Conference on Health and Environment in Africa was jointly organized by WHO and UNEP and held in Luanda, Angola, 23-26 November 2010. The Conference was aimed at sustaining the political commitment made by Ministers at the Libreville Conference in 2008, on enhanced inter-sectoral actions and co-benefits for human health and the environment, as part of their engagement towards sustainable development in the African region. Chemicals were identified as one of the top ten priorities for regional action.

A Regional Forum on Environment and Health is also a key focus of activities in the WHO Western Pacific Region and also the WHO South-East Asian Region. WHO and UNEP jointly provide the secretariat to this Forum. Two of the priorities of the Regional Forum relate to Toxic chemicals and hazardous substances and Contingency planning, preparedness and response in environmental health emergencies (including chemical emergencies).

SAICM objective: Capacity Building and Technical Cooperation

In total it is estimated that over 80 countries have received capacity-building support on chemicals issues from WHO in 2010, through the work of headquarters and regional offices.

Poisons prevention, information and management is a significant focus of WHO activities relevant to capacity-building and technical cooperation and work continues to establish and strengthen the capacity of poisons centres worldwide providing updated tools and guidance to support their activities. In 2010, this work included work on four antidote monographs (Succimer, Unithiol, DTPA and Prussian Blue); maintenance and development of the INTOX Data Management System and a capacity-building workshop held in Africa. In January 2012 work started on a SAICM QSP project examining the feasibility of a sub-regional poisons centre in the East Africa Sub-Region. This project is being executed by WHO Headquarters and the Regional Office for Africa in partnership with the Zambia Environmental Management Agency.

In 2010-2011 a total of 255 chemical-related incidents and emergencies were evaluated for their public health significance and the need for technical support by WHO. Support was provided in 35 cases as follows: eight disease outbreaks of initially unknown cause; seven environmental and/or complex emergencies, where WHO developed guidelines for the assessment and management of chemical hazards; eight chemical spills; six poisoning outbreaks, where WHO sourced antidotes and/or facilitated access to clinical toxicology expertise; one presumed chemical release, for which WHO identified a source of analytical support; one hazardous product marketed internationally as a "cure-all" medicine, where WHO carried out a risk assessment and informed International Health Regulation National Focal Points; two events involving contaminated products where WHO contributed to the risk assessment; assessment of one product giving rise to severe illness as a result of a particular circumstance of use and communication of this risk to other Member States; and assistance to a Member State to manage a mass lead poisoning.

WHO has been engaged in significant support to the lead poisoning event mentioned above since June 2010 in collaboration with a number of national and international partners and has included a WHO mission, the provision of technical expertise from the WHO toxicology network and the supply of antidotes and analytical equipment.

Work is continuing on a WHO Manual for investigating disease outbreaks of possible chemical origin which is intended to support WHO investigative missions to countries and evaluation of events of the type identified above.

Awareness-raising about the important role of public health in the management of chemical incidents, especially in developing countries continues to be a significant focus of work and WHO has worked in collaboration with Joint UNEP and FAO Convention secretariats to the Rotterdam Convention, the Basel Convention and other international partners in this regard, including with partners in countries and regional offices implementing the International Health Regulations (2005) and partners involved in the Global Health Security Initiative and its relevant working groups.

Awareness raising and capacity building activities to strengthen the public health management of chemical incidents and chemical risk assessment were conducted at regional and national workshops and training events, including in Côte d'Ivoire (in 2010 and 2011), Thailand (in 2010 and 2011), Jamaica (2010), Armenia (2011), and Jordan (2011). In addition, contributions were made to training workshops in Ghana (2010) and Chile (2011).

Awareness raising and training events were used to introduce, promote and disseminate the following documents: (i) *WHO Manual for the Public Health Management of Chemical Incidents*; and (ii) *The WHO Human Health Toolkit: Chemical Hazards*.

The Inter-Agency Awareness-raising Workshop on the Sound Management of Industrial Chemicals for the Asia-Pacific Region, Bangkok, Thailand, 29 August - 3 September 2011, was held to identify joint priorities for chemicals in relation to the International Health Regulations and SAICM.

World Bank

The World Bank has a large project portfolio on pollution management and environmental health, as well as on environmental policy and institutions (\$4 billion and \$2 billion respectively as of September 2010) that cover a number of activities with linkages to the SAICM, and more specifically POPs, pesticides management, and hazardous waste. In addition, the World Bank Group has a strong portfolio of active projects with solid waste management components that is also of relevance.

The recently adopted World Bank Environment Strategy for 2012-2022, *Toward a Green, Clean, and Resilient World for All*, with its emphasis on working with Bank client countries to face the challenges of increasing air, water, and soil pollution as well as the challenges of legacy pollution, is directly relevant to the Strategic Approach. The Strategy foresees a focus on addressing legacy pollution resulting from past industrial activities, and water basin cleanup including agricultural runoff, with global transboundary impacts of hazardous chemicals continuing to be a priority.

The World Bank provides assistance to developing country partners related to SAICM objectives through Bank lending programs, mobilization of GEF and other grant resources, analytical and advisory services, dedicated technical assistance and capacity building trust funds, and through application of its environmental safeguards policies, notably on environmental assessment and pest management.

Some specific World Bank activities related to the objectives of the Strategic Approach are highlighted in the table here below.

SAICM objective: Risk Reduction
The World Bank Group has been active in public and private sector pollution management for several decades. Projects have improved the management of solid and hazardous waste and wastewater and helped control pollution related to transport, industry, energy, mining, and other sectors across many countries. Projects for example are tackling pollution from an aluminum smelter, minimizing the exposure of humans and livestock to radionuclides associated with abandoned uranium mine tailings, cleaning up mercury pollution, and remediating ground water pollution from historical industrial hazardous wastes. As an Implementing Agency of the Global Environment Facility, the Bank relies on its comparative advantage for investments to bring about on-the-ground risk reduction. The World Bank's POPs portfolio addresses the closure of production of toxic chemicals, identification and promotion of alternative technologies and practices, investments in Best Available Techniques/Best Environmental Practices, and environmentally sound destruction of toxic stockpiles and wastes. Moreover, sound chemicals management can be achieved through World Bank projects as a byproduct of a project's primary objectives. Though not quantified, these opportunities constitute strong potential for synergies and mainstreaming chemicals management in Bank operations that can be explored and expanded based on client country priorities.
SAICM objective: Knowledge and Information
The World Bank Group keeps a wealth of information available to the general public through its websites, including the Environmental Health and Safety Guidelines available on the website of the International Finance Corporation. (www.ifc.org/sustainability). Many of the products generated by the World Bank are available in hard and soft copies for all interested stakeholders. Most recently, the World Bank has published two reports directly relevant to the SAICM: <i>Reducing the Human and Environmental Risks of Obsolete Pesticides – a GIS-based tool for priority setting</i> and <i>The Ship Breaking and Recycling Industry in Bangladesh and Pakistan</i>.
SAICM objective: Governance
As Implementing Agency of the Global Environment Facility and of the Multilateral Fund for the Implementation of the Montreal Protocol, the World Bank works with developing countries and countries with economies in transition to carry out the investments and build capacities for meeting their obligations under international environmental treaties. Moreover the Bank's policy on environmental assessment used to examine environmental risks and benefits associated with all Bank investments and enhance their environmental impact, requires that not only national legislation is taken into account but also a country's obligations under relevant international environmental treaties and agreements, including for example the Basel, Rotterdam, and Stockholm Conventions and the Montreal Protocol.
SAICM objective: Capacity Building and Technical Cooperation
The World Bank Group views capacity building and technical assistance as an integral part of its work that is integrated into risk reduction investments highlighted above. Capacity building

is in fact an indispensable element of project interventions in all international development fields. In the Chemicals-related field, all Bank-implemented projects seek to build capacity to ensure that regulation and enforcement capabilities are in place and to ensure long-term sustainability of efforts.

Of direct relevance to the SAICM, the Bank promotes approaches where client countries can build the foundations for long-term capacity for chemicals management while working to implement the Stockholm Convention on Persistent Organic Pollutants.

Finally, under the Canada POPs Trust Fund that closed June 2011, the World Bank has provided capacity building support to a large number of countries. Although the main focus of the Fund originally was to facilitate early implementation of the Stockholm Convention, a number of projects have linkages to overall sound chemicals management, such as a project to support the development of Pollutant Release and Transfer Register, or a regional project to assess the environmental and economic impacts of the ship breaking and recycling industry.

SAICM objective: Illegal International Traffic

The bulk of activities carried out by the Bank in this context relate to the control of illegal trade of Ozone Depleting Substances in the context of the Montreal Protocol. The Bank has also initiated work more recently on international trafficking of wildlife with the creation of the International Consortium to Combat Wildlife Crime in collaboration with CITES and others, and has a growing series of investments with client countries on customs modernisation and trade. The World Bank Group maintains an Environment and International Law Unit which provides advisory support and expertise on environmental compliance and enforcement issues.

Organization for Economic Cooperation and Development (OECD)

In order to facilitate its global reach, the OECD aligns its work closely with other international efforts especially the IOMC. A 2008 OECD Council Resolution on the Implementation of the SAICM calls for countries to work together in OECD to ensure that, as chemicals management programmes are established or upgraded, OECD products will be accessible, relevant and useful to non-members in order to assist them in developing their capacities for managing chemicals. As a result, the four-year work programme for the overall Chemicals Programme in OECD (2009-2012 as well as 2013-2016) was organised around the objectives of SAICM. Active efforts have been underway to make the instruments already developed in OECD as accessible and useful to non-members as possible through SAICM and the wider IOMC.

SAICM objective: Risk Reduction

An internet-based Platform for information exchange, review of recent documents and further elaboration of incentives to promote sustainable chemistry was made public in October 2009; in the context of work on the role of environmental legislation and innovation in promoting Sustainable Chemistry, a study on “Evidence on Innovation from Patent Data” was finalized in 2010, reviewing certain areas of Sustainable/Green Chemistry for indicative areas for further analysis of innovation in Sustainable Chemistry; see <http://www.oecd.org/env/sustainablechemistry>.

OECD work on PFCs is presented in a separate report.

SAICM objective: Knowledge and Information

OECD-agreed hazard assessments are available to the public and can be used for priority setting, classification and labelling, risk assessment and other activities within national or regional programmes. Of the 1483 chemicals currently sponsored in the Cooperative Chemicals Assessment Programme, conclusions have been published for 867 chemicals and conclusions with full assessments have been published for 1089 chemicals. The OECD Existing Chemicals Database tracks all chemicals throughout the process of investigation in the OECD programme: <http://www.oecd.org/env/hazard/data>.

Since ICCM2, more than 10 Emission Scenario Documents for assessment of chemicals have been published :(<http://www.oecd.org/env/exposure/esd>).

Pollutant Release and Transfer Registers (PRTRs) help governments respond to the public's right to know by providing data on release and transfer of pollutants to the environment. A number of projects were completed in 2010, which includes: exploration of a geographic information system application for PRTR.net; part 4 of a resource compendium on release estimation techniques for releases from products (<http://www.oecd.org/env/prtr>).

The OECD QSAR Toolbox is a free software application intended to be used by member countries, the chemical industry and other stakeholders in filling gaps in (eco)toxicity data needed for assessing the hazards of chemicals. One of the major outcomes in 2010 was the release of the (Q)SAR Application Toolbox Version 2.0, which contains many improved tools and databases, especially for the prediction of hazards to human health, and has a more user-friendly interface and more functionalities (www.oecd.org/env/hazard/qsar). Versions 2.1 and 2.2 were released in 2011 and version 2.3 was released in 2012. Technical manuals were also developed and published in 2010 and a new set of training material was released in 2011. A web-based public discussion forum for users of the Toolbox was also launched in May 2010: https://community.oecd.org/community/toolbox_forum.

An analysis of classification by member countries of selected chemicals listed in Annex III of the Rotterdam Convention, according to the UN Globally Harmonised System of classification and Labelling of Chemicals (GHS), was published in 2010 in the Series on Testing and Assessment (see below the link to the Series on Testing and Assessment).

The OECD work on the safety of manufactured nanomaterials aims to promote international co-operation in human health and environmental safety related issues around manufactured nanomaterials, within the context of the industrial chemicals sector, in order to assist countries in the development of rigorous safety evaluation of nanomaterials. The work is implemented through several projects to further develop appropriate methods and strategies to help ensure human health and environmental safety. More than 30 documents have been published in the Series on the Safety of Manufactured Nanomaterials (<http://www.oecd.org/env/nanosafety>). See also the OECD/UNITAR report on nanotechnology.

Work continued on the development of harmonised templates, or standard formats for reporting summaries of the results of tests on all types of chemicals (*e.g.* pesticides, biocides, and industrial chemicals). The templates are aimed at developers of database systems as they prescribe the formats by which such information can be entered into and maintained in databases: www.oecd.org/ehs/templates.

Several documents related to pesticides and biocides management have been published since ICCM2 (see <http://www.oecd.org/env/biocides> and <http://www.oecd.org/env/pesticides>).

SAICM objective: Governance

The system of Mutual Acceptance of Data (MAD) is based on OECD Test Guidelines and

OECD Principles of Good Laboratory Practice (<http://www.oecd.org/env/glp>) and allows participating countries to share the results of various non-clinical safety tests done on chemicals and chemical products. By avoiding duplication of testing, the MAD system saves a considerable number of test animals, and around 150 EUR million per year to governments and industry according to the report *Cutting Costs in Chemicals Management* published in 2010: <http://www.oecd.org/dataoecd/55/4/47813784.pdf>. South Africa, Singapore, India, Brazil and Argentina are full adherents to the MAD system; Malaysia and Thailand are provisional adherents.

Since ICCM2, 33 new or updated Guidelines for testing chemicals for health effects, environmental effects, and pesticide residue chemistry have been published (http://www.oecd-ilibrary.org/content/package/chem_guide_pkg-en), and more than 50 documents supporting Test Guidelines have been published in the Series on Testing and Assessment (www.oecd.org/ehs/testingandassessment). An important part of the work on Test Guidelines was dedicated to screening or testing of endocrine disrupting chemicals.

SAICM objective: Capacity Building and Technical Cooperation

The new version of the eChemPortal still allows eChemPortal users to base data searches on chemical identity, and now also provides for new searches based on certain properties or effects, such as physical chemical properties, environmental fate and behaviour, ecotoxicity and toxicity. It was publicly launched in December 2010 [<http://www.oecd.org/ehs/eChemPortal>]. In 2010 and 2011, ten new participating data sources were added to eChemPortal, including the result of the GHS Classification by the Japanese Government.

A draft OECD Environmental Risk Assessment Toolkit was released on the OECD public website in June 2010 [<http://www.oecd.org/env/riskassessment/toolkit>]. This Toolkit is a set of web pages that describe the work flow for environmental risk assessment and management of chemicals with links to available OECD tools and products relevant for the different steps in risk assessment and management. The Toolkit contributes to providing support for capacity building on sound chemicals management.

In 2010, IOMC launched a project to develop a Toolbox for Decision-Making in Chemicals Management. OECD took the lead in the development of a proof-of-concept version of this IOMC Toolbox. A proof-of-concept version of this Toolbox will be available for demonstration at ICCM3.

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Implementation of the Strategic Approach to

International Chemicals Management:

Financial and technical resources for implementation

**UNDP-UNEP Partnership Initiative for the integration of the Sound
Management of Chemicals (SMC) into Development Planning
Processes**

Note by the secretariat

1. The secretariat has the honour to circulate, in the annex to the present note, information provided by the United Nations Development Programme (UNDP) and the United Nations Environment Programme (UNEP), on the UNDP-UNEP Partnership Initiative for the Integration of Sound Management of Chemicals (SMC) into Development Planning Processes (UNDP-UNEP PI). The document has been developed pursuant to resolution II/3 of the Conference on technical and financial resources for implementation, section V of the Overarching Policy Strategy of the Strategic Approach on financial considerations and the strategic priorities for the Quick Start Programme of the Strategic Approach.
2. The document provides an update on progress of the Partnership Initiative, including lessons learned and future directions as well as information relevant to wider efforts to mainstream the sound management of chemicals into development and planning agendas.
3. The report is presented as received by the secretariat for the information of participants and has not been formally edited.

Annex

UNDP-UNEP Partnership Initiative for the Integration of Sound Management of Chemicals (SMC) into Development Planning Processes: Information Paper for ICCM3

1.0 Purpose

This paper is intended to provide the International Conference on Chemicals Management (ICCM), on the occasion of its 3rd meeting, with an update on progress for the development and implementation, including lessons learned and future directions recommendations, of the UNDP-UNEP Partnership Initiative for the Integration of Sound Management of Chemicals (SMC) into Development Planning Processes (UNDP-UNEP PI) as well as wider Mainstreaming of Sound Chemicals Management into the Development Planning agendas of development partners.

2.0 Recalling the Context for the UNDP-UNEP PI

2.1 Mainstreaming in SAICM

Seen in its entirety, the Strategic Approach to International Chemicals Management (SAICM) represents the first internationally agreed mechanism, albeit non-legally binding, that attempts to strengthen *chemicals management governance across all relevant sectors of society for purposes of achieving the WSSD goal*. As a result, mainstreaming chemicals management priorities into major development policies and plans of governments, including sectoral development plans, is an essential and central aspect of SAICM.

The core objectives of mainstreaming, and the UNDP-UNEP PI more specifically, are well addressed in the negotiated documents of SAICM; the High Level Declaration (the Dubai Declaration on International Chemicals Management) and the Overarching Policy Strategy¹, as can be seen in Table 1 below.

¹ See Strategic Approach to International Chemicals Management, http://www.saicm.org/documents/saicm%20texts/SAICM_publication_ENG.pdf UNEP (2006)

Table 1: References to Mainstreaming Topics in the SAICM Dubai Declaration and Overarching Policy Strategy

Source	Relevant Citation
Dubai Declaration	Paragraph 26: "We will promote the sound management of chemicals and hazardous waste as a priority in national, regional and international policy frameworks, including strategies for sustainable development, development assistance and poverty reduction..."
Overarching Policy Strategy (OPS)	
Statement of Needs	9. Governance is an important issue that needs to be addressed through a multi-sector and multi-stakeholder approach in pursuing the sound management of chemicals. There is therefore a need to recognize... (d) That chemicals issues are only sometimes featured in relevant national policy documents, including development assistance plans or strategies, sustainable development strategies and, as appropriate, poverty reduction strategies (e) That there is a need to promote the role of all sectors of civil society and the private sector in the implementation of the Strategic Approach...
Paragraph 14: Risk Reduction...	(c) To implement transparent, comprehensive, efficient and effective risk management strategies based on appropriate scientific understanding, including of health and environmental effects, and appropriate social and economic analysis aimed at pollution prevention, risk reduction and risk elimination, including detailed safety information on chemicals, to prevent unsafe and unnecessary exposures to chemicals...
Paragraph 15: Knowledge and Information...	(j) To develop knowledge and information on the estimated current and projected financial and other impacts on sustainable development associated with the unsound management of chemicals of concern on a global basis...
Paragraph 16: Governance...	(b) To promote the sound management of chemicals within each relevant sector and integrated programmes for sound chemicals management across all sectors; (c) To provide guidance to stakeholders in identifying priorities for chemicals management activities... (j) To support coordinated assistance activities at the international level in accordance with the implementation of the Strategic Approach...
Paragraph 17: Capacity-building and Technical Cooperation...	(f) To include capacity-building for the sound management of chemicals as a priority in social and economic development strategies, including national sustainable development strategies, poverty reduction strategy papers and country assistance strategies, and to make chemicals an important part of national policy... (i) To promote the awareness of donors, multilateral organizations and other relevant actors of the relevance of chemical safety for poverty reduction and sustainable development...
Paragraph 19: Financial Considerations ...	(a) Actions at the national or sub-national levels to support financing of Strategic Approach objectives, including by: (i) Integrating Strategic Approach objectives in relevant programmes, plans and/or strategies at various levels... Integration of the Strategic Approach objectives into multilateral and bilateral development assistance cooperation, including by: (i) Developing countries and countries with economies in transition, where necessary with the technical support of donors, considering the integration of Strategic Approach objectives into relevant national documents that influence development assistance cooperation (ii) Donors responding to requests by, and working in partnership with, developing countries and countries with economies in transition by recognizing Strategic Approach objectives as an important element of bilateral aid agency cooperation in support of sustainable development (iii) Inviting United Nations specialized agencies, funds and programmes and

	other intergovernmental organizations to include Strategic Approach objectives within their activities, as appropriate...
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2.2.1 Mainstreaming Profiled in the SAICM Financial Mechanism

The ICCM also called for a UNEP trust fund and multilateral, bilateral and other forms of cooperation, in resolution I/4, that profiled mainstreaming as a top priority for SAICM. The trust fund, named the Quick Start Programme (QSP), identified three strategic priorities as eligible for funding consistent with the work areas set out in the strategic objectives of Section IV of the Overarching Policy Strategy:

- a) Development or updating of national chemical profiles and the identification of capacity needs for sound chemicals management.
- b) Development and strengthening of national chemicals management institutions, plans, programmes and activities to implement the Strategic Approach, building upon work conducted to implement international chemicals-related agreements and initiatives.
- c) Undertaking analysis, interagency coordination, and public participation activities directed at enabling the implementation of the Strategic Approach by integrating – i.e., mainstreaming – the sound management of chemicals in national strategies, and thereby informing development assistance cooperation priorities.

2.2 The Rationale for the UNDP-UNEP PI

The UNDP-UNEP PI was launched soon after the adoption of SAICM in 2006. The objective of the UNDP-UNEP PI is:

To facilitate the integration of sound management of chemicals, as part of the poverty-environment linkage, into national development planning processes to support sustainable development in developing countries and countries with economies in transition.

The rationale for the initiative is best explained by developing countries and countries with economies in transition (CEITs); the clients for mainstreaming support. In this regard, participants at ICCM 3 may wish to recall the Information Paper submitted to ICCM 2 entitled: *Views of Developing Countries and CEITs on the Issue of Mainstreaming (Integrating) SMC Priorities into Development Planning* (SAICM/ICCM.2/INF/46).

The ICCM 2 Information Paper was developed through four regional workshops involving participants from 22 countries, run by UNEP Chemicals Branch on behalf of the UNDP-UNEP PI.² The following points broadly summarize what the countries concluded:

² The Government of Norway generously funded the workshops.

- It is internationally agreed in SAICM that sound chemicals management is important for sustainable development.
- Needed economic development is accompanied by increased chemical intensity and human and environmental exposure in our countries. As such, the development aspirations of our countries need to devote better care for the management of chemicals produced and/or used and disposed of in our countries.
- Chemical vulnerability is strongly correlated with conditions of poverty. Developing countries (being highly dependent on natural resources; agriculture, fisheries etc.) are especially vulnerable to negative chemical effects. When we address poverty through our development plan we need to address the exposure of the poor to chemicals.
- Chemicals are in all sectors of our societies and thus must be managed government-wide, including in line ministry relationships with private stakeholders, and not just in the mandates of environment and public health ministries.
- Development planning is one of the few government-wide priority setting and integrating governance tools available to many of our governments. As such, concerns for sound chemicals management must influence development planning in order to influence government-wide actions, including relationships with the private sector, that affect chemicals management directly or indirectly.
- The mainstreaming approach can illustrate the relevance of chemicals management priorities to national development priorities, which in turn increases prospects for influencing senior political and policy decision makers and public stakeholders regarding the need for improved chemicals management.
- The mainstreaming approach, with its emphasis on influencing future development planning, can encourage our governments to focus on prevention. We need to avoid or prevent increasingly costly damages to human health, the environment and development associated with unsound chemicals management as we grow our economies.
- The mainstreaming approach encourages lead agencies at the national level, usually environment and health agencies, to identify SMC priorities that have greater relevance to the development planning of our countries, and thus greater prospects for implementation under conditions of national resource scarcity.
- Resource mobilization is a well-known and often discussed challenge for progress on sound chemicals management. Bringing sound chemicals management priorities into the national development plan is essential to enhance mobilization of both internal and external resources.

3.0 Guidance and Implementation Efforts To-Date

3.1 Guidance

The main guidance for the mainstreaming methodology is contained in two documents developed by UNDP and UNEP respectively, the UNDP Guide for Integrating the Sound Management of Chemicals in MDG-Based Policies and Plans, and the UNEP Supplemental Cost-Benefit Economic Analysis Guide.³ These two guidance documents are process oriented, designed to help a country to understand the stages to go through to identify and build buy-in, including with economic, finance and planning officials, for chemicals management issues to be prioritized in national development plans.⁴

3.2 Costs of Inaction

The Costs of Inaction (COI) publication, led by UNEP Chemicals, aims to raise political awareness of the benefits stated in economic terms of providing resources to sound management of chemicals; a critical support for mainstreaming sound chemicals management priorities in national development policies and plans.

ICCM3 will receive briefings on this initiative in separate documents.

4.0 Lessons Learned By National Project Teams and Independent Evaluation of Country Projects

Table 2: Country Projects To-Date⁵

Belize	Kyrgyzstan	Nigeria
Burkina Faso	Liberia	Suriname
Cambodia	Macedonia	Uganda
Ecuador	Mauritania	Vietnam
Honduras	Mauritius	Zambia
Kazakhstan	Moldova	

³ UNDP Environment and Energy Group. 2009. UNDP Technical Guide for Integrating the Sound Management of Chemicals in MDG-Based Policies and Plans, <http://www.undp.org/chemicals/mainstreamingsmc.htm>; UNDP-UNEP Poverty-Environment Initiative. 2009. UNEP Chemicals 2009. Supplemental Cost-Benefit Economic Analysis Guide, <http://www.chem.unep.ch/unepsaicm/mainstreaming/UNDPPartnership.htm>.

⁴ In addition, UNEP has developed Guidance on Development of Legal and Institutional Infrastructures and Cost Recovery Measures for SMC. While developed in a different context, this guidance has proven useful because most mainstreaming countries prioritize some sort of legislative or institutional strengthening. <http://www.chem.unep.ch/unepsaicm/mainstreaming/UNDPPartnership.htm>

⁵ The Government of Sweden has played a vital donor role in development of mainstreaming guidance and directly funding five mainstreaming countries. The SAICM QSP provided funding for the other mainstreaming countries.

4.1 *Project Team Experiences at Country Level*

The first countries to apply the mainstreaming methodology have contributed significantly to refinement of the guidance and accumulation of experience that can be shared with other countries. At the broadest level, mainstreaming countries acquired enhanced capacities to:

1. Redefine their priority setting efforts away from “wish lists” to identifying sound management of chemicals priorities in context of the country’s development priorities;
2. Enhance the economic content of their policy recommendations to make better arguments for needed investments; and,
3. Engage new stakeholders from other sectors of the economy on as yet unfamiliar sound chemicals management issues, including finance and development planning officials.

Prior to the mainstreaming efforts, environment and health officials at the national level often talked about but rarely attempted these undertakings in any kind of a planned or systematic manner.

In addition to these broad achievements, these countries can share more specific lessons learned with future mainstreaming countries, including:

- a) Access to the ministerial level for regular briefings is critical for mainstreaming projects since they are largely high level policy projects with technical dimensions rather than typical technical projects that attempt to enhance technical capacities but do not emphasize accessing and influencing the policy domain at the centre of government.

Related to this point is the lesson that mainstreaming projects need to beware of the dangers of defaulting to technical agencies that have “typically done SMC projects in the country”.

Mainstreaming projects are not SMC technical in the same sense as what has gone on to-date, such as national chemical profiles or Stockholm Convention National Implementation Plans (NIPs). Rather, the lead agency should have an ongoing role to regularly engage the Minister on important environment or public health issues.

The Minister(s) of the lead agency(ies) should at a minimum receive formal project briefings at a) project start-up, b) in the middle of the project at the point of agreeing on high priority SMC issues for the next 4-5 year planning cycle and, c) at the end of the project when the mainstreaming roadmap is to be decided and agreed by the Interagency Coordinating Mechanism (ICM) for the project.

- b) A broadly representative, senior Inter-ministerial Coordinating Mechanism (ICM) is absolutely essential for mainstreaming projects. The ICM would include at a minimum line ministries with significant chemicals management related mandates and central development planning authorities. In some cases, major non-governmental organizations can also be included, typically, though not exclusively, industry associations and environment and public health advocacy groups.

The ICM format can also be adapted to country practices. For instance, in some countries trying to combine forces at the technical and policy levels can be difficult. In those cases, the ICM might have a technical group and a senior policy group engaged in different ways throughout the project.

- c) The Project Director should be a senior official in a lead ministry responsible for chemicals management, usually the environment or health ministry. This person should be in a position to fully engage the responsible development planning authority, ideally inviting a representative to be co-chair of the Inter-Ministerial Coordinating Mechanism (ICM). The Project Director should also be experienced at conducting briefings at the ministerial level, well connected with all relevant policy making arms of government, and not just the technical side, and should be committed to see the project through from start to finish as a reasonably scaled portion of their core mission.

From the very start of the project, the Project Director should hold meetings with senior development planning officials and prepare a clear roadmap for how the development planning process works, what stages of the process provide the best opportunities for influence, and what type of information will be needed for each opportunity. This information should play a major role in how the project is managed by the Project Director, usually supported by a Project Coordinator.

Furthermore, a major part of the Project Director's job should be to ensure strong interagency communication aimed at, a) awareness raising and education of the ICM members about important chemicals management priorities in the country, and b) encouraging the ICM to take widely accepted decisions at key points in the mainstreaming effort so that their buy-in is made stronger through the scope of the project.

- d) Country mainstreaming projects benefit significantly from constituting sectors teams with active representation from topical ministries and key stakeholders. Sector teams, a) improve the quality of research about chemicals management priorities across economic sectors and, b) enhance prospects for acceptance of project results at the political and policy levels because the project has been relatively inclusive of different sector expertise.

Countries should be encouraged to have the sector teams produce their own individual reports and then oversee inclusion of their findings into the final National Situation Report. This greatly encourages project buy-in and ownership with stakeholders.

- e) Economic analysis in the mainstreaming approach is at once the most challenging and yet the most important aspect of the mainstreaming effort. It is important to assign a significant share of project time and resources to this step because the learning curve is the steepest but, in return, the engagement with finance and development planning officials is the most fruitful. While data availability for economic analyses is a significant problem in most developing countries and CEITs that should not prevent taking the first steps to enhance economic analysis capacities.

4.2 Findings of the Independent Evaluation of Mainstreaming Projects

An independent evaluation, supported by Sweden, considered results of the mainstreaming projects in Zambia and Cambodia, both of which were funded directly by the Government of Sweden. The evaluation also reviewed in less detail QSP funded mainstreaming projects in Belize, Macedonia and Uganda in order to draw comparisons.

The main “cross-cutting findings” of the evaluation, include:

1. The Country Projects successfully identified Inter-Agency Coordination Mechanisms (ICMs) to advance SMC by engaging with senior government officials in crosscutting as well as line ministries.
 - In addition to being essential to the mainstreaming projects, the ICMs enhanced capacities across participating ministries to implement integrated approaches for sound chemicals management. Furthermore, the ICMs established during the mainstreaming projects are still working overseeing and providing guidance to other projects pertaining to the sound management of chemicals.
2. The Country Projects to varying degrees successfully influenced the national planning processes, specifically the evaluation concluded:
 - Even if the project periods were short, SMC Mainstreaming Projects have, in general, succeeded in meeting the majority of their Project’s goals, and in general the strategies applied have been viable.
 - The SMC Mainstreaming Country Projects focused effectively on contributing to changing major national development plans on SMC, but the engagement of key non-governmental stakeholders could be strengthened; particularly the private sector and NGO communities should have stronger involvement.
 - The mainstreaming projects strengthened the capacity and commitment of key resource persons in sector line ministries regarding sound chemicals management, and some of these key individuals – being formerly part of the Pilot Project’s ICM – have influenced their ministries to take independent action to promote the SAICM principles.
 - At the time of the evaluation country visits, which was one to two years after the project ended, there had already been some identifiable, concrete results in some of the countries, for example:
 - The Government of Macedonia has, through the National Strategy for Sustainable Development, adopted a National Action Plan on SMC in October 2011, which has institutionalized an accountability system, where different sector ministries are obliged to report on progress every six months; first time in April 2012.
 - Cambodia identified eight high priority areas, where now - two years after the project finished – seven of these have progressed towards implementation.
 - The Governments of Belize and Uganda have both internalized the SMC framework within their national development plans, and Belize is now instituting a top priority to strengthen their chemicals legislation.
 - In Zambia, the Mainstream SMC Pilot Project did not manage to internalize the SMC framework within the revised Fifth National Development Plan; however, after the project ended, a new Law on Environmental Management has incorporated the concept of mainstreaming in general.

3. Each of the Project Management Units (PMUs) of the mainstreaming projects has identified innovations and lessons learned, which could serve as best practices for sharing with other countries in and outside the region (see Section 4.1 above).
4. The latest version of the *UNDP Guide for Integrating the Sound Management of Chemicals in MDG-Based Policies and Plans* was found to be sufficient for countries to address mainstreaming of the sound management of chemicals, with some modest recommendations for additions to the guidance, which are identified among the proposed additions noted in Section 6.1 below.
5. Although a general consensus exists amongst the mainstreaming project PMUs about the appropriateness of the level of funding for these (catalytic) projects (approximately US\$ 250,000); it was broadly accepted that the 18 months envisaged for project implementation was too short for such a major change in national programming practices.

5.0 Strategic Implications for SAICM Implementation

5.1 The Limits of Thinking Narrowly

The negotiation of SAICM reflected the international community's view that a new way of functioning is needed to manage the massive and growing number of chemicals in global commerce. The logic behind this view is straightforward; in the face of over 100,000 chemicals in global commerce, and many new chemicals being introduced to the market each year, the relatively narrow substance-by-substance or substance list approach, with thorough but time consuming hazard and risk assessments, typical of chemical-related multilateral environmental agreements (MEAs) cannot possibly keep pace in terms of transaction costs and implementation financing, even for the smaller subset of the most hazardous of chemicals. As a result, a transformative agenda at the level of overall governance capacities for chemicals management in all countries is and will continue to be needed.

The transformative agenda needs to involve:

- Greater sophistication at prioritizing chemical management issues in the socio-economic context of the country (i.e. rather than creating wish lists that are rarely funded).
- Linking sound chemicals management issues to the economic development and poverty alleviation priorities of the country.
- Enhancing the economic analysis content and justification for sound chemicals management priorities and proposed investments.
- Regular dialogue between environment and health ministries and finance and development planning officials regarding the need for sound chemicals management policies and investments.

Seen from this perspective, to be effective, SAICM will need to emphasize broad-spectrum decisions and project initiatives. These would be decisions and projects that embody an understanding that the sound management of chemicals is interlinked with the economic and social development of developing countries and CEITs. Chemicals exist in all sectors of our societies, with both positive and negative outcomes. Efforts

are therefore needed to improve integrated planning for chemicals management across government. That is a vital gap in capacity building efforts of the international community to-date (i.e. which has been dominated by environment and/or health sector technical projects).

It should be noted, however, that it is not uncommon to witness a bias for more familiar technical projects precisely because of familiarity and relative ease of project mobilization. Unfortunately, however, these projects have proven to limit affects on governance reforms applicable to sound chemicals management. Results tend to remain sector confined and a wider range of important but non-traditional stakeholders remains largely unaware of the sound chemicals management issues and obligations within the country.

5.2 Upholding the Promise of SAICM = Strengthening of the Governance for Sound Chemicals Management

SAICM is the only international framework available to the international community to advance overall governance capacities for sound chemicals management (i.e. as opposed to addressing discrete lists of toxic or hazardous chemicals). ICCM 3 might, therefore, wish to emphasize this unique feature of SAICM as a priority contribution to global cooperative efforts for sound chemicals management.

Specifically, proposals for ICCM 3 decisions could best be assessed according to whether they advance this unique feature of SAICM, namely whether they are intended from the outset to:

- Build or reform government-wide legal and institutional infrastructures towards modern framework or enabling legislation.
- Reform development planning processes to better incorporate chemical management concerns, and to ensure improved integration of environmental and public health concerns for future development planning initiatives.
- Improve analytical capabilities in economic analysis and business case development for appropriate investments in legal, institutional or physical infrastructure for sound chemicals management.

Each of these areas is concerned with government-wide capacities for sound chemicals management (i.e. governance), which relates closely to the unique contribution of SAICM to global cooperative efforts for sound chemicals management.

Table 3 provides some criteria for assessing different types of “enabling” or capacity building projects, using the current strategic priorities of the QSP as examples. Projects that require government-wide engagement are those that can encourage governance reforms, albeit gradual, consistent with the unique feature of SAICM.

Table 3: The Characteristics of Mainstreaming Projects

Strategic Priorities	Technical Versus Policy Intensity	Cross-sectoral Engagement	Cross-sectoral Active Participation	Direct Influence on Government Policy	Requiring Approval at the Centre of Government
a) Development or updating of national chemical profiles and the identification of capacity needs for sound chemicals management;	- Established technical methodology over a few decades primarily within environment sector	- Engages other sectors mainly for chemical identification and related socio-economic baseline information	- Technical project within environment sector has few obligations for change in other sectors. - If at the needs assessment level only, active participation from other sectors is typically low	- Can be there but typically is not a immediate expectation for these types of projects	- Technical project funded from outside and with junior ministry in-kind, usually does not influence Cabinet
b) Development and strengthening of national chemicals management institutions, plans, programmes and activities to implement the Strategic Approach, building upon work conducted to implement international chemicals-related agreements and initiatives <i>(The reality is that this project type falls into two quite distinct categories: a) technical research such a needs assessments for "possible" legislative or institutional reform" and b) actual policy and</i>	- Often stays in the technical realm when basic needs assessments for legislation and institutions are conducted - When engaging actual legislative drafting, GHS adoption, PRTRs (i.e. adopting new policy, law, institution building or reform), the projects will be more complex methodologically and highly cross-sectoral and policy intensive with other ministries	- Technical oriented projects typically engage other sectors for information exchange on gaps in current legislation and institutions and associated needs - Lack of clear ministerial mandate for actual policy, legislative or institution building or reform at the start of the project raises few interministerial concerns	- An actual policy, legislative or institutional building or reform mandate at project start-up significantly engages the mandates of other ministries in terms of initial project approval and in implementation and results adoption	- Without the full mandate for policy, legislative or institutional building or reform at startup, direct influence on government policy is rarely evident although indirect effects are possible - Initiatives with a clear policy, legislative or institutional building or reform mandate must by definition engage policy makers across government at initial project approval and throughout	- Technical projects in this area will not attract much attention as real legislative or institutional change is not on the Cabinet docket - A prime project objective of policy, legislative or institution building or reform will require ministerial buy-in at initial project approval and in implementation and results adoption

Strategic Priorities	Technical Versus Policy Intensity	Cross-sectoral Engagement	Cross-sectoral Active Participation	Direct Influence on Government Policy	Requiring Approval at the Centre of Government
<i>institutional reform initiatives)</i>					
c) Undertaking analysis, interagency coordination, and public participation activities directed at enabling the implementation of the Strategic Approach by integrating – i.e., mainstreaming – the sound management of chemicals in national strategies, and thereby informing development assistance cooperation priorities	- Identifying high priorities for chemical management for inclusion in the national development plan is relatively methodologically complex and policy intensive across ministry mandates	- National development planning is government wide and competitive in terms of which issues get profiled in the national development plan	- Requires approval of other ministries regarding what priorities will be recommended to Cabinet for inclusion in the national development plan regarding chemicals management within their sectors	- The project intends to affect national development planning at the outset and cross-ministerial buy-in is essential at project approval and in implementation and results adoption	- Approval for mainstreaming projects must occur at the national planning authority, usually within the President or Prime Minister's Office - This signals buy-in on the project intent, but results are of course subject to the development planning trade-offs at cabinet level

6.0 Path Forward

6.1 Guidance

The current UNDP Guide for Integrating the Sound Management of Chemicals in MDG-Based Policies and Plans will be updated based on lessons learned from mainstreaming countries to-date and the independent evaluation. Specifically, UNDP's revised guidance will include:

- a) Enhanced information on conducting economic analysis, including with better linkages drawn to the UNEP *Supplemental Cost-Benefit Economic Analysis Guide* and results to-date in the *Costs of Inaction*.
- b) Improved scheduling to reflect the need for more than 18 months to properly complete mainstreaming projects.
- c) Practical examples of sound chemicals management language (i.e. "typical language") that can be incorporated into economic sector chapters of national development plans to signal work that will be done to improve sectoral sound chemicals management.

With respect to Item c, typical language will of course be tailored in practice by countries for their national circumstances (i.e. resulting from the work done following the mainstreaming approach), but internationally accepted examples of language will make incorporation into national development plans more justified and defensible. This will substantially assist developing country environment officials who have finally made their way around the national development planning table with their mainstreaming research results, but without the applied examples of exactly how the results can be phrased and placed in economic sector chapters of the national development plan.

The "prototype language" additions to the revised mainstreaming guidance will, as a start, emphasize economic sectors that remain important to the development of most developing countries and are also highly chemically intensive, specifically agriculture, mining, leather and textiles, and waste management.

6.2 Analysis on Costs of Inaction and Costs and Benefits of Action

As noted previously, international work on enhancing the economic analysis content of sound chemicals management policies is essential to provide national practitioners with broadly accepted ways to identify and account for important human health, environmental, and economic sustainability costs associated with unsound chemicals management practices, techniques and technologies. This, in turn, can build greater international consensus on the importance of linking sound chemicals management priorities to national development and poverty alleviation policies and plans.

To advance this effort, the UNDP-UNEP PI will continue work on the Costs of Inaction project. ICCM 3 will receive briefings on its proposed work in other documents to be presented at the meeting.

7.0 Recommendations on Mainstreaming Sound Chemicals Management into Development Policies and Plans

1. Strong evidence indicates that countries benefit significantly from undertaking the mainstreaming approach.
2. SAICM should continue to financially support this area of work.
3. SMC mainstreaming projects should seek to be closely integrated with other initiatives supporting mainstreaming of environment and health concerns in development planning in order to ensure maximum impact at the country level.
4. A wider understanding of costs of inaction as well as economic benefits of sound chemicals management should be further researched particularly in areas with intensive chemicals use.
5. The SMC Mainstreaming projects need to expand their outreach towards political decision makers for creating demand for thorough economic analysis of costs and benefits of proposed plans, and for building strong business cases for needed investments for improved sound chemicals management.

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Nairobi, 17–21 September 2012

Item 4 (d) of the provisional agenda*

**Implementation of the Strategic Approach to
International Chemicals Management:
Financial and technical resources for implementation**

Compilation of reports from stakeholders on implementation of Strategic Approach financial arrangements

Note by the secretariat

1. In paragraph 10 of resolution II/3, the Conference invited all relevant financial institutions, in particular existing international financial institutions, including the World Bank and regional development banks, other international, regional and subregional funding institutions and intergovernmental organizations, to strengthen their support for activities contributing to the achievement of the Strategic Approach objectives, including through in kind contributions, within their respective mandates.
2. Pursuant to resolution II/3, and in preparation for the third session of the Conference, the secretariat wrote to all stakeholders mentioned in the resolution immediately following the second session of the Conference bringing the resolution to their attention.
3. In February 2012, the secretariat invited all relevant stakeholders to assess and report to the secretariat on the steps that they have taken to implement the Strategic Approach financial arrangements as set out in resolution II/3 through a questionnaire. The questionnaire was distributed to forty-one SAICM stakeholders including targeted SAICM intergovernmental and non-governmental organization focal points as well as regional development banks, bilateral and multilateral aid organizations and other relevant institutions. The aim of the questionnaire was to identify some of the different steps that may have been taken since the second session of the Conference to implement the financial arrangements of the Strategic Approach.
4. The secretariat has the honour to circulate in annex 1 of the present note, for the information of the Conference, a summary of the questionnaire results received from stakeholders. In addition, Annex 2 of the present note includes the questionnaire that was sent to stakeholders. Annex 3 contains a list of the organizations contacted by the secretariat, and Annex 4 includes the reports, as received by the secretariat, for the information of participants which have not been formally edited.

* SAICM/ICCM.3/1

Annex 1

Secretariat summary of questionnaire results received from stakeholders

1. The secretariat invited all stakeholders to assess and report on the steps that they have taken to implement the Strategic Approach financial arrangements through a questionnaire. The aim of the questionnaire was to identify some of the different steps that may have been taken since the second session of the Conference to strengthen support for activities. A summary of the results is included in this Annex.
2. The questionnaire was divided into five main categories:
 - a. Actions at national or sub-national level or assisted by an intergovernmental organization, regional organization or non-governmental organization;
 - b. Enhancing industry partnerships and financial and technical participation;
 - c. Integration of Strategic Approach objectives into multilateral and bilateral development assistance cooperation;
 - d. Effective use of global funding sources for chemicals management; and
 - e. Other relevant financial arrangements as per paragraph 19 of the Overarching Policy Strategy of the Strategic Approach where steps have been taken.
3. Overall, twelve responses were received and ten questionnaires completed, including responses from eight intergovernmental organizations, one government, one non-governmental organization, one researcher and one regional development bank. While the response rate was low, the information provided in the completed questionnaires identified a number of enhanced efforts and actions towards international chemicals management as well as the inclusion of the Strategic Approach within work programmes, activities and plans.
4. In terms of questionnaire responses regarding actions at national or sub-national level, eight of the respondents indicated some level of integrating or planning to integrate Strategic Approach objectives in relevant programmes plans and/or strategies and seven of the respondents have identified, or are planning to identify, a SAICM Focal Point. Six respondents indicated that they were undertaking research or planning to undertake research on the economic and social costs of unsound chemicals management as well as assessing or planning to assess current laws, policies and regulations to identify changes that may be needed to advance implementation of the Strategic Approach objectives. Five respondents indicated they were assessing, or planning to assess, and where necessary adopting appropriate policies at the national and sub-national levels that can help cover the cost of sound chemicals management which could include economic instruments. In addition, five of the respondents noted the exchange, or plans to exchange, experiences and studies on the national use of economic instruments and submitting these to UNEP to make them broadly available. Furthermore, the one responding government indicated it is planning to assess and adopt at the national and sub-national levels, economic instruments that are intended to internalize the costs of chemicals.
5. A total of eight financial institutions, regional development banks and other bilateral aid institutions received the questionnaire. Only the Banque Ouest Africaine de Développement responded, indicating their willingness to collaborate with the implementation of the Strategic Approach in the region. The lack of response from the financial aid sector may be due to a lack of awareness of the shift in production and use of chemicals from developed to developing countries and the associated increased potential for negative impacts on human health and the environment in developing countries.
6. In relation to the questionnaire responses referring to enhancing industry partnerships and financial and technical participation, six respondents noted the provisions of resources, including in-kind contributions, for implementation of the Strategic Approach objectives, continuing and building upon its initiatives on good corporate social and environmental responsibility. Two respondents indicated they have reviewed and strengthened, or plan to review and strengthen, currently voluntary industry initiatives. Four respondents indicated the development of new initiatives, including with foundations, academia and non-governmental organizations.
7. Respondents were also asked in the questionnaire to consider the integration of the Strategic Approach objectives into multilateral and bilateral development assistance cooperation. Eight respondents indicated the inclusion of the Strategic Approach objectives within work programmes, activities and plans. Three respondents indicated they plan to formally recognize the Strategic Approach objectives as an important element of bilateral aid agency cooperation in support of sustainable development. Six respondents indicated the integration of the Strategic Approach objectives into relevant national documents that influence development assistance cooperation.

8. In terms of global funding sources identified by questionnaire respondents, five respondents indicated having supported chemicals management activities using Global Environment Facility co-funding and three respondents indicated using co-funding from the Multilateral Fund for the Implementation of the Montreal Protocol. Other sources of co-funding from global sources identified by respondents include: bilateral aid from the European Union, Sweden, SAICM Quick Start Fund and internal UNEP budgets.

9. In addition, a number of other relevant financial arrangements as per paragraph 19 of the Overarching Policy Strategy of the Strategic Approach were identified by questionnaire respondents. These include: the Bill and Melinda Gates Foundation, the Syngenta Foundation, national budgets, Czech Development Agency, Slovak Agency for International Development, the linking of projects under different multilateral environmental agreements (example being ODS and PCB destruction project), the Global Chemicals Outlook, the Report on the Cost of Inaction, the Analysis of Economic Instruments and Guidance on Development of Legal and Institutional Infrastructures for Sound Management of Chemicals and Measures for Recovering Costs of National Administrations and training programs supporting the implementation of the Strategic Approach.

10. In its response, the United Nations International Strategy for Disaster Reduction (UNISDR) indicated that, while the questionnaire did not seem directly applicable to UNISDR, strong support was expressed to the implementation of the Strategic Approach and the relevance of the Hyogo Framework for Action was highlighted as a guidance tool for the implementation of the Strategic Approach, especially activities 74 on "Develop integrated national and international systems to prevent major industrial accidents and for emergency preparedness and response to all accidents and natural disasters involving chemicals", and 137 on "Improve understanding of the impact of natural disasters on releases of harmful chemicals and resulting human and wildlife exposures, as well as possible measures to mitigate them". The Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters is available to the Conference for information as document SAICM/ICCM.3/INF/34.

Annex 2



Strategic Approach
to International
Chemicals Management



Reporting on steps taken to implement SAICM financial arrangements

Financial arrangements for the Strategic Approach are a key part of section V of the Overarching Policy Strategy of the Strategic Approach. It includes: (i) actions at the national or sub-national levels to support the financing of Strategic Approach objectives; (ii) actions enhancing industry partnerships and financial and technical participation in the implementation of Strategic Approach objectives; (iii) actions directed at integrating Strategic Approach objectives into multilateral and bilateral development assistance cooperation, (iv) steps in making more use of and building upon existing sources of relevant global funding; (v) actions supporting initial capacity-building activities for the implementation of Strategic Approach objectives; and (vi) the provision of resources to enable the secretariat to fulfil its tasks in support of the Strategic Approach.

Resolution II/3 of the International Conference on Chemicals Management recalled the above arrangements and in addition encourages additional research on the economic and social costs of unsound chemicals management, and the assessment and adoption of economic instruments to externalise the costs related to chemicals. The resolution further encourages effort to mainstream sound chemicals management and for actions at national and sub-national level including to give adequate priority to the sound management of chemicals in development, health and environmental planning and related budget allocation processes.

Resolution II/3 invites all stakeholders, in particular those referred to in the resolution, to assess and report to the secretariat on the steps that they have taken to implement the Strategic Approach financial arrangements at the latest six months before the third session of the Conference and requests the secretariat to compile and synthesize these reports, including any additional relevant information, for consideration by the Conference at its third session.

You are cordially invited to review the attached list of relevant actions and indicate by **17 March 2012**, if steps have been taken or initiatives developed that contribute to implementation of the Strategic Approach financial arrangements or the specific provisions of Resolution II/3. If you have any supporting documentation you may wish to refer to this by reference to a website. **If you would like to make relevant documentation available to the Conference you are also asked to indicate this on the form and provide any detailed documentation no later than 21 May 2012.**

PLEASE RETURN THIS FORM BY 17 MARCH 2012

This form is designed to quickly identify some of the different aspects of the financial arrangements of the Strategic Approach to International Chemicals Management where steps may have been taken since the second session of the Conference in May 2009.

Please check the boxes that apply in the case of the following actions and provide references for any activities where you have selected "yes" or "in development".

If you would like the opportunity to report on any initiative in more detail at the third session of the Conference, please indicate here ☐ and provide any necessary documentation by 21 May 2012.

PART I. Institutional identification			
Government/Organization:		Contact Person: Mr. ☐ Ms. ☐	
Address:		Functional Title:	
		Department / Section:	
Phone:	Fax:	Email:	
PART II. Actions taken to implement the financial arrangements of the Strategic Approach to International Chemicals Management			
	Yes	No	In planning
1. Actions at national or sub-national level or assisted by an intergovernmental organization, regional organization or non-governmental organization			
(a) Integrating Strategic Approach objectives in relevant programmes, plans and/or strategies	☐	☐	☐
(b) Assessing current laws, policies and regulations to identify changes that may be needed to advance implementation of the Strategic Approach objectives, including an assessment of funding needs where appropriate	☐	☐	☐
(c) Assessing and where necessary adopting appropriate policies at the national and sub-national levels, which could include economic instruments, that can help cover the cost of sound chemicals management.	☐	☐	☐
(d) Assessing and adopting at the national and sub-national levels, economic instruments intended to internalize the external costs of chemicals.	☐	☐	☐
(e) Exchanging experience and studies on the national use of economic instruments and submitting to the United Nations Environment Programme to make it broadly available.	☐	☐	☐
(f) Undertaking research on the economic and social costs of the unsound chemicals management, including the cost of inaction and implications for the health sector.	☐	☐	☐
(g) Nominating a SAICM Focal Point	☐	☐	☐

2. Enhancing industry partnerships and financial and technical participation			
(a) Review and strengthen current voluntary industry initiatives	☐	☐	☐
(b) Development of new initiatives, including with foundations, academia and non-governmental organizations.	☐	☐	☐
(c) Provision of resources, including in-kind contributions, for implementation of Strategic Approach objectives, continuing and building upon its initiatives on good corporate social and environmental responsibility.	☐	☐	☐
3. Integration of Strategic Approach objectives into multilateral and bi-lateral development assistance cooperation			
(a) Consideration of the integration of Strategic Approach objectives into relevant national documents that influence development assistance cooperation.	☐	☐	☐
(b) Formal recognition of Strategic Approach objectives as an important element of bilateral aid agency cooperation in support of sustainable development.	☐	☐	☐
(c) Inclusion of Strategic Approach objectives within work programmes, activities and plans.	☐	☐	☐
4. Effective use of global funding sources for chemicals management.			
Please indicate whether your Organization has supported chemicals management activities using co-funding from existing sources including the following:			
(a) Global Environment Facility	☐	☐	☐
(b) Montreal Protocol on Substances that Deplete the Ozone Layer and its Multilateral Fund for the Implementation of the Montreal Protocol.	☐	☐	☐
(c) Other (please specify)	☐	☐	☐
5. Other relevant financial arrangements as per paragraph 19 of the Overarching Policy Strategy of the Strategic Approach where steps have been taken			
Signature:		Date:	

Please sign and return completed form to the SAICM secretariat:

11-13 Chemin des Anémones

CH-1219 Châtelaine, Geneva

Switzerland

Tel: +41 22 917 86 31 Fax: +41 22 797 34 60

E-mail: saicm@unep.org

Annex 3

List of stakeholders contacted by the secretariat

No	Organisation/Institution
1	Global Environment Facility (GEF)
2	OPEC Fund for International Development
3	World Economic Forum (WEF)
4	Asia-Pacific Economic Cooperation
5	Caribbean Community (CARICOM) Secretariat
6	Caribbean Development Bank
7	Comisión Centro Americana de Ambiente y Desarrollo
8	Corporación Andina de Fomento
9	East African Development Bank
10	Economic Community of West African States
11	ECOWAS Bank for Investment and Development
12	Organization of American States
13	Regional Activity Centre for Cleaner Production-Mediterranean Action Plan
14	The Nordic Development Fund
15	West African Development Bank
16	Food and Agricultural Organisation (FAO) (IOMC member)
17	International Labour Organisation (ILO) (IOMC member)
18	World Health Organisation (WHO) (IOMC member)
19	Organization for Economic Cooperation and Development (OECD) (IOMC member)
20	United Nations Institute for Training and Research (UNITAR) (IOMC member)
21	United Nations Industrial Development Organization (UNIDO) (IOMC member)
22	United Nations Development Programme (UNDP) (IOMC member)
23	Inter-Organization Programme on the Sound Management of Chemicals (IOMC member)
24	Secretariat of the Multilateral Fund for the Implementation of the Montreal Protocol

25	Intergovernmental Forum on Chemical Safety (IFCS)
26	United Nations International Strategy for Disaster Reduction (UNISDR)
27	Secretariat of the Joint Conventions (Basel, Rotterdam and Stockholm)
28	United Nations Convention to Combat Desertification (UNCCD)
29	United Nations Framework Convention on Climate Change (UNFCCC)
30	Convention for the Protocol of the Marine Environment of the North-East Atlantic
31	Helsinki Commission
32	South Asian Association for Regional Cooperation
33	International Panel on Chemical Pollution
34	World Federation of Public Health Associations
35	International Council for Science
36	International Council on Mining and Metals
37	International POPs Elimination Network (IPEN)
38	Associate Labour Unions-Trade Union Congress of the Philippines
39	International Trade Union Confederation
40	World Wildlife Fund for Nature (WWF)
41	International Society of Doctors for the Environment

Annex 4

Reports from stakeholders on implementation of Strategic Approach financial arrangements

PLEASE RETURN THIS FORM BY 17 MARCH 2012

This form is designed to quickly identify some of the different aspects of the financial arrangements of the Strategic Approach to International Chemicals Management where steps may have been taken since the second session of the Conference in May 2009.

Please check the boxes that apply in the case of the following actions and provide references for any activities where you have selected "yes" or "in development".

If you would like the opportunity to report on any initiative in more detail at the third session of the Conference, please indicate here ☐ and provide any necessary documentation by 21 May 2012.

PART I. Institutional identification			
Organization:		Contact Person: Mr. ☐ Ms. ☒ X	
Address: 08 BP 0932 Tri postal Cotonou, Benin		Functional Title: Research Associate	
		Department / Section: Social sciences and environmental department	
Phone:	Fax:	Email:	
PART II. Actions taken to implement the financial arrangements of the Strategic Approach to International Chemicals Management			
	Yes	No	In planning
1. Actions at national or sub-national level or assisted by an intergovernmental organization, regional organization or non-governmental organization			
(a) Integrating Strategic Approach objectives in relevant programmes, plans and/or strategies	X	☐	☐
(b) Assessing current laws, policies and regulations to identify changes that may be needed to advance implementation of the Strategic Approach objectives, including an assessment of funding needs where appropriate	☐	☐	☐
(c) Assessing and where necessary adopting appropriate policies at the national and sub-national levels, which could include economic instruments, that can help cover the cost of sound chemicals management.	☐	☐	☐
(d) Assessing and adopting at the national and sub-national levels, economic instruments intended to internalize the external costs of chemicals.	☐	☐	☐
(e) Exchanging experience and studies on the national use of economic instruments and submitting to the United Nations Environment Programme to make it broadly available.	☐	☐	X ☐

(f) Undertaking research on the economic and social costs of the unsound chemicals management, including the cost of inaction and implications for the health sector.	X		
(e) Nominating a SAICM Focal Point	X	☐	☐
2. Enhancing industry partnerships and financial and technical participation			
(a) Review and strengthen current voluntary industry initiatives	☐	☐	☐
(b) Development of new initiatives, including with foundations, academia and non-governmental organizations.	☐	☐	☐
(c) Provision of resources, including in-kind contributions, for implementation of Strategic Approach objectives, continuing and building upon its initiatives on good corporate social and environmental responsibility.	☐	☐	X
3. Integration of Strategic Approach objectives into multilateral and bi-lateral development assistance cooperation			
(a) Consideration of the integration of Strategic Approach objectives into relevant national documents that influence development assistance cooperation.	☐	☐	☐
(b) Formal recognition of Strategic Approach objectives as an important element of bilateral aid agency cooperation in support of sustainable development.	☐	☐	☐
(c) Inclusion of Strategic Approach objectives within work programmes, activities and plans.	X	☐	☐
4. Effective use of global funding sources for chemicals management.			
Please indicate whether your Organization has supported chemicals management activities using co-funding from existing sources including the following:			
(a) Global Environment Facility	☐	☐	☐
(b) Montreal Protocol on Substances that Deplete the Ozone Layer and its Multilateral Fund for the Implementation of the Montreal Protocol.	☐	☐	☐
(c) GEF, QSP	X	☐	X
5. Other relevant financial arrangements as per paragraph 19 of the Overarching Policy Strategy of the Strategic Approach where steps have been taken			
Bill and Melinda Gates foundation; EU, Syngenta fondation			
Signature:  Date: 03/29/2012			

Please sign and return completed form to the SAICM secretariat:

11-13 Chemin des Anémones

CH-1219 Châtelaine, Geneva

Switzerland

Tel: +41 22 917 86 31 Fax: +41 22 797 34 60

E-mail: saicm@unep.org

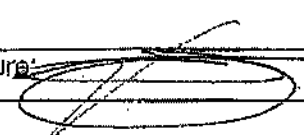
PLEASE RETURN THIS FORM BY 17 MARCH 2012

This form is designed to quickly identify some of the different aspects of the financial arrangements of the Strategic Approach to International Chemicals Management where steps may have been taken since the second session of the Conference in May 2009.

Please check the boxes that apply in the case of the following actions and provide references for any activities where you have selected "yes" or "in development".

If you would like the opportunity to report on any initiative in more detail at the third session of the Conference, please indicate here ☐ and provide any necessary documentation by 21 May 2012.

PART I: Institutional identification			
Government/Organization: BALTIC MARINE ENVIRONMENT PROTECTION COMMISSION (HELSINKI COMMISSION-HELCOM)		Contact Person: Mr. ☒ Ms. ☐ MIKHAIL DURKIN	
Address: KATAJANOKANLAITURI 6B 00160 HELSINKI, FINLAND		Functional Title: PROFESSIONAL SECRETARY	
		Department / Section:	
Phone: +358 468509195	Fax: +358 207412645	Email: mikhail.durkin@helcom.fi	
PART II: Actions taken to implement the financial arrangements of the Strategic Approach to International Chemicals Management			
	Yes	No	In planning
1. Actions at national or sub-national level or assisted by an intergovernmental organization, regional organization or non-governmental organization			
(a) Integrating Strategic Approach objectives in relevant programmes, plans and/or strategies	☐	☐	☒
(b) Assessing current laws, policies and regulations to identify changes that may be needed to advance implementation of the Strategic Approach objectives, including an assessment of funding needs where appropriate	☐	☐	☒
(c) Assessing and where necessary adopting appropriate policies at the national and sub-national levels, which could include economic instruments, that can help cover the cost of sound chemicals management.	☐	☐	☒
(d) Assessing and adopting at the national and sub-national levels, economic instruments intended to internalize the external costs of chemicals.	☐	☐	☒
(e) Exchanging experience and studies on the national use of economic instruments and submitting to the United Nations Environment Programme to make it broadly available.	☐	☐	☒

(f) Undertaking research on the economic and social costs of the unsound chemicals management, including the cost of inaction and implications for the health sector.			X
(e) Nominating a SAICM Focal Point	☐	☐	☒
2. Enhancing industry partnerships and financial and technical participation			
(a) Review and strengthen current voluntary industry initiatives	☐	☐	☒
(b) Development of new initiatives, including with foundations, academia and non-governmental organizations.	☒	☐	☐
(c) Provision of resources, including in-kind contributions, for implementation of Strategic Approach objectives, continuing and building upon its initiatives on good corporate social and environmental responsibility.	☐	☐	☒
3. Integration of Strategic Approach objectives into multilateral and bi-lateral development assistance cooperation			
(a) Consideration of the integration of Strategic Approach objectives into relevant national documents that influence development assistance cooperation.	☐	☐	☒
(b) Formal recognition of Strategic Approach objectives as an important element of bilateral aid agency cooperation in support of sustainable development.	☐	☐	☒
(c) Inclusion of Strategic Approach objectives within work programmes, activities and plans.	☒	☐	☐
4. Effective use of global funding sources for chemicals management.			
Please indicate whether your Organization has supported chemicals management activities using co-funding from existing sources including the following:			
(a) Global Environment Facility	☐	☒	☐
(b) Montreal Protocol on Substances that Deplete the Ozone Layer and its Multilateral Fund for the Implementation of the Montreal Protocol.	☐	☒	☐
(c) Other (please specify)	☒	☐	☐
EU			
5. Other relevant financial arrangements as per paragraph 19 of the Overarching Policy Strategy of the Strategic Approach where steps have been taken			
MOST OF THE ACTIONS ARE TAKEN AT NATIONAL LEVEL			
Signature: 	Date: 20.03.2012		

Please sign and return completed form to the SAICM secretariat:

11-13 Chemin des Anémones
CH-1219 Châtelaine, Geneva
Switzerland

Tel: +41 22 917 86 31 Fax: +41 22 797 34 60

E-mail: saicm@unep.org

PLEASE RETURN THIS FORM BY 17 MARCH 2012

This form is designed to quickly identify some of the different aspects of the financial arrangements of the Strategic Approach to International Chemicals Management where steps may have been taken since the second session of the Conference in May 2009.

Please check the boxes that apply in the case of the following actions and provide references for any activities where you have selected "yes" or "in development".

If you would like the opportunity to report on any initiative in more detail at the third session of the Conference, please indicate here ☐ and provide any necessary documentation by 21 May 2012.

PART I. Institutional identification			
Government/Organization: International Labour Office (ILO)		Contact Person: Mr. ☒ Ms. ☐ Pavan Baichoo	
Address: 4 route des Morillons, 1211 Geneva 22, Switzerland		Functional Title: Technical Officer, Occupational Safety	
		Department / Section: SafeWork	
Phone: +41227996722	Fax: +41227996878	Email: Baichoo@ilo.org	
PART II. Actions taken to implement the financial arrangements of the Strategic Approach to International Chemicals Management			
	Yes	No	In planning
1. Actions at national or sub-national level or assisted by an intergovernmental organization, regional organization or non-governmental organization			
(a) Integrating Strategic Approach objectives in relevant programmes, plans and/or strategies	☒	☐	☐
(b) Assessing current laws, policies and regulations to identify changes that may be needed to advance implementation of the Strategic Approach objectives, including an assessment of funding needs where appropriate	☒	☐	☐
(c) Assessing and where necessary adopting appropriate policies at the national and sub-national levels, which could include economic instruments, that can help cover the cost of sound chemicals management.	☒	☐	☐
(d) Assessing and adopting at the national and sub-national levels, economic instruments intended to internalize the external costs of chemicals.	☐	☒	☐
(e) Exchanging experience and studies on the national use of economic instruments and submitting to the United Nations Environment Programme to make it broadly available.	☐	☒	☐

(f) Undertaking research on the economic and social costs of the unsound chemicals management, including the cost of inaction and implications for the health sector.			
(e) Nominating a SAICM Focal Point	☒	☐	☐
2. Enhancing industry partnerships and financial and technical participation			
(a) Review and strengthen current voluntary industry initiatives	☐	☒	☐
(b) Development of new initiatives, including with foundations, academia and non-governmental organizations.	☒	☐	☐
(c) Provision of resources, including in-kind contributions, for implementation of Strategic Approach objectives, continuing and building upon its initiatives on good corporate social and environmental responsibility.	☒	☐	☐
3. Integration of Strategic Approach objectives into multilateral and bi-lateral development assistance cooperation			
(a) Consideration of the integration of Strategic Approach objectives into relevant national documents that influence development assistance cooperation.	☐	☒	☐
(b) Formal recognition of Strategic Approach objectives as an important element of bilateral aid agency cooperation in support of sustainable development.	☐	☒	☐
(c) Inclusion of Strategic Approach objectives within work programmes, activities and plans.	☒	☐	☐
4. Effective use of global funding sources for chemicals management.			
Please indicate whether your Organization has supported chemicals management activities using co-funding from existing sources including the following:			
(a) Global Environment Facility	☐	☒	☐
(b) Montreal Protocol on Substances that Deplete the Ozone Layer and its Multilateral Fund for the Implementation of the Montreal Protocol.	☐	☒	☐
(c) Other (please specify)	☐	☒	☐
5. Other relevant financial arrangements as per paragraph 19 of the Overarching Policy Strategy of the Strategic Approach where steps have been taken			
The ILO's involvement on the implementation of financial arrangements for SAICM fall in most cases under Paragraph 19 (a) of the OPS, dealing more with national implementation. Dealing with sound workplace management of the use of chemicals and through the promotion of the ILO's Chemicals Convention (No.170) and implementation of the GHS, under a broader scope of occupational safety and health, where the sound use of chemicals forms but one part. The ILO has also funded studies on electronic waste, which is one of the new and emerging issues under SAICM.			
Signature: Pavan Baichoo		Date: 16/03/2012	

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If you would like the opportunity to report on any initiative in more detail at the third session of the Conference, please indicate here X and provide any necessary documentation by 21 May 2012.

PART I. Institutional identification			
Government/Organization: IPEN		Contact Person: Mr.X Ms. ☐ Björn Beeler	
Address: IPEN P.O. Box 7256 SE-402 3, Göteborg Sweden		Functional Title: International Coordinator	
		Department / Section: IPEN Secretariat	
Phone: +46 31 799 9474	Fax: n/a	Email: ipen@ipen.org	
PART II. Actions taken to implement the financial arrangements of the Strategic Approach to International Chemicals Management			
	Yes	No	In planning
1.Actions at national or sub-national level or assisted by an intergovernmental organization, regional organization or non-governmental organization			
(a) Integrating Strategic Approach objectives in relevant programmes, plans and/or strategies	X	☐	☐
(b) Assessing current laws, policies and regulations to identify changes that may be needed to advance implementation of the Strategic Approach objectives, including an assessment of funding needs where appropriate	X	☐	☐
(c) Assessing and where necessary adopting appropriate policies at the national and sub-national levels, which could include economic instruments, that can help cover the cost of sound chemicals management.	☐		X
(d) Assessing and adopting at the national and sub-national levels, economic instruments intended to internalize the external costs of chemicals.	☐	X	☐
(e) Exchanging experience and studies on the national use of economic instruments and submitting to the United Nations Environment Programme to make it broadly available.	X ☐	☐	

(f) Undertaking research on the economic and social costs of the unsound chemicals management, including the cost of inaction and implications for the health sector.	X		
(e) Nominating a SAICM Focal Point	X	☐	☐
2. Enhancing industry partnerships and financial and technical participation			
(a) Review and strengthen current voluntary industry initiatives	☐	X	☐
(b) Development of new initiatives, including with foundations, academia and non-governmental organizations.	X	☐	☐
(c) Provision of resources, including in-kind contributions, for implementation of Strategic Approach objectives, continuing and building upon its initiatives on good corporate social and environmental responsibility.	X ☐		☐
3. Integration of Strategic Approach objectives into multilateral and bi-lateral development assistance cooperation			
(a) Consideration of the integration of Strategic Approach objectives into relevant national documents that influence development assistance cooperation.	X	☐	☐
(b) Formal recognition of Strategic Approach objectives as an important element of bilateral aid agency cooperation in support of sustainable development.		☐	X
(c) Inclusion of Strategic Approach objectives within work programmes, activities and plans.	x	☐	☐
4. Effective use of global funding sources for chemicals management.			
Please indicate whether your Organization has supported chemicals management activities using co-funding from existing sources including the following:			
(a) Global Environment Facility	☐	☐	X
(b) Montreal Protocol on Substances that Deplete the Ozone Layer and its Multilateral Fund for the Implementation of the Montreal Protocol.	☐	X	☐
(c) Other (please specify)	X	☐	☐
Europe AID: Switch- ASIA Support from SIDA, via KEMI			
5. Other relevant financial arrangements as per paragraph 19 of the Overarching Policy Strategy of the Strategic Approach where steps have been taken			
			
Signature:		Date:	
Björn Beeler IPEN International Coordinatore		17 th of March 2011	

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If you would like the opportunity to report on any initiative in more detail at the third session of the Conference, please indicate here ☐ and provide any necessary documentation by 21 May 2012.

PART I. Institutional identification			
Government/Organization: Ministry of Environment of the Republic of Moldova		Contact Person: Mr. ☐ Ms. ☒ Liudmila Marduhaeva	
Address: 9, Cosmonautilor St., MD-2005, Chisinau, Republic of Moldova		Functional Title: Main Advisory Officer	
		Department / Section: Division of Pollution Prevention and Waste Management	
Phone: +(373 22) 20 45 26	Fax: +(373 22) 22 62 54 / 22 68 58	Email: liudmila@moldovapops.md	
PART II. Actions taken to implement the financial arrangements of the Strategic Approach to International Chemicals Management			
	Yes	No	In planning
1. Actions at national or sub-national level or assisted by an intergovernmental organization, regional organization or non-governmental organization			
(a) Integrating Strategic Approach objectives in relevant programmes, plans and/or strategies	☒	☐	☐
(b) Assessing current laws, policies and regulations to identify changes that may be needed to advance implementation of the Strategic Approach objectives, including an assessment of funding needs where appropriate	☒	☐	☐
(c) Assessing and where necessary adopting appropriate policies at the national and sub-national levels, which could include economic instruments, that can help cover the cost of sound chemicals management.	☒	☐	☐
(d) Assessing and adopting at the national and sub-national levels, economic instruments intended to internalize the external costs of chemicals.	☐	☐	☒ Under development in the draft Law on Environment Protection
(e) Exchanging experience and studies on the national use of economic instruments and submitting	☐	☐	☒ UNDP/KEMI

to the United Nations Environment Programme to make it broadly available.			Project “Mainstreaming of Sound Management of Chemicals in National Development Planning Processes”
(f) Undertaking research on the economic and social costs of the unsound chemicals management, including the cost of inaction and implications for the health sector.			Under final step of development in the framework of the UNDP/KEMI Project “Mainstreaming of Sound Management of Chemicals in National Development Planning Processes”
(e) Nominating a SAICM Focal Point	☒	☐	☐
2.Enhancing industry partnerships and financial and technical participation			
(a) Review and strengthen current voluntary industry initiatives	☐	☒	☐
(b) Development of new initiatives, including with foundations, academia and non-governmental organizations.	☐	☒	☐
(c) Provision of resources, including in-kind contributions, for implementation of Strategic Approach objectives, continuing and building upon its initiatives on good corporate social and environmental responsibility.	☐	☒ Least developed chemical industry sector in the Republic of Moldova	☐
3. Integration of Strategic Approach objectives into multilateral and bi-lateral development assistance cooperation			
(a) Consideration of the integration of Strategic Approach objectives into relevant national documents that influence development assistance cooperation.	☐	☐	☒ UNDP/KEMI Project “Mainstreaming of Sound Management of Chemicals in National Development Planning Processes”
(b) Formal recognition of Strategic Approach objectives as an important element of bilateral aid agency cooperation in support of sustainable development.	☐	☐	☒ UNDP/KEMI Project “Mainstreaming of Sound Management of Chemicals in National Development Planning Processes”.

			At the same time it is not easy task, due to political lack of support.
(c) Inclusion of Strategic Approach objectives within work programmes, activities and plans.	☒	☐	☐
4. Effective use of global funding sources for chemicals management.			
Please indicate whether your Organization has supported chemicals management activities using co-funding from existing sources including the following:			
(a) Global Environment Facility: as financial mechanism to the Stockholm Convention - for POPs	☒	☐	☐
(b) Montreal Protocol on Substances that Deplete the Ozone Layer and its Multilateral Fund for the Implementation of the Montreal Protocol: as financial mechanism to the Montreal Protocol - for ODS	☒	☐	☐
(c) Other (please specify) SAICM QSP Trust Fund	☒	☐	☐
5. Other relevant financial arrangements as per paragraph 19 of the Overarching Policy Strategy of the Strategic Approach where steps have been taken			
Some relevant projects, financed from other sources: - UNDP/KEMI Project “Mainstreaming of Sound Management of Chemicals in National Development Planning Processes”, financed by the Swedish Chemicals Agency (KEMI) through UNDP. <i>Status:</i> Ongoing. <i>Duration:</i> 2011-2012. - Project “Collection, centralized storage and elimination of obsolete chemical reagents from the laboratories of pre-university educational institutions”; financed by the National Environmental Fund. <i>Status:</i> Ongoing. <i>Duration:</i> 2011-2012; - CzDA “Remediation of Environmental Burdens Caused by Pesticides in Moldova”, financed by the Czech Development Agency and based on Memorandum of Understanding between Czech Development Agency and Ministry of Environment of the Republic of Moldova, signed on 4 May 2011. <i>Status:</i> Ongoing. <i>Duration:</i> 2011-2012; - SAIDC Project “Introduction of Environmentally Sound Management of Wastes from Electric and Electronic Equipment”, financed by the Slovak Agency for International Development and Cooperation. <i>Status:</i> Ongoing. <i>Duration:</i> 2011-2012; - EU ENPI East Project “Waste Governance”, financed by the European Union. <i>Status:</i> Ongoing. <i>Duration:</i> 2010-2013.			
Signature: Marduhaeva	Date: 18 May 2012		

Please sign and return completed form to the SAICM secretariat:

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If you would like the opportunity to report on any initiative in more detail at the third session of the Conference, please indicate here ☐ and provide any necessary documentation by 21 May 2012.

PART I. Institutional identification			
Government/Organization:		Contact Person:	
Secretariat of the Multilateral Fund of the Montreal Protocol		Mr. ☐ Ms. ☒	
Address:		Functional Title:	
Suite 4100 1000, de la Gauchetiere West Montreal, QC H3B4W5 Canada		Chief Officer	
		Department / Section:	
Phone:	Fax:	Email:	
1-514-282-1122		Maria.Nolan@unmfs.org	
PART II. Actions taken to implement the financial arrangements of the Strategic Approach to International Chemicals Management			
	Yes	No	In planning
1. Actions at national or sub-national level or assisted by an intergovernmental organization, regional organization or non-governmental organization			
(a) Integrating Strategic Approach objectives in relevant programmes, plans and/or strategies	☐	☐	☐
(b) Assessing current laws, policies and regulations to identify changes that may be needed to advance implementation of the Strategic Approach objectives, including an assessment of funding needs where appropriate	☐	☐	☐
(c) Assessing and where necessary adopting appropriate policies at the national and sub-national levels, which could include economic instruments, that can help cover the cost of sound chemicals management.	☐	☐	☐
(d) Assessing and adopting at the national and sub-national levels, economic instruments intended to internalize the external costs of chemicals.	☐	☐	☐
(e) Exchanging experience and studies on the national	☐	☐	☐

use of economic instruments and submitting to the United Nations Environment Programme to make it broadly available.			
(f) Undertaking research on the economic and social costs of the unsound chemicals management, including the cost of inaction and implications for the health sector.	☐	☐	☐
(e) Nominating a SAICM Focal Point	☐	☐	☐
2. Enhancing industry partnerships and financial and technical participation			
(a) Review and strengthen current voluntary industry initiatives	☐	☐	☐
(b) Development of new initiatives, including with foundations, academia and non-governmental organizations.	☐	☐	☐
(c) Provision of resources, including in-kind contributions, for implementation of Strategic Approach objectives, continuing and building upon its initiatives on good corporate social and environmental responsibility.	☐	☐	☐
3. Integration of Strategic Approach objectives into multilateral and bi-lateral development assistance cooperation			
(a) Consideration of the integration of Strategic Approach objectives into relevant national documents that influence development assistance cooperation.	☐	☐	☒
(b) Formal recognition of Strategic Approach objectives as an important element of bilateral aid agency cooperation in support of sustainable development.	☐	☒	☐
(c) Inclusion of Strategic Approach objectives within work programmes, activities and plans.	☐	☒	☐
4. Effective use of global funding sources for chemicals management.			
Please indicate whether your Organization has supported chemicals management activities using co-funding from existing sources including the following:			
(a) Global Environment Facility	☒	☐	☐
(b) Montreal Protocol on Substances that Deplete the Ozone Layer and its Multilateral Fund for the Implementation of the Montreal Protocol.	☐	☐	☐
(c) Other (please specify)	☐	☐	☐
5. Other relevant financial arrangements as per paragraph 19 of the Overarching Policy Strategy of the Strategic Approach where steps have been taken			
In approving projects for the disposal of unwanted ODS, the guidelines of the Executive Committee of the Multilateral Fund include a request for the submitting countries to indicate, at a national level whether disposal programmes for chemicals related to other multilateral environmental agreements are presently ongoing in the country or planned for the near future, and whether synergies would be possible. An example would be the pilot project for the disposal of ODS waste in Turkey. In the submitted proposal and project document, Turkey had indicated that this will be linked closely to their activities on PCB destruction funded through the GEF. In fact, the destruction facility being considered for ODS waste is also that for PCB destruction. A similar linkage is also being initiated in Colombia, where for a related ODS disposal pilot project, the facilities for destruction are those that are being considered for POPs and PCB destruction, therefore providing a link and synergy into the development of destruction protocols for these chemicals.			

While these are not being done directly due to SAICM objectives, it is the view of the Secretariat that it is a good start and promotes a strategic look at the way chemicals are being treated at the national level.

Signature:

Marie Le Nôtre

Date:

4 April 2012

Please sign and return completed form to the SAICM secretariat:

11-13 Chemin des Anémones

CH-1219 Châtelaine, Geneva

Switzerland

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If you would like the opportunity to report on any initiative in more detail at the third session of the Conference, please indicate here ☒ and provide any necessary documentation by 21 May 2012.

PART I. Institutional identification			
Government/Organization: Organisation for Economic Co-operation and Development (OECD)		Contact Person: Mr. ☒ Ms. ☐ Robert Diderich	
Address: 2 rue André Pascal 75016 Paris France		Functional Title: Head of Unit	
		Department / Section: ENV/EHS	
Phone: +3314524148	Fax:	Email: bob.diderich@oecd.org	
PART II. Actions taken to implement the financial arrangements of the Strategic Approach to International Chemicals Management			
	Yes	No	In planning
1. Actions at national or sub-national level or assisted by an intergovernmental organization, regional organization or non-governmental organization			
(a) Integrating Strategic Approach objectives in relevant programmes, plans and/or strategies	☒	☐	☐
(b) Assessing current laws, policies and regulations to identify changes that may be needed to advance implementation of the Strategic Approach objectives, including an assessment of funding needs where appropriate	☐	☐	☐
(c) Assessing and where necessary adopting appropriate policies at the national and sub-national levels, which could include economic instruments, that can help cover the cost of sound chemicals management.	☐	☐	☐
(d) Assessing and adopting at the national and sub-national levels, economic instruments intended to internalize the external costs of chemicals.	☐	☐	☐
(e) Exchanging experience and studies on the national use of economic instruments and submitting to the United Nations Environment Programme to make it broadly available.	☐	☐	☐

(f) Undertaking research on the economic and social costs of the unsound chemicals management, including the cost of inaction and implications for the health sector.	X		
(e) Nominating a SAICM Focal Point	☐	☐	☐
2. Enhancing industry partnerships and financial and technical participation			
(a) Review and strengthen current voluntary industry initiatives	☐	☐	☐
(b) Development of new initiatives, including with foundations, academia and non-governmental organizations.	☐	☐	☐
(c) Provision of resources, including in-kind contributions, for implementation of Strategic Approach objectives, continuing and building upon its initiatives on good corporate social and environmental responsibility.	☒	☐	☐
3. Integration of Strategic Approach objectives into multilateral and bi-lateral development assistance cooperation			
(a) Consideration of the integration of Strategic Approach objectives into relevant national documents that influence development assistance cooperation.	☐	☐	☐
(b) Formal recognition of Strategic Approach objectives as an important element of bilateral aid agency cooperation in support of sustainable development.	☐	☐	☐
(c) Inclusion of Strategic Approach objectives within work programmes, activities and plans.	☒	☐	☐
4. Effective use of global funding sources for chemicals management			
Please indicate whether your Organization has supported chemicals management activities using co-funding from existing sources including the following:			
(a) Global Environment Facility	☐	☐	☐
(b) Montreal Protocol on Substances that Deplete the Ozone Layer and its Multilateral Fund for the Implementation of the Montreal Protocol.	☐	☐	☐
(c) Other (please specify)	☐	☐	☐
5. Other relevant financial arrangements as per paragraph 19 of the Overarching Policy Strategy of the Strategic Approach where steps have been taken			
Signature: <i>Diabernil</i>	Date: 16 / 3 / 2012		

Please sign and return completed form to the SAICM secretariat:

11-13 Chemin des Anémones

CH-1219 Châtelaine, Geneva

Switzerland

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E-mail: saicm@unep.org

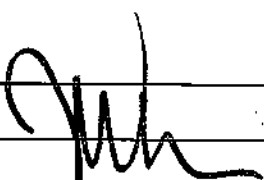
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If you would like the opportunity to report on any initiative in more detail at the third session of the Conference, please indicate here ☐ and provide any necessary documentation by 21 May 2012.

PART I. Institutional identification			
Government/Organization: Secretariat of the Basel, Rotterdam and Stockholm Conventions		Contact Person: Mr. ☒ Ms. ☐ Jim Willis	
Address: 11-13 Chemin des Anémones CH-1219 Châtelaine, Geneva Switzerland		Functional Title: Executive Secretary	
		Department / Section: Office of the Executive Secretary	
Phone: +41 (0)22 917 8860	Fax: +41 (0)22 797 3454	Email: jwillis@pops.int / jim.willis@unep.org	
PART II. Actions taken to implement the financial arrangements of the Strategic Approach to International Chemicals Management			
	Yes	No	In planning
1. Actions at national or sub-national level or assisted by an intergovernmental organization, regional organization or non-governmental organization			
(a) Integrating Strategic Approach objectives in relevant programmes, plans and/or strategies	☐	X	☐
(b) Assessing current laws, policies and regulations to identify changes that may be needed to advance implementation of the Strategic Approach objectives, including an assessment of funding needs where appropriate	☐	X	☐
(c) Assessing and where necessary adopting appropriate policies at the national and sub-national levels, which could include economic instruments, that can help cover the cost of sound chemicals management.	☐	X	☐
(d) Assessing and adopting at the national and sub-national levels, economic instruments intended to internalize the external costs of chemicals.	☐	X	☐
(e) Exchanging experiences and studies on the national use of economic instruments and submitting to the United Nations Environment Programme to make it	☐	X	☐

broadly available.			
(f) Undertaking research on the economic and social costs of the unsound chemicals management, including the cost of inaction and implications for the health sector.		X	
(e) Nominating a SAICM Focal Point	☐	X	☐
2. Enhancing industry partnerships and financial and technical participation			
(a) Review and strengthen current voluntary industry initiatives	☐	X	☐
(b) Development of new initiatives, including with foundations, academia and non-governmental organizations.	☐	X	☐
(c) Provision of resources, including in-kind contributions, for implementation of Strategic Approach objectives, continuing and building upon its initiatives on good corporate social and environmental responsibility.	☐	X	☐
3. Integration of Strategic Approach objectives into multilateral and bi-lateral development assistance cooperation			
(a) Consideration of the integration of Strategic Approach objectives into relevant national documents that influence development assistance cooperation.	☐	X	☐
(b) Formal recognition of Strategic Approach objectives as an important element of bilateral aid agency cooperation in support of sustainable development.	☐	X	☐
(c) Inclusion of Strategic Approach objectives within work programmes, activities and plans.	☐	X	☐
4. Effective use of global funding sources for chemicals management			
Please indicate whether your Organization has supported chemicals management activities using co-funding from existing sources including the following:			
(a) Global Environment Facility	X	☐	☐
(b) Montreal Protocol on Substances that Deplete the Ozone Layer and its Multilateral Fund for the Implementation of the Montreal Protocol.		x	☐
(c) Other (please specify) Donors	x	☐	☐
5. Other relevant financial arrangements as per paragraph 19 of the Overarching Policy Strategy of the Strategic Approach where steps have been taken			
Signature: 	Date: 16 March 2012		

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If you would like the opportunity to report on any initiative in more detail at the third session of the Conference, please indicate here ☒ and provide any necessary documentation by 21 May 2012.

PART I. Institutional identification			
Government/Organization: United Nations Environment Programme		Contact Person: Mr. ☒ Ms. ☐ Kaj Madsen	
Address: International Environment House 11-13, chemin des Anémones CH-1219 Châtelaine Switzerland		Functional Title: Senior Programme Manager	
		Department / Section: Chemicals Branch, Division for Technology, Industry and Economics	
Phone:	Fax:	Email:	
PART II. Actions taken to implement the financial arrangements of the Strategic Approach to International Chemicals Management			
	Yes	No	In planning
1.Actions at national or sub-national level or assisted by an intergovernmental organization, regional organization or non-governmental organization			
(a) Integrating Strategic Approach objectives in relevant programmes, plans and/or strategies	☒	☐	☐
(b) Assessing current laws, policies and regulations to identify changes that may be needed to advance implementation of the Strategic Approach objectives, including an assessment of funding needs where appropriate	☒	☐	☐
(c) Assessing and where necessary adopting appropriate policies at the national and sub-national levels, which could include economic instruments, that can help cover the cost of sound chemicals management.	☒	☐	☐
(d) Assessing and adopting at the national and sub-national levels, economic instruments intended to internalize the external costs of chemicals.	☒	☐	☐
(e) Exchanging experience and studies on the national use of economic instruments and submitting to the United Nations Environment Programme to make it broadly available.	☒	☐	☐

(f) Undertaking research on the economic and social costs of the unsound chemicals management, including the cost of inaction and implications for the health sector.	yes		
(e) Nominating a SAICM Focal Point	☒	☐	☐
2.Enhancing industry partnerships and financial and technical participation			
(a) Review and strengthen current voluntary industry initiatives	☒	☐	☐
(b) Development of new initiatives, including with foundations, academia and non-governmental organizations.	☒	☐	☐
(c) Provision of resources, including in-kind contributions, for implementation of Strategic Approach objectives, continuing and building upon its initiatives on good corporate social and environmental responsibility.	☒	☐	☐
3. Integration of Strategic Approach objectives into multilateral and bi-lateral development assistance cooperation			
(a) Consideration of the integration of Strategic Approach objectives into relevant national documents that influence development assistance cooperation.	☒	☐	☐
(b) Formal recognition of Strategic Approach objectives as an important element of bilateral aid agency cooperation in support of sustainable development.	☐	☐	☐
(c) Inclusion of Strategic Approach objectives within work programmes, activities and plans.	☒	☐	☐
4. Effective use of global funding sources for chemicals management.			
Please indicate whether your Organization has supported chemicals management activities using co-funding from existing sources including the following:			
(a) Global Environment Facility	☒	☐	☐
(b) Montreal Protocol on Substances that Deplete the Ozone Layer and its Multilateral Fund for the Implementation of the Montreal Protocol.	☒	☐	☐
(c) Other (please specify)	☒	☐	☐
UNEP leverages extrabudgetary resources from donors to support its subprogramme on Harmful Substances and Hazardous Waste, much of it towards the implementation of SAICM.			
5. Other relevant financial arrangements as per paragraph 19 of the Overarching Policy Strategy of the Strategic Approach where steps have been taken			
Developed the following reports/guidance • Global Chemicals Outlook • Report on Cost of Inaction on the Sound Management of Chemicals • An Analysis of Economic Instruments in Sound Management of Chemicals • Guidance on Development of Legal and Institutional Infrastructures for Sound Management of Chemicals and Measures for Recovering Costs of National Administrations			
Signature:	Date:		

Please sign and return completed form to the SAICM secretariat:

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PLEASE RETURN THIS FORM BY 17 MARCH 2012

This form is designed to quickly identify some of the different aspects of the financial arrangements of the Strategic Approach to International Chemicals Management where steps may have been taken since the second session of the Conference in May 2009.

Please check the boxes that apply in the case of the following actions and provide references for any activities where you have selected "yes" or "in development".

If you would like the opportunity to report on any initiative in more detail at the third session of the Conference, please indicate here ☐ and provide any necessary documentation by 21 May 2012.

PART I. Institutional identification			
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PART II. Actions taken to implement the financial arrangements of the Strategic Approach to International Chemicals Management			
	Yes	No	In planning
1.Actions at national or sub-national level or assisted by an intergovernmental organization, regional organization or non-governmental organization			
(a) Integrating Strategic Approach objectives in relevant programmes, plans and/or strategies	☒	☐	☐
(b) Assessing current laws, policies and regulations to identify changes that may be needed to advance implementation of the Strategic Approach objectives, including an assessment of funding needs where appropriate	☒	☐	☐
(c) Assessing and where necessary adopting appropriate policies at the national and sub-national levels, which could include economic instruments, that can help cover the cost of sound chemicals management.	☐	☒	☐
(d) Assessing and adopting at the national and sub-national levels, economic instruments intended to internalize the external costs of chemicals.	☐	☒	☐
(e) Exchanging experience and studies on the national use of economic instruments and submitting to the United Nations Environment Programme to make it	☐	☒	☐

broadly available.			
(f) Undertaking research on the economic and social costs of the unsound chemicals management, including the cost of inaction and implications for the health sector.		X	
(g) Nominating a SAICM Focal Point	☒	☐	☐
2. Enhancing industry partnerships and financial and technical participation			
(a) Review and strengthen current voluntary industry initiatives	☐	☐	☐
(b) Development of new initiatives, including with foundations, academia and non-governmental organizations.	☐	☐	☐
(c) Provision of resources, including in-kind contributions, for implementation of Strategic Approach objectives, continuing and building upon its initiatives on good corporate social and environmental responsibility.	☐	☐	☐
3. Integration of Strategic Approach objectives into multilateral and bi-lateral development assistance cooperation			
(a) Consideration of the integration of Strategic Approach objectives into relevant national documents that influence development assistance cooperation.	☒	☐	☐
(b) Formal recognition of Strategic Approach objectives as an important element of bilateral aid agency cooperation in support of sustainable development.	☐	☐	☐
(c) Inclusion of Strategic Approach objectives within work programmes, activities and plans.	☒	☐	☐
4. Effective use of global funding sources for chemicals management.			
Please indicate whether your Organization has supported chemicals management activities using co-funding from existing sources including the following:			
(a) Global Environment Facility	☒	☐	☐
(b) Montreal Protocol on Substances that Deplete the Ozone Layer and its Multilateral Fund for the Implementation of the Montreal Protocol.	☐	☒	☐
(c) Other (please specify): multiple donor sources	☒	☐	☐
5. Other relevant financial arrangements as per paragraph 19 of the Overarching Policy Strategy of the Strategic Approach where steps have been taken			
UNITAR considers that its training programmes assist countries to implement SAICM and are therefore in-kind contributions not only to the QSP, but to SAICM implementation more generally.			
Signature: 	Date: 16 March 2012		

Please sign and return completed form to the SAICM secretariat:

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**Implementation of the Strategic Approach to
International Chemicals Management:
Financial and technical resources for implementation**

**Guidance on the Development of Legal and Institutional
Infrastructure for Sound Management of Chemicals and
Measures for Recovering Costs of National Administration**

Note by the secretariat

1. The secretariat has the honour to circulate, in the annex to the present note, a draft guidance document provided by the United Nations Environment Programme (UNEP) on the development of legal and institutional infrastructure for sound management of chemicals and measures for recovering costs of national administration. The document has been developed pursuant to resolution II/3 of the International Conference on Chemicals Management which encourages research on and, where appropriate, the assessment and adoption at the national and subnational levels of economic instruments that internalize the external costs related to chemicals, bearing in mind that such instruments need careful design, in particular in developing countries and countries with economies in transition.
2. The guidance, developed by the UNEP Division of Trade, Industry and Economics, aims to provide practical support to policymakers on crucial elements of national legislation and institutional arrangements for achieving the sound management of chemicals, including measures for financial support. It includes consideration of the structures that countries typically need and those that are required to improve existing systems. Albeit of a general nature to accommodate national contexts, the guidance is tailored to the specific conditions of developing countries and countries with economies in transition. It is currently being tested in various pilot countries.
3. The guidance document is circulated for the information of participants and has not been formally edited.

* SAICM/ICCM.3/1

Annex

Test Version

Draft

**Guidance on the Development of Legal and
Institutional Infrastructures for Sound
Management of Chemicals and Measures for
Recovering Costs of National Administration**

(LIRA-Guidance)

July 2012

UNEP DTIE Chemicals Branch

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The guidance was collaboratively developed by Mr. Armand Racine and Ms. Louise Gallagher (Ph.D.), with contributions from Mr. Kaj Madsen and Mr. Pierre Quiblier of the UNEP Chemicals Branch Mainstreaming team.

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Note on Development Status Terms

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the United Nations Environment Programme concerning the legal status of any country, territory, city or area, or of its authorities, or concerning the delimitation of its frontiers or boundaries. The designations “developed”, “developing” economies, “BRIICS” and “economies in transition” are intended for statistical convenience and do not necessarily imply a judgment about the stage reached by a particular country or area in the development process.

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Acronyms

BASA	Baseline Analysis and Solutions Assessment
CBA	Cost Benefit Analysis
CEiTs	Countries with Economy in Transition
COI	Costs of Inaction Initiative
DCs	Developing Countries
CiP	Chemicals in Products
DTIE	Division of Technology, Industry and Economics
DNA	Designated National Authority
FAO	Food and Agriculture Organization of the United Nations
GATT	General Agreement on Tariffs and Trade
GC	Governing Council
GHS	Globally Harmonized System for Classification and Labelling of Chemicals
GCO	Global Chemicals Outlook
GEF	Global Environmental Facility
HELI	Health and Environment Linkages Initiative
HESA	Health and Environment Strategic Alliance
ICCM	International Conference on Chemicals Management
ICM	Inter-Agency Coordination Mechanism
IISD	International Institute for Sustainable Development
ILO	International Labour Organization
IOMC	Inter-Organization Programme for the Sound Management of Chemicals
IPCS	International Programme on Chemical Safety
ISO	International Standardization Organization
KemI	Swedish Chemicals Agency
MEAs	Multilateral Environmental Agreements
MSW	Multi-Stakeholder Workshop
NGO	Non-Governmental Organization
ODSs	Ozone Depleting Substances
OECD	Organization for Economic Co-operation and Development
PI	Partnership Initiative for the Integration of Sound Management of Chemicals into National Development Planning Processes
PIC	Prior Informed Consent
POPs	Persistent Organic Pollutants
SAICM	Strategic Approach to International Chemicals Management

(M)SDS	(Material) Safety data Sheet
SIDA	Swedish International Development Agency
SMC	Sound Management of Chemicals
SMEs	Small and Medium Enterprises
SPS	Sanitary and Phytosanitary Agreement
TBT	Technical Barriers to Trade
TEEB	The Economics of Ecosystems and Biodiversity
TRIPs	Trade Related Aspects of Intellectual Property Rights
UNCED	United Nations Conference on Environment and Development
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNITAR	United Nations Institute for Training and Research
WCO	World Customs Organization
WHO	World Health Organization
WSSD	World Summit on Sustainable Development
WTO	World Trade Organization

I. Introduction

A. The Benefits of Sound Management of Chemicals

Chemicals make up our physical world; they form the basis of life and they are the building blocks from which we make our products. Chemicals are an integral part of modern life with over 100,000 different substances used in a wide variety of products that build the world economy.

However, while chemicals sustain our global economy, they can also cause significant damage if mismanaged. A growing body of research is documenting the various risks and negative impacts harmful chemicals can have on the environment and human health. Such negative impacts result in significant economic costs for economic development at the sub-national, national, regional, and global levels¹.

There are very clear links between a precautionary approach to chemicals management and economic development. A knowledge-based, preventive approach to chemicals risks management throughout their lifecycle allows avoiding significant risks to human health and ecosystems, and associated economic costs for individuals, firms and society as a whole. In addition, improved management of chemicals creates business opportunities both directly and indirectly linked to chemicals production and use.

B. The Challenges to Achieving Sound Management of Chemicals

The 2002 World Summit on Sustainable Development (WSSD) defined that by 2020 chemicals are used and produced in ways that lead to the minimization of significant adverse effects on human health and the environment. Over the past decades, significant progress has been made in chemicals management at the national and international levels. Key instruments and processes have been established to address major chemicals management concerns. But these efforts have not been sufficient to protect the environment and health of the populations from chemicals risks.

Of particular significance in this regard is the fact that recent trends show changing patterns of global chemicals production and trade, with a progressive shift of portions of chemicals production and markets from OECD countries to developing countries (DCs) and countries with economies in transition (CEiTs). By 2020, DCs and CEiTs are expected to account for about a third of global chemicals production and consumption². While they are attracting greater production and importing increasing quantities of both chemical products and consumer goods containing chemical substances, DCs and CEiTs generally lack the technical and financial capacity to manage chemicals soundly.

Acknowledging the need for faster progress in chemicals management, countries participating in the 2006 1st International Conference on Chemicals Management (ICCM1) that established the Strategic Approach to International Chemicals Management (SAICM) stated that *“fundamental changes are needed in the way that societies manage chemicals”* (Dubai Declaration on International Chemicals Management, para. 7). SAICM therefore calls for strengthened focus on improved cross-sectoral governance for the development of coherent preventive approaches for managing chemicals throughout their life-cycle at the international, regional, national and local levels.

In particular, SAICM emphasizes the need for enhanced coherence, consistency and cooperation to address the gaps, overlaps and duplication in national chemicals management activities. But SAICM also recognizes that the availability of secure, predictable *“financial resources provided by governments, private sector and bilateral, multilateral and global agencies or donors”* (Overarching Policy Strategy, Section V.19) is critical for improving chemicals management regimes in DCs and CEiTs. As such, if funding for chemicals management activities is to be sustainable, it is imperative that options for national-level funding are fully explored.³

In addition to national budget and international funding, bolstering private sector financial and technical participation in meeting the costs of full implementation and enforcement of national chemicals-related laws is thought to be a key feature of generating sustainable finance. Economic instruments – most particularly administrative cost recovery mechanisms are - recognized as one set of policy mechanisms that are ripe for further exploration in financing chemicals management.

C. About this guidance

1. The Guidance within UNEP Chemicals Mainstreaming Programme

In order to address these inter-related challenges as part of SAICM implementation, UNEP has developed a programme of five complementary initiatives:

- ⇒ The UNDP-UNEP Partnership Initiative for the Integration of Sound Management of Chemicals into National Development Processes (UNDP-UNEP PI)
- ⇒ UNEP-WHO Health and Environment Strategic Alliance (UNEP-WHO HESA)
- ⇒ UNEP Costs of Inaction Initiative (UNEP COI)
- ⇒ UNEP Global Chemicals Outlook (UNEP GCO)
- ⇒ UNEP Guidance on the Development of Legal and Institutional Infrastructures and Measures for Recovering the Costs of National Administration (UNEP LIRA-Guidance)

The approach underpinning UNEP Chemicals Mainstreaming Programme aims to raise awareness of the need and build capacity for improved integration of chemicals management into development agendas, and ultimately to mobilize sustainable financing for SMC⁴.

The increasing emphasis on country-driven programmatic approach to economic and social development provides a strong rationale for the integration of Sound Management of Chemicals (SMC) priorities into national development planning processes. In this process, strengthened inter-sectoral collaboration amongst the broad spectrum of national institutions that regulate chemicals is required for coherent risk-reduction strategies to emerge. As well, improved demonstration of economic costs of chemicals mismanagement is required to convince finance policy-makers to invest in SMC at the national and international levels. Finally, the development comprehensive proposals, including realistic budgeting considerations, is required for being able to actually mobilize finance within the budget allocation process for the mainstreamed priorities.

As part of this approach, the Guidance addresses the development of such proposals with regard to legal and institutional infrastructures⁵ for SMC. In line with SAICM, the scope of the Guidance includes “agricultural and industrial chemicals, with a view to promoting sustainable development and covering chemicals at all stages of their life-cycle, including in products”⁶.

Since they provide the framework to implement chemicals management policy, these infrastructures can be seen as the backbone of national efforts towards SMC. Legislation defines the specific objectives to be reached; roles and responsibilities of the stakeholders involved; instruments and tools that can be used, and therefore distribution of costs between stakeholders. Institutional arrangements give operational reality to the policy by organizing the available resources (human, technical, financial) for decision making implementation, enforcement and compliance.

2. Managing the Placement of Chemicals on the Market for SMC

Comprehensive chemicals management frameworks include measures for managing chemicals at every step of their life-cycle – from production to disposal – as well as the promotion of innovative approaches for chemicals management by every stakeholder. This involves a significant body of national legislation and institutional frameworks. Most countries, and especially DCs and CEITs, have yet been unable to establish complete supports for SMC. In general, chemicals risk management is partly covered (if at all), under several pieces of legislation (such as environment, waste, work environment, consumer safety, rescue services, transport, agriculture, trade, industry etc.) and splits various activities across different ministries.

Several guidance documents have been developed on comprehensive national policies and programmes for the sound management of chemicals⁷. However, tackling gaps and inconsistencies in the whole chemicals management legal framework at the same time would certainly prove very demanding, especially in the context of scarce capacity and resources characterizing most DCs. There is therefore a pressing need for prioritization.

A logical first step to facilitate chemicals control throughout supply-chains is the development of coherent legal and institutional infrastructures governing the placement of chemicals on the market. Regulating the placement of chemicals on the market is particularly in line with SAICM's approach to the sound management of chemicals, as:

- ⇒ Principles for the management of the marketing of chemicals apply generally to all chemicals, and involve relatively similar legal and institutional developments for all categories of chemical substances/flows;
- ⇒ Upstream chemicals management allows the adoption of preventive measures to manage chemicals negative impacts;
- ⇒ The focus on the clarification of mandates, powers, roles and responsibilities of key stakeholders, on requirements for information generation, dissemination and integrated management and on key bans and restrictions enables and facilitate management of later steps of the chemicals life-cycle;
- ⇒ The development of legal and institutional infrastructures governing the placement of chemicals on the market is a cost-effective solution for strengthening national chemicals management systems, as it involves few regulated entities (importers, distributors, producers/ manufacturers), and impacts the whole supply-chain.

3. Key principles underpinning this Guidance

In line with the UNEP Chemicals Mainstreaming approach, the following key principles should be kept in mind when working on the development and/or strengthening of legal and institutional infrastructures governing the placement of chemicals on the market in DCs and CEiTs:

- The review of legal and institutional infrastructures should be **part of an integrated, lifecycle chemicals management strategy**. Where no SMC policy is in place, the review of chemicals management legal and institutional infrastructures should provide the first step for the development of such a strategy;
- Legislation governing the placement of chemicals on the market and institutional arrangements for decision-making, implementation and enforcement should provide the **foundational capacity**⁸ for lifecycle chemicals management;
- **Strong inter-sectoral and multi-stakeholders collaboration mechanisms** for SMC should be established;
- The review should follow a **sound planning process** in order to ensure the development of coherent, comprehensive and realistic action plans, as well as sustainable financing for the proposed developments.

4. Objectives

This guidance aims to provide practical, step-by-step support to policymakers for strengthening national legislation and institutional set-ups for achieving sound management of chemicals, including measures for financing necessary national administration supports.

The guidance includes a consideration of what structures countries typically need at a minimum, and which ones are useful to countries that are in the process of improving existing systems for better addressing chemicals management goals. Though of a general nature in order to accommodate for various national contexts, discussions contained within are tailored for the specific conditions of DCs and CEiTs.

Specifically, the objectives of this guideline are to:

- I. Assist countries in reviewing their legal and institutional infrastructures in a step-by-step process, with a focus on the development and financing of an action plan for national strengthening SMC regimes;

- II. Propose options for organizing the legal and institutional infrastructures governing the placement of chemicals on the market, including legislation and institutional arrangements given the national context;
- III. Identify the main elements that should be considered when developing or strengthening legislation governing the placement of chemicals on the market, and discuss options for addressing these elements in line with the national situation;
- IV. Provide tools for ensuring sustainable financing, including cost recovery measures and access to national budget allocation process.

The Guidance also provides practical tools (legislation template, case studies) for assisting users of these guidelines in meeting their development/ strengthening of a comprehensive chemicals management framework.

II. Reviewing Legal and Institutional Infrastructures Governing the Placement of Chemicals for SMC

The process proposed in these guidelines aims at the development and financing of an action plan for strengthening legal and institutional infrastructures governing the placement of chemicals on the market as part of a lifecycle chemicals management policy.

As a policy-driven process, the review should be based on sound planning. Three elements are therefore key for successfully strengthening the legal and institutional infrastructures governing the placement of chemicals on the market:

- ⇒ **Participatory:** Participation of key stakeholders throughout the process is critical. This allows for all available information to be collected, and ensures broad political support for the proposed developments. In addition, the review process being a multi-disciplinary exercise, inclusion of experts from the various field of expertise involved (law, chemistry, economics, etc.) is required.
- ⇒ **Evidence-based:** When developing an action plan for advancing the national chemicals management agenda, it is of utmost importance that country practitioners base their work on a sound analysis of the current country situation. Such analysis provides the basis for selecting and developing relevant policy options. As such, it also provides a strong justification for financing of the proposed developments.
- ⇒ **Targeted:** In order to ensure agreement support for the proposed developments, the process should be transparent and in accordance with national procedures. In addition, the results need to be conveyed in formats and styles relevant to SMC decision makers. This notably involves the development of economic arguments, including the use of economic tools such as Cost Benefit Analysis (CBA).

A. Three National Contexts for Undertaking a Review of Legal and Institutional Infrastructures

The review of the national situation with regard to legal and institutional infrastructures for SMC should build on existing structures and information as far as possible. This will ensure efficient use of limited resources and ensure continuity. In particular, the process proposed in these guidelines intends to build on the work done as part of the development of the UNITAR National Chemicals Management Profile and of the UNDP-UNEP Partnership Initiative.

For the purpose of these guidelines, the three following types of pre-existing national contexts are therefore considered.

- a) Countries where:
 - ⇒ No inter-sectoral coordination mechanism exists;
 - ⇒ No analysis of the national SMC situation has been performed.

These countries will begin the process by establishing an inter-sectoral coordination mechanism as part of the project structure. In addition, in line with the approach of the guidance, preliminary investigations on the state of chemicals management in the national development context should be conducted. This is critical for positioning the strengthening of legal and institutional infrastructures governing the placement of chemicals on the market in the national development agenda, as a basis for the development of an integrated, lifecycle chemicals management policy.

- b) Countries where:
 - ⇒ Some inter-sectoral coordination mechanism has already been created;
 - ⇒ An analysis of the main issues (and needs) for SMC has been conducted.

This typically applies to countries having developed a UNITAR National Chemicals Management Profile. Mechanisms created as part of the project have sometimes been left aside of the policy-making process after the project completion; these mechanisms need to be revitalized and their

mandate extended. In addition, these countries have already conducted an analysis of their SMC situation and their major needs in this regard. Such analysis provides a valuable basis for the deeper assessment proposed in these guidelines. This assessment can therefore focus specifically on positioning the work into the national development agenda and on the detailed evaluation of needs and solutions for strengthening legal and institutional infrastructures governing the placement of chemicals on the market.

c) Countries where:

- ⇒ A functional Inter-Agency Coordination Mechanism (ICM) and Multi-stakeholder Workshop (MSW) is in place;
- ⇒ An analysis of the situation and needs with regard to SMC has been conducted;
- ⇒ SMC priorities have been mainstreamed in the national development agenda.

UNDP-UNEP Partnership Initiative country projects provide the foundation for strengthening national SMC systems. Countries having undertaken such projects have functional inter-sectoral collaboration mechanisms for SMC and have clearly identified SMC priorities in the national development context. These countries have a strong basis for positioning the strengthening of legal and institutional infrastructures governing the placement of chemicals on the market in an integrated lifecycle chemicals management policy, and can therefore directly start with a solution oriented assessment.

B. Main Phases of a Review Process

The process proposed in these guidelines involves five main phases. These phases are designed to allow countries in the three contexts described above to undertake such a review of legal and institutional infrastructures governing the placement of chemicals on the market for strengthening national SMC systems. Countries of contexts b) and c) from Section A can focus on the phases not performed already.

1. Mobilisation Phase

i Establishing an institutional structure

At first, an institutional structure should be established for the project. This structure should at least include a project director and a project coordinator. As well, inter-sectoral coordination mechanisms involving all the key stakeholders should be set up.

These include an Inter-Agency Coordination Mechanism (ICM) with participation of the key public bodies (a list of ministries/ agencies typically involved in chemicals management is presented in annex 2). The ICM should also include representatives from local authorities, and focal points/ Designated National Authorities (DNAs) of the chemicals Conventions. A consultative Multi-Stakeholders Workshop (MSW) should also allow for non-governmental stakeholders participation in the process.

Depending on the capacity and resources available for the project, multi-disciplinary Technical Task Teams can also be established for the technical work.

ii Initial review

The review of legal and institutional infrastructures governing the placement of chemicals on the market as a basis for sound management of chemicals requires an analysis of the state of these infrastructures as part of the broader national framework for lifecycle chemicals management. In line with the approach of the UNEP Chemicals Mainstreaming Programme, this also involves consideration of the integration of chemicals management policy into national development planning and knowledge of the budget allocation process, in order to ensure sustainable financing for the proposed developments.

Key questions to be considered in this regard include:

- ⇒ What current Knowledge of Chemicals Production, Imports and Uses and Related risks in the Country exists?
- ⇒ How is Chemicals Management integrated in the National Development Agenda?
- ⇒ What is the Prioritization of Chemicals Management Issues?

- ⇒ What is the Budget Cycle (and other policy cycles)?
- ⇒ Who are the Key Stakeholders for Chemicals Policy Making and Implementation?
- ⇒ What are the Experiences of Similar Processes in other Countries of the Region?

2. Baseline Analysis and Solutions Assessment

The goal of this phase is to evaluate the gaps and needs of the country with regard to the legal and institutional infrastructures governing the placement of chemicals on the market, and to assess the possible solutions for strengthening these infrastructures. It provides the evidence-base needed to develop efficient and cost-effective solutions as well as convincing arguments for mobilizing finance for these.

The phase is divided in two parts:

- a) Collection and analysis of information on the country situation
- b) Assessment of the possible solutions

i Basis for assessing the national situation

The analysis of the baseline situation with regard to legal and institutional infrastructures governing the placement of chemicals on the market should take into consideration at a minimum:

- ⇒ The existing legal framework for chemicals management, including all legislation related to chemicals, in order to determine if there are gaps and inconsistencies in legislation governing the placement of chemicals on the market.

The analysis of the legal framework should include a review of:

- The prime or source law (e.g. the constitution of the country) that gives authority to develop legislation in the area of SMC. The scope of the source law is therefore critical for the review, as it normally clarifies key elements such as: the definition of ministerial powers, the division of powers between levels of government, the extension of protections for private property, the extent of protection for human rights, the definition of groups with unique rights, the ownership of natural resource, etc.
 - Laws (primary legislation) applicable to chemicals management. Laws should clearly define the principles on which a specific policy rests, as well as the roles, responsibilities and obligations of government bodies, industry, enforcement bodies, and any other group or individuals to which the law applies. Analysis of the existing laws should include all laws that pertain to chemicals management. It should also include an analysis of major implementation gaps in existing laws.
 - Regulations (subsidiary legislation). The review should focus on assessing if there are any major gaps in regulations governing the placement of chemicals on the market, as regulations often are required to give operational reality to the laws. Where gaps in regulations are found, the adequacy of the legislative authority to fill these gaps should be evaluated.
 - Rules of procedures. These rules play a key role for implementation of chemicals law as they provide the standard procedure to be followed for enforcement of this law and allow the courts to impose government policy on chemicals. This is a separate requirement to consider as rules of procedure must adhere to more than just the chemicals legislation in being consistent with other aspects of constitutional law, civil rights law, due process in criminal law, etc. This aspect is oftentimes forgotten when reviewing/developing new legislation, resulting in difficulties for ensuring enforcement of the requirements.
- ⇒ The administrative structure and institutional arrangements in place for chemicals management at the three levels of national administration (policy, management, enforcement) to assess possible gaps, overlaps and inefficiencies in the organization of national administration. This analysis should in particular focus on:
 - Existing authorities at the three levels
 - Coordination and cooperation mechanisms

- Available capacity and expertise
 - Information management systems
 - Monitoring and Surveillance systems
- ⇒ The current situation with regard to financing of the infrastructures, including existing cost recovery measures. This will allow for the development of a resources mobilization strategy for the proposed developments. Attention should be paid to:
- Current sources of funding (national and international)
 - Existing cost recovery measures
 - Legal basis for financing mechanisms
 - Organization of national administration for resources mobilization
 - Revenue collection and allocation mechanisms

ii Assessment of possible solutions

The map of the gaps in the existing regime governing the placement of chemicals on the market would then serve as the basis for the second part of the BASA, the solutions (and opportunities) assessment. This part involves three distinct actions:

- ⇒ First, the main gaps and needs should be determined based on the results of the baseline analysis.
- ⇒ Second, possible solutions should be identified based on a clear problem statement and of the goal for the process of strengthening legal and institutional infrastructures governing the placement of chemicals on the market, including opportunities for developing cost recovery systems.
- ⇒ Third, an assessment of the possible solutions should be performed. Several tools can be used in this regard. The possible tools should be considered with regard to the targeted audience. In particular, Cost-Benefit Analysis can be very useful for development of strong justification for convincing finance policy-makers to invest in the proposed developments.

3. Design of Policy Options

The detailed assessment will allow selecting the most relevant solutions in the country situation, and possibly prioritizing these solutions for phased implementation. Prioritization should be as transparent as possible and rest on relevant arguments. Based on the conclusions of phase 2., the selected policy options should be designed, including the development of:

- i. Legislative proposals
- ii. Proposals for institutional arrangements
- iii. Cost recovery measures, where appropriate

i Development of legislative proposals

The development of legislative proposals should include three main components:

- ⇒ Consolidation in a new law/ harmonization of existing laws governing the placement of chemicals on the market
- ⇒ Development of key regulations
- ⇒ Amendment of related sectoral legislation

ii Development of proposals for institutional arrangements

The development of proposals for institutional arrangements may include:

- ⇒ Reorganization of existing administration/ arrangements
- ⇒ Creation of new bodies/ arrangements
- ⇒ Development/ reform of information management system
- ⇒ Reorganization of human and technical capacity

iii Design of Cost Recovery Measures

The design of measures for recovering the costs of national administration should include:

- ⇒ Necessary legislative phases to enable chemicals management to use cost recovery measures

- ⇒ Key design elements for proposed cost recovery measures

4. Development of a Business Plan

A business plan for the implementation and enforcement of the proposed developments should then be developed, including:

- ⇒ An analysis of the cost of the proposed infrastructures (incremental and operational)
- ⇒ An analysis of the possible funding sources, including a realistic timeline for availability of funding from the different sources
- ⇒ Development of a resources mobilization strategy

Analysis of the costs of the proposed developments and of the funding sources is critical for ensuring sustainable financing of the infrastructures. It also provides the basis for convincing finance policy makers of the viability of the proposals and of the benefits of investing in preventive chemicals management for the country's development. To this end, the use of the results of targeted assessment tools (such as Cost Benefit Analysis) should be considered.

5. Approval and Financing of the Plan

Political-level adoption of the plan is critical for the successful financing and implementation of the proposed developments. In particular, legislative proposals might require parliamentary approval to be enacted and it is therefore crucial to inform parliamentarians of the rationale for and value of the proposed developments. In addition, the plan should be presented to finance policy-makers as part of the national budget allocation process in order to ensure the required financing for the proposals.

The activities of this phase may certainly be different from country to country given the unique political cultures, institutions and processes. With informing and raising awareness among policy-makers being key for ensuring approval and financing of the plan, the development of targeted information material should be considered.

C. Key Elements for Strengthening Legal and Institutional Infrastructures Governing the Placement of Chemicals on the Market

The guidance aims to assist the strengthening of legal and institutional infrastructures governing the placement of chemicals for SMC in countries facing various chemicals management situation. Particularly important to consider in this regard is the way chemicals enter the national market; through imports, manufacture, and/or illegal traffic. In addition, countries using the guidance may be at different stages of development of their national chemicals management infrastructures, and the measures adopted need to be targeted to their specific situation.

The table 1 below presents the elements to be considered for strengthening legal and institutional infrastructures governing the placement of chemicals on the market in four typical country situations related to the way chemicals enter the national market. These elements are organized in four categories representing the main components of legal and institutional infrastructures for chemicals management⁹:

- ⇒ Organizational structure
- ⇒ Knowledge-base
- ⇒ Protective measures
- ⇒ Compliance schemes

The key elements presented in the first column of the table are the fundamental elements forming the basis of a national SMC system. Once these are in place, the system can then be developed by adding elements from the three other columns according to the country's situation and needs.

Table 1: Key Elements of Legal and Institutional Infrastructures Governing the Placement of Chemicals on the Market in Four Typical Country Situations					
Country Situation		Import; illegal traffic	Import, some manufacturing; Illegal traffic	Import, manufacture; Illegal traffic	Import, manufacture
		small amounts, pesticides; disinfection chemicals	pesticides; fertilizers; disinfection chemicals; fuels	Pesticides; fertilizers; disinfection chemicals; metals; inorganics; basic bulk chemicals; specialty chemicals; production chemicals; PBTs; CMRs; historical chemicals	Pesticides; fertilizers; disinfection chemicals; metals, inorganics, basic bulk chemicals; specialty chemicals; production chemicals; PBTs; CMRs
Key Elements	Organizational structure	- Clear Mandates at the three levels of national administration	- Clear Mandates at the three levels of national administration	- Clear Mandates at the three levels of national administration	- Clear Mandates at the three levels of national administration
		- Inter-Agency Coordination Mechanism (ICM) - Pesticide board	- Inter-Agency Coordination Mechanism - Pesticide board - Other technical committee(s)	- Inter-Agency Coordination Mechanism - Pesticide board - Other technical committee(s)	- Inter-Agency Coordination Mechanism - Pesticide board - Other technical committee(s)
		- Clear allocation of public and private sectors responsibilities - Companies at least responsible for generation and dissemination of information on chemicals properties, hazards, risks and safe handling of chemicals	- Clear allocation of public and private sectors responsibilities - Companies at least responsible for generation and dissemination of information on chemicals properties, hazards, risks and safe handling of chemicals	- Clear allocation of public and private sectors responsibilities - Companies at least responsible for generation and dissemination of information on chemicals properties, hazards, risks and safe handling of chemicals	- Clear allocation of public and private sectors responsibilities - Companies at least responsible for generation and dissemination of information on chemicals properties, hazards, risks and safe handling of chemicals

Knowledge-base	- Use of existing information (inter-sectoral, national/international) - Information collection based on instruments; - Classification and labelling, registration/ authorization, licensing, verification and monitoring	- Use of existing information (inter-sectoral, national/international) - Information collection based on instruments; - Classification and labelling, registration/ authorization, licensing, verification and monitoring	- Integrated Surveillance System for categories of very-high concern chemicals - Partnerships with Universities, Research Institutes	- Integrated Surveillance System for categories of high concern chemicals
	- Register of highest concern chemicals (pesticides, biocides) - Inventory of primary suppliers of substances of particular interest for the country (Info: supplier's name, chemicals supplied)	- Register of highest concern chemicals (pesticides, biocides) - Inventory of data on import and manufacture of pure substances (technical quality) of particular interest for a country; possibly incl. volume data/classification	- Register of highest concern chemicals (pesticides, biocides) - Inventory of import and manufacture of mixtures in certain groups of chemicals (lubricants, paints, glues etc.) of particular interest for a country; possibly incl. volume data/classification	- Register of highest concern chemicals (pesticides, biocides) - Inventory of hazardous components in classified mixtures; in certain groups, group by group, possibly percentages of components, etc.
	---	---	- Limited notification scheme for the "new" chemicals not produced and registered elsewhere	- Notification scheme for "new" chemicals
Protective Measures	- WHO Classification Labelling	- WHO Classification or GHS	- GHS	- GHS
	- Bans and restrictions; very-high concern chemicals (including MEAs-chemicals)	- Bans and restrictions; very-high concern chemicals (including MEAs-chemicals)	- Bans and restrictions; very-high concern chemicals (including MEAs-chemicals)	- Bans and restrictions; very-high concern chemicals (including MEAs-chemicals)
	- Registration/ authorization for very-high concern chemicals	- Registration/ authorization for high-concern chemicals	- Registration/ authorization for high-concern chemicals	- Registration/ authorization for high-concern chemicals
	- Licensing of primary suppliers/ of high volume/ very-high concern chemicals	- Licensing of primary suppliers of high volume/ high concern chemicals	- Licensing of primary suppliers of high volume/ high concern chemicals	- Licensing of primary suppliers of high volume/ high concern chemicals

		- Import/export licenses for high volume/ very-high concern chemicals - Control of illegal traffic	- Import/export licenses for high volume/ high concern chemicals - Control of illegal traffic	- Import/export licenses for high volume/ high concern chemicals - Control of illegal traffic	- Import/export licenses for high volume/ high concern chemicals - Control of illegal traffic
	Compliance scheme	- Inspections prioritized on very-high concern chemicals - Reference laboratory - Qualitative testing for monitoring and verification purpose - Reporting upon request	- Inspections prioritized on high concern chemicals - Reference laboratory - Quantitative testing for monitoring and verification purpose - Reporting upon request	- Inspections prioritized on high concern chemicals - Reference laboratory + district laboratories - Quantitative testing for monitoring and verification purpose - Regular reporting and upon request	- Comprehensive inspection system - Comprehensive laboratory network - Regular reporting and upon request

III. The Organization of Legal and Institutional Infrastructures Governing the Placement of Chemicals on the Market

A. Organization of Legal Requirements Governing the Placement of Chemicals on the Market

Depending on the country's legal tradition and system, specific legislation is comprised of various documents (laws, acts, decrees, regulations, bills, notifications, ordinances, guidelines, rules of procedure, etc). While each of these has its specificities, they can generally be grouped in two main categories: statutes enacted by the national legislating body (laws), and regulations (all subordinated enactments).

The decision on which elements to include at the level of law and which to include in subordinate enactments is to be made based on the national legal tradition and structure. However, a general principle is that the law should be kept as basic as possible, so as to ease parliamentary approval and leave flexibility to the responsible authority for its implementation. Technical details and requirements likely to be modified should be relegated to regulations.

1. Laws

For the purpose of this Guidance, law is defined as parliamentary level legislation – statute enacted by the national legislative body (i.e. the Parliament). The law on chemicals management will clearly define the principles on which a specific policy rests, as well as the roles, responsibilities and obligations of government bodies, industry, enforcement bodies, and any other group or individuals to which the law applies.

As they have to be passed by a legislature or some other national legislative body, laws can be difficult to amend over time. As several elements of the management of the placement of chemicals on the market are highly technical and might need to be updated regularly, including them in law can be impractical. Therefore, typically, the specific purposes of the legislation are introduced and the responsibilities are defined in a general way with further details included in secondary forms of law-making such as regulations. Box 1. lists some of the essential components of a law governing the placement of chemicals on the market.

Box 1. Main structural components of a law governing the placement of chemicals on the market

- ⇒ Clear indication of the **objectives** and **scope** of the law, and **definitions** of key terms used in the law.
- ⇒ **An organizational structure** which clearly delineates the roles and responsibilities of key stakeholders, establishes the authority and ability to control chemicals and co-ordinates related management efforts.
- ⇒ **A knowledge base** to collect, interpret and disseminate information used to support decisions about which chemicals are acceptable for use and under what conditions;
- ⇒ **The establishment of preventive and corrective measures** designed to ensure the proper importation, production and use of chemicals
- ⇒ **A compliance scheme** to monitor, enforce and promote observance of legislative provisions
- ⇒ Clear indication of the **effective date**

Adapted from: IPCS-IOMC (August 1998); p 41.

2. Regulations

For the legal regime to be implemented, there can be no gray or poorly defined areas of obligation. Regulations are used to give details which clarify responsibilities, requirements and obligations set out in the law, and therefore give operational effect to it.

As regulations normally do not need to be approved by the Parliament but rests on the authority attributed to ministries and/or agencies in law, they are more easily revised. This is particularly suited for defining specifics of highly scientific, technical issues, tools and instruments, as these tend to vary significantly depending on the chemical substance(s) considered and with evolving knowledge. Including such requirements in regulations allows for more flexibility.

Regulations should in any case be developed on the basis of the general law(s) they are based on (i.e. using the same definitions), and requirements established in regulations should be consistent with those of the law. Requirements not underpinned by the law can easily be challenged. In addition, regulations should be developed in the view of comprehensively addressing the issue, so that the system established remains in place if the law is repealed¹⁰.

B. Advantages and Disadvantages of a Framework Law

Two main options can be envisioned when considering how best to tackle fragmentation in regulatory regimes, depending on the country situation (legal tradition, existing legal structure, etc.). One approach is to consolidate legislation governing the placement of chemicals on the market by gathering the general requirements into a single law – laying down an institutional structure and principles, and leaving the details to be developed into specific subsidiary instruments. A second choice is to harmonize the various requirements governing the placement of chemicals on the market by amending existing laws and regulations.

1. The Advantages of a Framework Law

Some countries seeking to better govern the placement of chemicals on the market have favored creating a unique framework law distinct from – but linked to – other related legislation (i.e. environmental protection, workers protection, etc.).

Several arguments can be made in favor of this approach:

- Organization of general principles, roles, responsibilities and obligations for managing the placement of chemicals on the market is relatively similar for all chemicals and relatively invariable in time, therefore not requiring frequent amendments or updates. Organizing these general requirements in a single law governing the placement of chemicals on the market provides an opportunity to improve coherence and concentration of the legislation governing the placement of chemicals.
- In turn, coherent general requirements regarding placement of chemicals on the market will facilitate implementation and enforcement, and therefore reduce the costs of enforcement and increase efficiency of the legislation. This also makes it easier for authorities and companies to implement and comply with the obligations set out.
- In addition, as these legal requirements mainly target primary suppliers, concentration in a single law will ease access to the law by concerned stakeholders, again facilitating compliance.
- Because of its market and trade focus, legislation governing the placement of chemicals on the market requires a high level of international harmonization (i.e. compliance with the international trade agreements the country has ratified). Having a law governing the placement of chemicals on the market separate from other chemicals management legislation is therefore more convenient.
- Several important aspects of the chemicals-related MEAs (i.e. Rotterdam, Stockholm and Basel Conventions, International Labour Organization (ILO) Convention 170 concerning Safety in the Use of Chemicals at Work, etc.) are related to chemicals access to the national market. Including these aspects into a single framework law governing the placement of chemicals on the market therefore contribute to a more coordinated implementation of these conventions.

2. The disadvantages of a Framework Law

However, concentration of requirements into a framework law governing the placement of chemicals on the market can also include several challenges:

- Gathering elements for governing the placement of chemicals on the market can lead to concentration of powers in one particular ministry, i.e. environment, which may not be the most appropriate solution in all contexts given the relative capacity of ministries/agencies to meet their responsibilities.
- More generally, concentration of measures governing the placement of chemicals on the market might involve the redefinition of mandates on which ministries base their actions. This can generate resistance from ministries potentially “losing” parts of their current mandate. However, for most countries this will not be a problem as there is no existing legislation in the field.
- Gathering requirements governing the placement of chemicals on the market into one framework law, with regulations attached, can also require revising and amending many different laws, and might therefore give rise to temporary increased work loads and costs;
- Implementing cost recovery/earmarking measures generally is regulated in other, fiscal or budgetary laws, and it is often not possible to bring these requirements into a general chemicals law;
- In some countries, framework law may be uncommon and therefore difficult to develop, distracting resources from more important objectives¹¹.

Whatever the choice, the structure of legislation governing the placement of chemicals on the market must be coherent and appropriate to the national context.

It is crucial, however, that measures governing the placement of chemicals on the market are underpinned by a coherent strategy in order to avoid gaps and inconsistencies. Such a strategy should preferably be part of a general lifecycle chemicals management policy. This will ensure coherence and comprehensiveness of chemicals management legislation throughout the life-cycle, and facilitate high-level political buy-in and the mobilization of required financing for implementation and enforcement (see Section I.C.3).

For ease of access by regulated entities and the general public, it is recommended that legal requirements governing the placement of chemicals on the market are gathered in a single document. Structured presentation of these requirements can for example be provided in a booklet, on a website, or in a CD-ROM, depending on the technical means available to the regulated entities¹². Generally, these collections of legal requirements regarding a specific topic are provided in multiple formats in order to be broadly available for use by the regulated entities.

C. Organization of National Administration

1. Mandates of Public Bodies

Typically, many public bodies participate in the various activities involved with the management of the placement of chemicals on the market. Management activities include:

- Issuing specific regulations;
- Providing technical support for policy-making;
- Daily coordination and management of chemicals management programmes;
- Testing and verification of information on chemicals properties, hazards and risks;
- Decision making on the registration of products and the issuance of licenses;
- Maintaining and updating inventories;
- Conducting inspections;
- Monitoring;
- Issuing injunctions;

- Preparing reports for public disclosure.

A list of the sectoral ministries generally engaged in some aspect of chemicals management is presented in annex 2.

Clarity and coherence in the allocation of mandates between public bodies is key to the efficiency and cost-effectiveness of the regime. Clear legal mandates establish the basis for the overall organization of institutional arrangements for chemicals management, while provision of adequate powers to responsible authorities ensures their ability to fulfill their mandate.

Mandates for these activities are to be clarified at the three main levels: the policy level, the management and implementation level, and the enforcement level. Clarity of mandates at the policy level, based on a common view between the various ministries on chemicals risks in general and how to manage them, ensures that each ministry involved has a specific role to play in management and enforcement activities and is going to cooperate for these activities. At the management level, clarity of mandates and powers ensures that daily management of the legislation (including coordination of implementation activities and issuance of regulations) is efficiently and cost-effectively organized between participating agencies. Clear mandates at the enforcement level ensure that there are no gaps, duplication and overlaps in inspections and monitoring activities, so that compliance can be ensured cost-effectively.

One approach for revising the allocation of mandates of public bodies would be to concentrate these into as few public bodies as possible. Concentration avoids duplication and conflict over mandates, is cost-effective and easy to access. In order to avoid problems such as lack of capacity to undertake the wide variety of tasks involved in holding broad mandate for implementing chemicals management policy, an efficient allocation and use of resources should be assured. In addition, when legal reform entails taking mandates away from institutions to place them in one single body it can give rise to internal resistance to proposed chemicals management policies.

Another approach is to identify areas of responsibility where duplication, gaps or lack of clarity are observed in existing public bodies mandates and to explore opportunities for improved synergies. Solutions for improving allocation of public bodies' mandates can include, depending on the situation:

- Reallocation of mandates towards more qualified bodies
- Undertaking of joint activities (i.e. joint inspections)
- Sharing of resources (finance, technological means, information, expertise)
- Harmonization of methods and procedures

However, it is to be noted that the more dispersed mandates are between public bodies, the more resources will be needed for coordination efforts. A careful assessment of the advantages and drawbacks of different approaches (including costs and benefits) should be performed in the country situation.

Table 2. An Overview of Pros and Cons for Concentrated and Coordinated Administrative Structures

Administrative Structure	Pros	Cons
Concentrated	• Avoiding overlaps/gaps in mandates and activities • Clarity and transparency • Cost-efficient	• Might be difficult to establish due to required reorganization of political mandates • Might need to get new expertise (by hiring or from outside) • Might not have the required capacity to perform the tasks
Coordinated	• Might be easier to reach consensus • Sharing of existing expertise • Specific responsibility allocated to the agency which has the capacity	• Requires more coordination and cooperation to avoid gaps/overlaps • Might be more costly • Might be less transparent and clear

2. Organization for Resources Mobilization

A key –though often neglected– element for ensuring the availability of the required resources is the establishment of institutional mechanisms enabling access of national chemicals management administration to national budget allocation process.

The development and mainstreaming of an integrated, cross-sectoral chemicals management policy, the demonstration of the benefits of investing in preventive measures, and the design of cost recovery measures with appropriate revenue collection and allocation procedures all facilitate the mobilization of finance for the regime. But these arguments ultimately need to be fed into the national budget process in the right form and in a timely manner in order to convince the budget allocation decision-makers to effectively allocate the required amount of finance for the proposed developments.

It is therefore critical to dedicate administrative resources and efforts towards effective participation of the national budget, based on a clear understanding of the functioning of the budget planning and allocation processes.

3. Information Needs and Exchange

The use of information is key for the development and sustaining of knowledge-based chemicals management systems. Information is the basis for designing a realistic chemicals management policy, for classifying chemicals and prioritizing regulatory actions, for making informed decision on which chemicals can be supplied and under which conditions, and for effective implementation and enforcement of the legislation.

Given the number of chemicals in circulation, the extent and diversity of data needed and the resources and capacity required for analysis and interpretation, the availability of information is often seen as an important issue for developing countries where such information is sorely lacking.

As a first step, validated information from other countries or international bodies can be used as a basis for national chemicals management. In addition, setting up mechanisms for cross-sectoral information exchange can also help uncover a significant amount of information. Such mechanisms can then provide the foundations for the establishment of integrated information management systems required for informed decision-making.

i Main Types of Information

Various types of information are required throughout decision-making, management and enforcement of the legislation. The key types of information include:

- **Flows of chemicals in the country** (including imports, exports, sales, manufacturing). Such information provides knowledge of the country situation with regard to primary supply of chemicals (imports, manufacture). Such knowledge is critical to make informed decisions on which chemicals to regulate, as well as on the type and design of the control measures.
- **Properties and hazards of the chemicals** placed on the market. Knowledge of the inherent properties of the chemicals placed on the market is required for classification of chemicals, as a basis for prioritization of regulatory action. As well, product labeling is often based on chemicals hazards.
- **Chemicals risks for human health and the environment** (including exposure monitoring, problem reporting, etc.). While inherent properties and hazards of chemicals provide useful information on their potential effects, the practical risks of chemicals also depend on the mode of use and exposure. Control measures such as registration/ authorization generally rely on localized risk assessments.

ii The Use of International Sources

A significant amount of information can be collected from international sources. This especially regards information on scientific assessments of chemicals properties, hazards and risks made in developed

countries or by international organizations, but also information on existing systems for and experience in regulating the flow of chemicals, international guidelines and methodologies, etc.

Such existing information can to a certain extent be useful for other countries, and use should be made of it as far as possible as it will avoid duplication of work and save costs. In addition to the support it provides for national activities, internationally collected information provides a good basis for comparing local exposures with international guidelines, standards, limits and control options¹³.

Internationally available information should however be used with caution. First, only validated sources should be assessed, as information uploaded on the internet is not always reliable. In addition, risk assessments made in countries should be carefully assessed before being applied in the national context. In effect, the evaluation of chemicals risks depends on the specific local conditions (i.e. use patterns, types of ecosystems, etc.), meaning that risks assessment might not be relevant in different conditions.

Countries where such localized information is lacking can make use of information generated in countries with relatively similar conditions. In particular, opportunities of using information produced in the region should be explored, especially in cases of shared conditions and/or ecosystems. Regional or sub-regional cooperation for information sharing can also be valuable (see section D.5 below). In addition to reducing the costs of data generation and analysis, this can allow the development of a broader experience base.

A list of international, regional, national and local sources of information is provided in annex 3.

iii Information Exchange

Better use of existing information can also prove to be very useful. Various agencies and stakeholders collect information related to chemicals supply, use, characteristics and impacts. However, as chemicals management is generally fragmented between various public bodies and non-government stakeholders, information tends to be fragmented too; hampering sound analysis of what is happening in the country and how to effectively take action.

A careful cross-sectoral assessment and analysis of existing chemicals-related information often helps uncover precious information for chemicals management. Therefore, a key need for efficient knowledge-based and integrated chemicals management is the development and ongoing use of mechanisms for information exchange. Several mechanisms can be set up in this regard, including¹⁴:

- ⇒ *Meetings and Forums*
- ⇒ *Designation of Chemicals Focal Points*
- ⇒ *Central Repositories of Chemicals Information/ Chemicals Information Center*
- ⇒ *Shared databases*
- ⇒ *Chemicals Information Website/ Inventory*
- ⇒ *Newsletters, bulletins, etc.* (both hardcopy and electronic)

iv Health and Environment Surveillance

Protecting human health and the environment are two major inter-related goals of a sound management of chemicals policy. In this respect, localized information on chemicals' impacts on ecosystems and human health is critical for informed chemicals management decision-making, implementation and evaluation. However, the lack of such information is often seen as a major issue for DCs with very limited budgets and capacity.

Recent experience as part of the UNEP-WHO Health and Environment Strategic Alliance (HESA)¹⁵ has shown that a significant amount of information on environmental degradations and on health issues is already regularly collected in countries. But improved inter-sectoral coordination for information collection and management could significantly improve strategic analysis of the environmental determinants to health diseases, allowing the design of integrated actions on health and environment.

Health and environment monitoring activities are not strictly part of legal and institutional infrastructures governing the placement of chemicals on the market. However, the review of these infrastructures provides an opportunity to improve health and environment surveillance systems as a basis for chemicals

management decision making by strengthening inter-sectoral collaboration, and information collection and management systems.

D. The International Dimension of the Placement of Chemicals on the Market

The trade-related approach underlying the focus on legislation governing the placement of chemicals on the market requires that special attention be paid to the links between these requirements and the international/ regional dimension of chemicals management.

1. Prevention and Control of International Illegal Traffic of Chemicals

One of the main areas of focus of legislation governing the placement of chemicals concerns bans and restrictions. Of critical importance in this regard is the prevention and control of international illegal traffic of these substances¹⁶.

While this issue is addressed in many specific projects, and is therefore not the main focus of the Guidance, care should be taken to address the elements of illegal traffic related to legal and institutional infrastructures governing the placement of chemicals on the market. The first step is to include trade and customs stakeholders in the inter-sectoral discussions.

Illegal traffic is generally dealt with in specific legislation. However, given the crucial importance of this issue in a trade-oriented approach towards the sound management of chemicals, special attention should be paid to adequately link legislation governing the placement of chemicals with the national legislation for prevention and control of illegal traffic of chemicals (see section A.4 above).

Prevention and control of international illegal traffic is also an important component of the national implementation of chemicals-related Multilateral Environmental Agreements (MEAs) (see sub-section section 5 below). If countries are Parties to these MEAs, international illegal traffic should therefore be addressed as part of the coordinated implementation of these MEAs, in line with international requirements.

2. Compliance with Trade Agreements

Countries undertaking a review of their legislation governing the placement of chemicals on the market will generally be part of at least one supra-national trade agreement. Such agreements are numerous and include the World Trade Organization (WTO) and other international trade agreements, as well as regional/sub-regional trade agreements and integration processes (i.e. customs unions, political integration processes within a region, etc.).

Using the international trade regime as an example, the General Agreement on Tariffs and Trade (GATT) establishes the core legal principles of the WTO with which all Parties must endeavor to comply. Article I sets out the 'most-favored nation' rule whereby tariff and technical barriers to trade exist, all nations are subject to same treatment. Article III establishes the national treatment rule whereby 'like'¹⁷ goods and services of other countries are required to be treated the same under tariff and non-tariff regimes as domestic goods and services. Article XI specifically prohibits the use of import or export bans or quotas, though to date there have been no disputes raised with the Multilateral Environmental Agreements. The environmental exceptions – Article XX – allow parties to adopt measures necessary to protect "human, animal or plant life or health", and exhaustible natural resources, subject to certain conditions¹⁸ and the requirement that measures do not constitute arbitrary or unjustifiable discrimination between countries or a disguised restriction on international trade.¹⁹

Other particularly relevant agreements include the Agreement on Technical Barriers to Trade (TBT), the Sanitary and Phytosanitary Agreement (SPS) and the Agreement on Trade Related aspects of Intellectual Property Rights (TRIPs). International chemicals management links include labeling requirements, human health and environmental standards (particularly under the SPS which deals with "necessary" standards to protect human, animal and plant life and health from hazards associated with international trade of plants,

animals and foodstuffs), and measures to protect intellectual property rights in registration processes for chemical substances.²⁰

The review of legislation governing the placement of chemicals on the market – and any associated cost recovery charges that if only apply at national borders could be viewed as discriminatory measures – should be performed with due attention paid to the links of these requirements with international/regional/sub-regional trade agreements. This is especially important at the stage of selecting and designing the policy measures that will be enforced; so that these measures are in accordance with the trade agreements the country is Party of.

3. Harmonization with International Standards and Norms

Various standards and norms related to chemicals management have been adopted at the international level. These include the FAO Code of Conduct on the Distribution and Use of Pesticides and implementing guidelines, standards on classification and labeling such as the Globalized System for Classification and Labelling of Chemicals (GHS), on the transport of hazardous materials, norms on maximum residue limits of agricultural products, etc.²¹ These standards and norms allows for international harmonization of national requirements, and facilitate international trade. They also provide useful guidelines for the development of national measures.

However, they might not always be relevant or suitable in the country's situation. Examination of their applicability in the country should be performed as part of the review of legal and institutional infrastructures governing the placement of chemicals on the market.

In general, it is advised not to significantly adapt international standards to national conditions, as this would diminish their usefulness in terms of international harmonization and facilitation of trade. However, a certain level of adaptation to national circumstances might be more relevant than simply rejecting the standard.

4. Coordinated Domestication of Chemicals-related Multilateral Environmental Agreements

Various Multilateral Environmental Agreements (MEAs) are dealing with components of the sound management of chemicals. While many aspects of these agreements require relatively similar interventions, national implementation is often managed by different authorities, and has therefore suffered from fragmentation.

Several important aspects of the chemicals-related MEAs (i.e. Rotterdam and Stockholm Conventions, Montreal Protocol, International Labour Organization (ILO) Convention 170 concerning Safety in the use of Chemicals at Work) are related to chemicals trade and placement on the national market, and involve similar requirements such as labelling and classification, provisions for marketing, bans and use restrictions, import/ export control requirements, prevention and control of international illegal traffic, etc.

When examining options for harmonizing/ consolidating legal requirements governing the placement of chemicals on the market, incorporating the requirements of chemicals-related MEAs into this legislation should be considered.²² Furthermore, it is critical to include the MEAs' Focal Points or Designated National Authorities (DNAs) in inter-sectoral mechanisms. This will ensure coordination of national chemicals management activities including chemicals-conventions implementation, and consistency with international chemicals management requirements.

5. Regional Harmonization and Cooperation

Regional/sub-regional harmonization can be beneficial for trade relationships with regional/sub-regional trade partners. Furthermore, engaging in a process of cooperation with neighboring countries can provide opportunities for sharing of knowledge and resources (i.e. by grouping activities at the regional level, sharing expertise, human resources, etc.).

Opportunities for regional/sub-regional harmonization and cooperation should be assessed throughout the process of reviewing national legal and institutional infrastructures governing the placement of chemicals

on the market. Regional cooperation can be initiated through an existing regional agreement where such agreement exists. In addition, such cooperation can be established in a phased approach; starting from cooperation on specific issues (i.e. common criteria for registration/ authorization and mutual recognition of registration/ authorization decisions, sharing of information on chemicals risks and flows, establishment of a shared laboratory network, etc.).

Box 2. International elements to consider in the review of national legislation governing the placement of chemicals on the market

When strengthening their legislation governing the placement of chemicals on the market, countries should:

- ⇒ Take into account the prevention and control of international illegal traffic of chemicals, especially by building appropriate links with legislation on illegal traffic, including international commitments.
- ⇒ Pay attention that the measures adopted for the management of the placement of chemicals on the market do not conflict with the country's obligations with regard to international trade agreements.
- ⇒ Consider harmonizing national measures to international standards and norms, especially the Globally Harmonized System for Classification and Labelling of Chemicals (GHS).
- ⇒ Consistently integrate the trade-related requirements of chemicals MEAs into the legislation governing the placement of chemicals on the market for more coordinated national domestication of these MEAs.
- ⇒ Consider the opportunities for regional/sub-regional harmonization and cooperation.

IV. Main Considerations for Legislation Governing the Placement of Chemicals on the Market

A. General

1. Purpose and Objectives

Legislation governing the placement of chemicals on the market must demonstrate a high level of transparency if it is to be a key driver in providing policy coherency. As such, the purpose and objectives of the legislation must be clearly stated.

The purpose of legislation is generally stated as an introduction to a law (either in a non-legally binding preamble or in the first article). In case harmonization is preferred to consolidation, and no specific law is developed to govern the placement of chemicals on the market, the objectives and scope should at least be stated in an underpinning strategic document. Special attention should be paid that the proposed measures consistently address the same objectives.

Typical objectives include the fulfillment of the country's international commitments, and the protection of human health and the environment. However, objectives more directly related to the country's development objectives should be considered: such as the promotion of safer alternatives, achievement of the Millennium Development Goals, etc. The ultimate goal of Sound Management of Chemicals is to minimize chemicals negative effects on health and the environment to fully benefit from their positive impacts in terms of development. Therefore, the integration of chemicals management policy into national development policy is key for improved efficiency of national activities.

2. Scope

As legislation gives formal reality to a policy, its scope needs to be accurately defined. Accurate definition of the scope of legislation includes the clarification of its coverage in terms of substances, risks and activities. This is to be done in light of the purpose and objective of the policy, and taking into account the links with other existing legislation on chemicals management, which are to be clarified.

i Coverage of Substances

The value-added of legislation governing the placement of chemicals on the market mainly lie in its broad coverage in terms of substances and mixtures, so as to provide a harmonized framework for dealing with trade-related aspects of chemicals management. In that sense, the scope of legislation governing the placement of chemicals on the market should preferably include as many substances as reasonably possible²³.

The management of pesticides is typically regulated separately from other chemicals. This is justified by the intended highly hazardous nature of these substances, and by the high probability of exposure. However, given the similarities between general principles and processes regulating the marketing of these and other chemical substances (industrial, consumer chemicals), it seems appropriate to include these requirements into the scope of legislation governing the placement of chemicals on the market.

The choice of whether or not to include pesticides into the scope of legislation governing the placement of chemicals on the market is to be made in line with the national context. If it is decided to include the management of the placement of pesticides on the market, adequate provisions should be included clearly indicating that the requirements governing these substances will be the responsibility of the competent authorities (i.e. ministry in charge of agriculture) (see section C.3 below).

If the choice is to keep pesticides management separated, attention should be paid to avoid duplication and overlaps in tasks and responsibilities – such as the development of dual systems for managing (i.e. registration/ authorization) pesticides used in agriculture and those intended to other uses (i.e. industrial, household, health protection, etc.). It is recommended to align legislation on industrial chemicals to the

Code of Conduct and its accompanying technical guidelines and to ensure consistency in the implementation of both areas.

Chemicals largely flow into national markets through products and articles, and environment and health risks are in this case due to leakages of chemical substances from these articles. As such, risk management policies and measures should address the risks resulting from chemicals in products. Attention to this issue has only recently been growing internationally. However, several efforts are under way in this regard²⁴, and this area is likely to become more prominent in the near future. Legislation should therefore at least indicate if the risks from chemicals in products are covered and in what way.

ii Coverage of Hazards and Risks

The scope of legislation governing the placement of chemicals on the market should cover hazards and risks, regarding environment, health and property.

This broad coverage of hazards and risks is important as measures and requirements governing the first preventive step of chemicals risks management will influence management at other points of the supply chain. Mismanagement practices at later phases of the lifecycle can be damaging to human health, the environment as well as to property, and it is therefore crucial that legislation on managing the placement of chemicals on the market recognizes these harms and provide a legal basis for the management of chemicals after their placement on the market.

With regards to the protection of human health, chemicals' risks for workers, consumers and the general public should be included, as these groups are all vulnerable to chemicals' negative impacts.

iii Coverage of Activities

The focus of legislation on the placement of chemicals on the market in terms of activities covered must also be clarified.

Legislation discussed in these guidelines focuses specifically on requirements for generation, collection and dissemination of information on chemicals properties, hazards and risks as well as bans and restriction. These measures especially target primary supply of chemicals (manufacture and import), and can include uses to a limited extend (i.e. general measures for safe handling).

iv Links with other Chemicals Management Legislations

Sound management of chemicals is about managing all chemicals at every step of their lifecycle – from production to disposal. Legislation governing the placement of chemicals on the market will therefore always complement other chemicals management legislation (occupational health and safety, environment protection, food quality and safety, illegal traffic, pesticides, pharmaceuticals, etc.).

Consideration of pre-existing legislation is critical for the definition of the scope of legislation governing the placement of chemicals on the market. Careful delimitation of the scope of legislation governing the placement of chemicals on the market with regards to other existing chemicals-related legislation will allow avoiding gaps, overlaps and duplication in the overall lifecycle chemicals management legal framework.

Where specific chemical substances are governed by specific laws (radioactive substances, pharmaceuticals, etc.) including the management of marketing of these, the extent to which they are exempted (or not) from the legislation governing the placement of chemicals on the market must be clearly indicated in setting out the scope (with reference made to alternative legislation, where required).

It is important to take into consideration however that the scope of these laws is often limited and might not encompass all issues of importance for managing the marketing of the substances covered (i.e. raw material and/or environmental impacts are often excluded). Such gaps should be filled either by revising the specific laws, or by including the omitted aspects into legislation governing the placement of chemicals on the market.

In addition, legislation governing the placement of chemicals on the market will in any case operate in parallel with legislation on specific issues (i.e. general environmental protection, workers safety, transport of chemicals, etc.). The relationship between legal requirements governing the placement of chemicals on

the market and other chemicals-related legislation should be made clear – in particular which one takes precedence in case of conflicting requirements.

Box 3. Key considerations on the scope of legislation governing the placement of chemicals on the market

The scope of legislation governing the placement of chemicals should:

- ⇒ Define the coverage in terms of substances, and in case of split responsibilities specify which authority will be responsible for which group of chemicals
- ⇒ Address chemicals' hazards and risks to human health (including workers, consumers and the public), the environment, and property
- ⇒ Indicate the activities covered (i.e. placement on the market, especially targeting manufacture, and import)
- ⇒ Clarify the links with other legislation on chemicals management, including exemptions, with particular attention to the consistency of the requirements governing the placement of chemicals on the market.

3. Key Legal Principles

Enacted in legislation –often incorporated into a law– key underpinning legal principles can provide a useful basis for interpretation of the legal requirements in specific cases brought to the court, and for formulation of jurisprudence. Among the main legal principles encapsulated in SAICM are:

- ⇒ **Prevention:** chemicals should be managed before their negative impacts on health and the environment are observed for more efficiency and cost-effectiveness.
- ⇒ **Precaution:** Where there are threats of serious or irreversible health and/or environmental damage, cost-effective measures should be used even if some cause-and-effect relationships are not fully established scientifically.
- ⇒ **Polluter-pays:** The polluter should bear the costs of pollution prevention and control measures.
- ⇒ **Right-to-know:** Citizen and workers should have the right to know the chemicals to which they may be exposed during their daily life and the related risks for health and the environment.
- ⇒ **Knowledge-based management:** chemicals management decisions should be based on the most up-to-date available scientific understanding of chemicals properties, hazards and risks, communicated effectively through appropriate media, i.e. labels, safety data sheets, etc.
- ⇒ **Transparency:** Public authorities should make rules and measures publicly available.

Enactment of these and other legal principles in the new or revised legislation governing the placement of chemicals on the market should be considered carefully. An assessment of the applicability of these principles in the country situation, and in line with the objectives of the changes proposed, should provide the basis for the decision on which legal principles are incorporated into legislation governing the placement of chemicals on the market.

4. Definitions

Particular attention should be paid to the development of clear, accurate and up-to-date definitions of the terms and expressions used. Ensuring that ambiguity in interpretation of definitions is minimized will allow the legislation to be effectively enforced.

Only technical terms used in legislation (law, regulation) and potentially subject to interpretation should be defined from the start. Several international agreements provide definitions for the most common terms and expressions used in chemicals management. Using these internationally-agreed definitions would ease the definition of the main terms, allow for increased international harmonization and sharing of information, and therefore be beneficial for trade relationships. In order to avoid confusion and distortions

of markets due to unclear definitions, the clarifications elaborated in the GHS are recommended as the starting point for establishing these definitions.

Furthermore, flexibility should be provided to modify definitions if need be, as it is possible that new issues are identified, that new terms and expressions are introduced, and that definitions have to be modified consequently. For the same reason, flexibility should be given to governing bodies to define substances as “toxic” or “hazardous” even despite their categorization under the current definitions.

Special attention should be paid that all terms are coherently defined, so that the list of definitions is internally consistent. In addition, it is critical that all legal documents (laws, regulations, ordinances, etc.) governing the placement of chemicals on the market use the same definition when referring to the same terms. Using internationally agreed definitions would also facilitate such harmonization.

Box 4. Key considerations for the definition of key terms

Definitions of key terms related to the management of the placement of chemicals on the market should:

- ⇒ Be clear, accurate and specific
- ⇒ Encompass all relevant terms in applicable international instruments
- ⇒ Be up-to-date
- ⇒ Be broad enough to include all substances and uses covered under the scope
- ⇒ Be internally consistent
- ⇒ Only include the terms that appear in the legislation (law, regulation)

Adapted from: FAO (2007), *Designing National Pesticide Legislation*, p. 34.

B. Public and Private Sectors Responsibilities

Managing the placement of chemicals on the market has four main objectives²⁵:

1. To generate/ obtain knowledge on chemicals properties, hazards and risks;
2. To disseminate information on hazardous properties of chemicals, and on safe handling procedures;
3. To make informed choices of chemicals in order to avoid hazards;
4. To organize the safe use of chemicals.

Achieving these objectives involves five phases including various activities presented in table 3 below.

Table 3. Main Phases in Managing Placement of Chemicals on the Market

Main Phases	Examples of activities
1. Identification and assessment of chemicals' hazardous properties and risks	• Collection of information on chemicals produced/used in the country • Establishment of requirement for testing and classification • Development of criteria and protocols for testing and classification • Organization and development of capacity for testing, assessment and classification • Pre-marketing testing • Classification of toxicity
2. Dissemination of hazard, risk and safety information	• Development of inventories • Establishment of requirements for labeling • Organization and development of capacity for labeling, and SDSs • Labeling, conveying of Safety Data Sheets • Training and outreach activities for suppliers
3. Making informed choice of chemicals to be placed on the market	• Organization and development of capacity for safe supply • Decision on chemicals to market for low-concern substances • Enactment of bans and restrictions

	• Substances authorization/registration for chemicals of high concern • Licensing primary suppliers (for chemicals of high concern)
4. Organization of safe use	• Establishment of requirements/criteria for safe use (especially for chemicals of high concern) • Decision on chemicals to use for low-concern substances • Development of measures and procedures for safe use • Organization and development of capacity for safe use
5. Compliance monitoring	• License/authorization inspections • Testing verification • Labeling verification • Testing of residues in products • Food monitoring • Monitoring of human health and environment

Managing the placement of chemicals on the market is a shared responsibility between the various stakeholders involved – in particular between public authorities and private companies. The allocation of roles and responsibilities for the tasks involved by such legislation defines the distribution of the costs incurred by these tasks. A fair allocation of roles and responsibilities is therefore critical, so that the costs of managing the placement of chemicals on the market are equitably shared between the public and private sectors²⁶.

In addition, attention should be paid to the respective capacity of public and private sector stakeholders to effectively conduct the tasks they are responsible for, as this will be determinant for successful implementation of and compliance with the requirements. In particular public authorities with very tight capacities and resources should not take responsibility for activities they can't perform.

General roles and responsibilities of the public and private sectors in the management of the placement of chemicals on the market should preferably be stated in a law. Roles and responsibilities related to certain measures that are defined in specific regulations can be specified in these regulations.

The current structure of the global chemicals market – in which private actors generally produce, handle and use chemicals – provides several arguments for allocating the main responsibility for ensuring safe use of chemicals to these actors for the following reasons:

- Given complexity of chemicals processes and uses, the State often doesn't have the capacity to control all the flows of chemicals in the national market;
- On the contrary, producers, importers, handlers and users, private actors and especially chemicals industries are in the best position to manage the chemicals they produce/ use. In particular, producers have the required expertise for assessing the properties, hazards, and possibly risks of the chemicals they manufacture;
- In addition, assigning the main responsibilities for risk management to the private sector is also a way to have private companies internalize the costs of their activities, the costs of some negative impacts (remediation activities, health care costs, etc.) being otherwise taken by the public authorities; and
- Requiring that risk assessments are performed by industry is also generally considered to encourage the private sector to seek less-hazardous alternatives.

In line with this stance, many developed countries have generally transferred significant portion of the tasks involved by sound management of chemicals to the private sector and away from governmental institutions. This approach requires State capacity for ensuring enforcement and compliance with the law. Private companies have the responsibility of performing the main tasks required by chemicals risk management and public authorities have the responsibility to ensure these tasks are performed correctly.

1. Responsibilities of Private Stakeholders

Whatever allocation of tasks between public and private sectors is chosen country situation, the responsibilities of entities which place chemicals on the market have to be clearly defined in the law.

The transfer of obligations to the private sector advocated by many developed countries involves the requirement on the private sector to carry out most of the main tasks involved in the management of the placement of chemicals on the market (See table 3 above). Most importantly, the generation and diffusion of information on chemicals properties, hazards, risks and handling procedures is the priority obligation²⁷.

This can also mean taking responsibility to make informed choices in marketing chemicals for which authorization/registration processes, bans or restrictions in use are nonexistent or not relevant, i.e. precautionary principle. Going further, the private sector is obligated to organize safe use of chemicals when legislation only requires that precautionary measures are taken while leaving the choice of the concrete action to the industries.

Primary suppliers (including producers/manufacturers and importers/distributors) being the main targeted private actors, they should in this approach bear the main responsibilities²⁸.

Typically, producers/ manufacturers are at least made responsible for:

- ⇒ Pre-marketing testing and classification;
- ⇒ Labeling and developing Safety Data Sheets;
- ⇒ Updating the information base when required.

Importers/ distributors are generally at least responsible for:

- ⇒ Conveying information provided by producers/ manufacturers to downstream actors;
- ⇒ Informing downstream actors in case they have identified new information with regards to chemicals hazards and risks.

Users have the minimum responsibility to obtain data and to take into account the risks and safety measures in the decision on which chemicals to use and how.

Other tasks that private sector stakeholders could be encouraged to perform with regard to the marketing of chemicals are presented in Box 5 below.

Box 5. Other possible tasks that companies could be encouraged to perform with regard to the marketing of chemicals

- ⇒ In the countries where they operate, support the efforts of the government authorities to secure a safe use of chemicals throughout the life-cycle;
- ⇒ Develop community right-to-know programmes based on international guidelines;
- ⇒ Fulfill the commitments made at UNCED, and incorporated in Responsible CareTM and product stewardship initiatives, to take responsibility for chemicals which they produce over their entire life cycle;
- ⇒ Implement the UNEP Code of Ethics on the International Trade of Chemicals and the provisions related to industry in the FAO International Code of Conduct on the Distribution and Use of Pesticides;
- ⇒ In the case of trans-national corporations, demonstrate their commitment to adopt standards of operation that are at least as stringent as those existing in their country of origin, wherever they may operate;
- ⇒ Work with industry in developing countries to encourage and support the development and adoption of relevant procedures for risk reduction.

Adapted from IPCS-IOMC (August 1998); p. 65.

When assigning responsibilities to private sector stakeholders, attention should be paid to the capacity of the targeted groups to fulfill the tasks they are responsible for. Small and Medium Enterprises (SMEs) – which in some countries represent a significant portion of the primary suppliers and are key drivers of employment and economic development– might not have the capacity to perform highly technical

assessments. Furthermore, as they often operate on the financial margins, they might not be able to bear the costs of complying.

To assist these, compliance promotion and training programmes can be developed (See Chapter V). Such programmes should however be designed in light of the allocation of responsibilities between the public and private sectors. In effect, when the main responsibilities for chemicals management are allocated to the private sector stakeholders, these should in principle take the necessary phases to comply with the legal requirements without help from the public authorities.

2. Responsibilities of Public Authorities

As well, the responsibilities and obligations imposed on governing bodies also have to be clearly stated in the legislation. For the proper function of legislation it is imperative that not only the private sector is obligated to carry out specific activities, but the governing bodies are also to be held accountable to perform their job.

In the approach adopted by most developed countries, the government bodies involved strive to maintain an oversight role – supervising the risk and management activities being carried out, by issuing legislation, providing general information on chemicals risks and enterprises' responsibilities, and by enforcing and monitoring compliance.

More precisely, public authorities have the responsibility for²⁹:

- ⇒ Enforcing legal requirements and take the required measures to ensure compliance;
- ⇒ Ensuring they rely on up-to-date information about risks caused by chemical substances;
- ⇒ Participating in international co-operation;
- ⇒ Monitoring and report on compliance with the legislation.

C. Administration

1. Designation of the Primary Authority

Laws typically identify a Primary Authority responsible for supervision and management of the legislation. This facilitates the coordination of activities and avoids overlaps and duplication in the work of the various public bodies involved.

Generally, the Primary authority is a ministry (i.e. agriculture, environment, health, etc.) or a separate agency (i.e. Environmental Protection Agency). However, given the highly cross-sectoral dimension of chemicals management, this can create problems with regard to capacity to undertake the wide variety of tasks involved in holding broad responsibility for legal requirements governing the placement of chemicals on the market. Therefore, countries might judge more relevant to give shared authority for decision-making to several ministries/agencies. This can be done through the establishment of an executive inter-ministerial body as the Primary authority for the legislation (see section 2.i below).

A relatively new approach promoted by WHO and UNEP seeks the establishment of a strategic alliance between the Ministry of Health and the Ministry of Environment³⁰. The strategic alliance then acts as a chair for an inter-ministerial mechanism gathering representatives from the other ministries having a stake in health and environment linkages. Particularly relevant in the case of chemicals management given the strong health and environment linkages associated with chemical substances, this approach has proven to be very useful and effective, as many complementarities between the health and environment sectors can be exploited for improved coordination and greater impact on decision-making and especially budget allocation.

In some situations, it might be relevant to have specific groups of chemicals managed by different authorities. In particular, in most countries management systems for agricultural chemicals are already in place under the authority of the ministry in charge of agriculture; while this ministry might not be the most appropriate to supervise the management of industrial chemicals.

If responsibilities for different aspects of the legislation are allocated to different public bodies, it should be clearly indicated. The law can simply indicate that some parts of the legislation can be delegated to other authorities than the Primary Authority, or specify which public body has the authority for which group of chemicals (i.e. Ministry of Agriculture for the management of pesticides' marketing).

In any case, adequate powers should be provided to the Primary Authority to carry out its mandate. Key powers include:

- ⇒ Issuing subordinate enactments (regulations, rules, guidelines);
- ⇒ Collecting and maintaining information on the chemicals regulated in the law, including the power to require information from the regulated entities;
- ⇒ Restricting and controlling chemicals production, import, uses and other activities;
- ⇒ Carrying out and ensure compliance with the law (i.e. conducting inspections);
- ⇒ Calling on other public authorities (including provincial/ local authorities) for assistance in the implementation and enforcement of the law;
- ⇒ Ensuring international communication and cooperation;
- ⇒ Charging fees for services provided.

In general, the power to issue subordinate enactments is not limited in the law, and the Primary Authority is authorized to issue all regulations required to achieve the objectives of the law. In some cases, a list of areas for possible regulations is included in an annex to the law.

It is also possible to give power to the primary authority to retain fees collected. However, this possibility depends on the national fiscal/budget legislation, which might set the procedure for collection and allocation of revenues collected. In addition, it might not be desirable for transparency and accountability reasons that the primary authority directly retains the fees outside of the national budget process. Several systems for revenue collection and allocation can be considered, depending on the country situation and on existing mechanisms³¹.

2. Coordination Mechanisms

Various types of inter-sectoral mechanisms can be created to avoid conflicts over the allocation of powers and mandates, and promote cooperation. A clear legal basis for these bodies should preferably be established in law, including their mandate, functions and powers. Raising the function of Primary Authority to highest level of government (i.e. Prime Minister Office) can also help avoid or at least circumvent ministerial conflicts over mandates.

i Inter-Sectoral

Given the cross-cutting dimension of the placement of chemicals on the market, the primary authority will anyway have to collaborate with other government bodies to ensure effective and efficient management. These include other sectoral authorities, ministries in charge of finance and development planning, police authorities, provincial/ local authorities, focal points or Designated National Authorities (DNAs) for chemicals related conventions, etc.

Therefore, coordination mechanisms for chemicals management are often established by countries wishing to improve inter-sectoral collaboration for chemicals management. However, such mechanisms have not always been very effective, due to factors such as lack of commitment from involved ministries, lack of clarity in the mandate and powers, lack of resources, etc.

In this regard, setting forth a clear legal basis for such mechanisms can help. The development/ strengthening of legal and institutional infrastructures governing the placement of chemicals on the market in addition provides a good opportunity to establish coordination mechanisms for lifecycle chemicals management, or formalize the existing ones. Therefore, as part of the approach underpinning this guidance (see section I.C), the setting up of an advisory inter-ministerial coordination mechanism for SMC in general is recommended at minimum.

Various types of coordination bodies can be established; depending on their powers, mandate and functions. Essentially, inter-sectoral coordination mechanisms can be either advisory or have executive powers. They can have broad policy mandates, or take the form of technical committees, task forces or working groups can be set up to deal with specific technical issues.

Box 6. Legal basis for inter-sectoral coordination mechanisms

Key provisions to be included in legislation regarding the establishment of coordination mechanisms include:

- ⇒ Clarification of the powers, mandate and functions of the mechanism;
- ⇒ Designation of the authority to appoint members;
- ⇒ Definition of the membership, especially with regard to the qualifications of the members;
- ⇒ Definition of conditions for appointment and removal;
- ⇒ Delineation of rules of procedure;
- ⇒ Authority and provisions for setting detailed procedures;
- ⇒ Permission to establish working groups/ task forces/ sub-committees.

Adapted from FAO (2007); p. 39.

ii Multi-Stakeholders

As well, participation of non-governmental stakeholders in decision-making can provide valuable inputs into the process, and facilitate understanding of and compliance with the requirements. Therefore, mechanisms should be set up to allow participation of these stakeholders. On the other hand, public authorities should ensure their independence in decision-making, and participation of non-governmental stakeholders should as a result be limited to a consultative role.

3. Delegation

The nature of legal and institutional infrastructures governing the placement of chemicals on the market provides a strong rationale for allowing delegation of powers. First, the highly scientific and technical characteristic of preventive and knowledge-based management requires the availability of adequate capacity and resources generally spread between the various public bodies in charge of chemicals management. Second, the frequent need for updating of technical requirements implies that rapid amendments may be required, without having to legislate. Therefore, the legislation should include a provision allowing the Primary Authority to delegate powers to subordinated bodies.

In addition, if the authority for supervision and management of the some aspects of the legislation is allocated to different public bodies (i.e. ministry in charge of agriculture for pesticides management), adequate provisions should be included clearly indicating that the management of these aspects will be delegated to the competent authorities.

Furthermore, in federal countries or countries engaged in a decentralization process, delegation to provincial/ local authorities should be included. In general, national authorities are responsible for matters of policy, standardization and harmonization while provincial/ local authorities are made responsible for some aspects of practical implementation, monitoring and enforcement activities. However, such provisions will likely depend on the allocation of powers included in the source law (i.e. the constitution) or in a national decentralization policy.

D. Policy Instruments governing the Placement of Chemicals on the Market

Legislators can use a wide spectrum of policy instruments to implement effective legislation governing the placement of chemicals on the market. The most commonly used instruments in environmental policy are regulatory (also called 'command and control'), but many other instruments are used, including economic ones.

Depending on the type, as well as on their design, including enforcement mechanisms and sanctions in case of non compliance, policy instruments can have a regulatory, economic or information component, or – more often – a mix of these three components.

Bans and restrictions, classification and labeling registration/ authorization and licensing systems are the standard regulatory policy instruments applied through legislation governing chemicals marketing and for this reason are the primary focus for this guidance.

1. Development of Inventories

The development of inventories (lists or registers) allows public authorities to keep track of the chemicals flow (chemical substances that are imported, produced and/ or used) in the country. Such information is key for decision-making, as well as for the implementation of the Prior Informed Consent (PIC) procedure of the Rotterdam Convention that requires that governments know which chemicals are in use in the country.

Various types of inventories can be developed; from the simplest ones only including names of the substances or companies with their addresses and the chemical substances they handle, to the most complex computerized ones including a variety of data. However, maintaining an inventory is a relatively costly activity for public authorities, and the more complex the system is the more costly it is likely to be. Therefore, the development of complex inventories for all chemicals might not be the best option to prioritize for countries with very scarce resources to invest in chemicals management, and simpler designs might have better results.

Registration systems for pesticides typically include record-keeping requirements for the responsible authority, and therefore the development of an inventory with relatively detailed information³². For other, lower-concern chemicals, as a first step the establishment of a simple inventory of primary suppliers (including importers and producers/manufacturers) could be considered, as a basis for planning and inspection work. Depending on the availability of resources, the inventory can be further developed by adding information on the types, uses and contents of the chemicals placed on the market by the inventoried primary suppliers. This would allow generating a general overview of the flows of chemicals in the national market and provide useful information for decision-making and implementation.

It should be noted that an inventory is only useful if properly maintained and updated. Therefore, adequate procedure should be developed and resources allocated in this regard. In addition, several public bodies might need to access information collected in inventories for implementation and enforcement purposes. For this reason, adequate mechanisms for shared access to the inventories should be set up, including for example the establishment of shared databases.

An inventory can be developed on its own, but it is often used in complement to authorization/registration or licensing, depending on the capacity of public authorities and of the private sector to handle the tasks involved by the system. Countries having developed inventories of pesticides should take advantage of these existing structures and of the data available.

Box 7. A stepwise approach for building up an inventory in a context of scarce resources:

1. Inventory of primary suppliers of chemicals in the country (importers and manufacturers)
2. Inventory of data on import and manufacture of pure substances (technical quality) of particular interest for a country (possibly incl. volume data/classification)
3. Inventory of import and manufacture of mixtures in certain groups of chemicals (lubricants, paints, glues etc.) of particular interest for a country (possibly incl. volume data/classification)
4. Inventory of hazardous components in classified mixtures (in certain groups, group by group, possibly percentages of components, etc.)

Adapted from Bucht (2008); p. 17.

i Notification Schemes

Many countries with advanced chemicals management systems have introduced general notification scheme for all “new” chemicals –chemicals that were not in use in the country before a specified date. Very demanding in terms of resources and expertise, such systems are used to generate information, and facilitate regulatory decision on chemicals not produced and used elsewhere.

In most DCs, the chemicals used were primarily formulated in other countries. Information on the properties and hazards of these chemicals should already have been generated in the producing country, and can be used as a basis for decision making (see section I.B.3). For these reasons, the development of notification scheme is only recommended in countries where chemicals are formulated. As they are very resources intensive, such schemes can be restricted to the categories of chemicals produced in the country and that are not already registered/authorized in a country with a reliable system in place.

2. Classification and Labelling

Classification and labelling is one of the most important measures for the management of the marketing of chemicals. It allows information on chemicals properties, hazards, risks and safe use procedures to be generated and disseminated throughout the supply chain, and thereby ensures a possibility for informed chemicals management decisions. In addition, design and enforcement of classification and labelling systems have proven to provide valuable domestic experience on several aspects of chemicals management. Therefore, classification and labelling should be one of the first measures to be developed as part of legislation governing the placement of chemicals on the market.

i Assessment and Classification

Legislation should indicate which standard has to be used for hazard assessment and classification. The list of criteria to be assessed and detailed protocols can be included in specific regulations. Assessment and classification criteria are the basis for establishing and implementing registration/ authorization and licensing systems. Therefore, attention should be paid that requirements and criteria for making decisions on registration/ authorization of chemicals and licensing of suppliers are consistent with assessment and classification criteria.

ii Labelling

Labelling of chemicals ensures that information on the chemicals hazardous properties is conveyed throughout the supply chain to the end users. It is critical that information included in labels is understandable to all the users. Labelling requirements therefore have to be tailored to the targeted audience, while using internationally recognized pictograms.

iii Classification and Labelling Schemes

Hazard assessments, classification, and labelling shall ideally be done in accordance with the Global Harmonized System for Classification and Labelling of Chemicals (GHS) and related safety Data Sheets (SDS)³³. This is because:

- GHS is the most internationally recognized and used standard, and its use ensures international harmonization of classification and labelling of all types of chemicals;
- It facilitates international trade of chemical substances and products containing chemicals, including facilitating access to developed countries' markets for DCs' products (i.e. food, textiles, etc.) in complying with importer requirements;
- GHS gives access to the knowledge on chemicals hazards already generated in other countries, and therefore reducing the costs of assessing all chemical substances entering the country;
- GHS is a way for improved national implementation of trade-related chemicals MEAs.³⁴

If GHS with SDS are selected as the instruments to be used in the country for classification and labelling of chemicals, it is suggested that as few modifications as possible are made so that its benefits in terms of international harmonization of classification and labelling are maintained. The legislation should in that case clearly state the requirement for users/producers/distributors to follow standard protocols in SDSs and GHS for storage and transportation. This would include requirements for proper signage on transport vehicles and storage vessels, records of transport, and use of specific safety equipment and vehicles.

In case other instruments for classification and labelling are selected, coherent protocols should be required to be followed, and clearly described. GHS and SDSs and related guiding documents can still be used as sources of information and inspiration for designing new systems.

Classification and labeling requirements should in principle be similar for all types of chemicals, imported and manufactured. In this regard, it should be noted that assessment and classification of pesticides is generally done on the basis of the WHO hazard classification as recommended in the FAO Code of Conduct (Article 7.2)³⁵. The WHO classification is not entirely compatible with GHS, especially as it does not take into account chronic effect of pesticides. However, efforts are underway to harmonize both systems and WHO Hazard Classes have recently been aligned to the GHS Acute Toxicity Hazard Categories.

While implementation of GHS should be considered, it might currently be difficult to implement in some countries with limited resources and capacity as information on chronic effects of chemicals might not be easily available. Therefore, countries may wish to adopt a phased approach to classification by adopting the easiest standard to implement (WHO Hazard Classification) in a first step, and moving to the GHS once the capacity and resources are available.

Box 8. Key elements of the legal basis for classification and labelling

With regard to classification, legislation should:

- ⇒ Indicate the standard to be used for hazard assessment and classification;
- ⇒ List the criteria to be assessed and protocols for assessment;
- ⇒ Ensure that requirements and criteria for making decisions on registration/ authorization of chemicals and licensing of suppliers are consistent with assessment and classification criteria.

With regard to labeling, legislation should:

- ⇒ Be in accordance with international guidelines;
- ⇒ Specify the language(s) and pictorial representations to be used in line with the country situation;
- ⇒ Clarify which information should be included in labels, including appropriate custom code from the World Customs Organization to comply with the Rotterdam Convention;
- ⇒ Characterize how the information is to be communicated (i.e. the size of the label, the measurement system to be used, translation into local languages, rules for affixing labels on the package, etc.).

With regard to Safety Data Sheets (SDSs), legislation should:

- ⇒ Indicate the information to be contained in SDSs
- ⇒ Specify the form and language to be used
- ⇒ Require that an SDS be sent to each importer

Adapted from FAO (2007); pp. 64-68.

3. Bans and Restrictions

Bans and restrictions are the most stringent type of regulatory instruments for chemicals management. They set forth a schedule or list, of specific compounds which are considered to cause unacceptable risk to human health and/or the environment. While bans strictly prohibit the production, sale and/or use of the substance, restrictions limit the availability of the chemicals to specific uses/ conditions.

In the approach adopted by most developed countries, the choice of chemicals to place on the market is in general the responsibility of the private sector. However, bans and restrictions on the supply of chemicals can be imposed by public authorities on substances that are judged to cause an unacceptable risk for populations' health, the environment and/or property³⁶. Bans and restriction decisions are generally based on a localized assessment of the substance's risks as well as on the country needs. Therefore, replication of bans and restrictions in place in other countries should in general be avoided, unless such decision is part of a regional cooperation scheme or if evidence shows that similar risks are anticipated in the national conditions.

The power of the Primary Authority to ban or restrict the supply or use of chemical substances should preferably be enacted in a law. However, specifics (i.e. the list of substances banned or restricted, the schedule for banning/restricting the supply, etc.) can be included in regulations.

Several chemicals-related MEAs, which also provide a good basis for establishing the legal foundations for national chemicals management systems, include bans and restrictions of certain chemicals. National domestication of these requirements should preferably be done within legislation governing the placement of chemicals on the market (see section III.D.4).

The Stockholm Convention includes lists of Persistent Organic Pollutants (POPs) which production and use are to be banned (Annex A) or restricted (Annex B). The Montreal Protocol requires Parties to eliminate the

production and consumption of substances that deplete the ozone layer (ODSs). As well, the Rotterdam Convention on Prior Informed Consent impose that Parties who don't consent to import a chemical substance listed in Annex III also prohibit national production of this substance. If the Party consents to the import with conditions, the same conditions have to be imposed on production. In addition, Parties that ban or restrict import/production of a chemical have to notify the Convention Secretariat in written within 90 days.

Furthermore, the FAO Code of Conduct on the Distribution and Use of Pesticide recommends that countries ban the placement of very hazardous pesticides (i.e. WHO classes Ia and Ib) on the market when sufficient control measures or good marketing practices for the product to be used safely can't be ensured³⁷. This precautionary approach is particularly relevant to the situation of countries with very limited enforcement capacity, and adopting a similar one for industrial chemicals should be considered.

4. Registration/ Authorization

A third category of policy instruments that can be used in the management of the placement of chemicals on the market is registration/ authorization. Detailed guidance on the development of registration systems – including legislation – is provided in the implementing guidelines of the FAO Code of Conduct³⁸. Therefore, only the main elements are addressed in this section.

i Registration/ authorization process

Registration/ authorization is essentially the assessment by public authorities of information on chemicals that companies wish to place on the market, in order to determine that the substance is efficient for the intended use while not causing unacceptable risks to human health, the environment and property.³⁹

Companies or individuals wishing to place a chemical on the market submit an application dossier containing information on the chemical to the responsible authority, according to the conditions and format specified. The responsible authority reviews the dossier based on defined criteria (preferably based on internationally recognized guidelines), and decides to a) approve, b) approve with conditions, or c) deny the registration. In case a decision can't be made based on the data provided, the responsible authority can generally ask the applicant for additional information.

Registration/ authorization approval enables the applicant to conduct a specific activity (import, manufacture, packaging, labeling, storing, sale, and/ or distribution) with a particular substance, mixture or product for a limited period of time. Denial of registration/ authorization forbids the applicant from carrying out the foreseen activity, but – contrary to a ban – does not prevent a new application to be submitted for the same product. Decisions to deny the registration of a chemical can however lead the authorities to ban or restrict its production and use (see section D.3 above for more information on bans and restrictions).

Registration/ authorization decisions can typically be reviewed in case of availability of new information on the chemical risks. Based on this, the responsible authority can impose new conditions or revoke the registration/ authorization.

Registration/ authorization systems for pre-market approval of products, discrete substances or mixtures are generally combined with the development of inventories (see section D.1 above). This allows keeping track of registered chemicals, and contributes to the building of an information base on chemicals risks. Special attention has to be paid to ensuring the confidentiality of information provided (i.e. see section H below).

Box 9. Key legal requirements for registration/ authorization

Elements to be included in legislation with regard to registration include:

- ⇒ Identification of the responsible body and clarification of its powers and function
- ⇒ Indication of substances/ activities included in authorization/ registration
- ⇒ Application procedure, including:
 - Indication of who should apply
 - Procedure in case of chemical already registered/ under conditional approval
 - List of information to be included and application form to be used
 - Exemption of small quantities imports for scientific purposes, including criteria
- ⇒ Decision-making procedure, including:
 - Clarification of the decision-making criteria
 - Time for authorities to deliver a decision
 - Procedure for denial of registration and appeal
 - Indication of the validity of the registration/ authorization
- ⇒ Conditions for review, re-registration, revocation
 - Provisions for review and change in conditions in view of new information
 - Possible provisions for periodic re-registration
 - Power of the responsible authority to revoke authorization/ registration
- ⇒ Responsibility for and content of record-keeping
- ⇒ Provision for confidentiality of information

Adapted from: FAO (2007); pp. 42-49.

ii The Use of Registration/ authorization

Registration/ authorization can be a powerful instrument for making informed decisions on chemicals to be used in the country, as well as for generating comprehensive knowledge on chemicals properties, hazards and risks. However, it is also demanding in terms of expertise, finance and time for public authorities and companies. Registration/ authorization requires an extensive and costly process of development, review and verification of data on chemicals properties, hazards and specific risks in local conditions.

Therefore, this instrument is not recommended for all chemicals, especially in the context of very scarce resources often characterizing DCs' public authorities. It is more often used for chemicals presenting a particularly high level of risk in use, such as pesticides and biocides. Chemicals are sometimes also included in such systems based on their impacts on health and the environment, such as carcinogenic, mutagenic, persistent, bioaccumulative substances, and chemicals with reproductive impacts. When very limited implementation and enforcement capacity is available for ensuring effective control of the chemical considered, a ban should be considered (see section D.3 above).

Most countries have in place a system for the registration of pesticides, as recommended in the FAO Code of Conduct. Such systems for industrial/ household chemicals are generally less developed. If the choice is made to also require registration of some high concern industrial/ household chemicals, existing registration systems should as far as possible be used as a basis in order to avoid the creation of two parallel systems. This allows making best use of the limited human and financial resources available, promotes collaboration and the use of combined expertise, reduces the costs of the system, and avoids inconsistent decisions for chemicals used in agriculture and other sectors.

In addition, registration/ authorization requirements can be tiered according to probable risks, as well as extent of use and/or production of the substances, in order to promote the use of safer alternatives. In particular, at least four types of provisions can be included in this regard⁴⁰:

- ⇒ Setting up less demanding requirements for application for lower-risks chemicals
- ⇒ Designing hybrid charges rates with lower charges for lower-risk chemicals
- ⇒ De-registration of pesticides for which safer alternative exists
- ⇒ Establishing shorter time limit for high-risk chemicals registered, therefore requiring more frequent renewal

5. Licensing

Licensing is a policy instrument in many aspects very similar to registration/ authorization, except that it applies to a company/ individual to assess whether its activities with a chemical do not result in unacceptable risks to human health, the environment and property.

i Characteristics of Licensing Schemes

Licensing is generally defined as the process by which public authorities provide a time limited permission (a license) to private stakeholders before certain activities – including manufacture, pack, re-pack, label, sell, store, or distribute – can be undertaken⁴¹. Licensing systems can therefore be tailored to various circumstances and needs. In the context of these guidelines, licensing applies specifically to companies/ individuals intending to place chemicals on the market (the primary suppliers).

Given the stakeholder orientation of licensing, the review focuses on the location, activity, expertise and ability/ capacity to safeguard against known risks of the applicant. For this type of licensing system to be efficient, conditions for license attribution have therefore to emphasize the need for companies to have appropriate qualifications to handle the specified classes of chemicals in an appropriate way. Different criteria for licenses can be established for manufacturers and importers, with manufacturing licenses generally more focused on the product's quality and safety measures in the manufacturing plant. However, as most DCs mainly import the chemicals used in the country, manufacturing provisions can generally be more basic than in countries producing chemicals.

General requirements to be included in legislation for licensing systems are very similar to those for registration/ authorization. The main difference is the criteria for evaluation and the information to be provided in application. As well, development of legal requirements for the establishment of licensing systems for primary suppliers of chemicals is likely to require attention to legislation on commercial licensing. Moreover, attention should be paid to include bans and restrictions of the Chemicals Conventions into manufacture licensing requirements. In additions to the provisions presented in section D.4 above, the ILO Convention applying to workers safety might have to be reflected in criteria for manufacture licensing if the country is a Party to it.

ii Licensing Scheme in the National Context

The relevance of such instrument in the country situation has to be assessed on a case by case basis. In particular, the type of primary suppliers and the frequency of supply are key factors for the design and success of the licensing system. Small suppliers (i.e. SMEs) might be confronted to a significant challenge in getting the required level of qualifications, and this requirement might in some cases lead them to stop this activity. As well, such licensing system is likely to be less relevant and more difficult to maintain in cases of occasional supply and/ or handling, in which case simple, short-time licenses might be used.

Establishing a licensing system for suppliers of well defined categories of chemicals (i.e. chemicals of high acute toxicity, high corrosiveness, highly flammable, explosive chemicals, carcinogens, mutagens etc.) will also reduce the costs and expertise needed for the administration to maintain the system. It can be combined with a licensing system for users of the same categories of chemicals for greater control of the chemicals' flows. This latter system is not really part of legislation governing the placement of chemicals on the market, and should preferably be regulated as part of other laws (i.e. workers safety, environmental protection, etc.).

Coupled with the development of an inventory, licensing systems for primary suppliers can serve an important information collection function (see section D.1 above). Such a system presents several advantages for building the information base needed for informed decision-making on chemicals management compared to general authorization/ registration systems:

- As importers or primary suppliers are very likely to be far less numerous than the chemical substances they market, licensing them instead of a general registration/ authorization scheme is less demanding in terms of expertise and resources;
- Moreover, the collection of basic information on the primary suppliers and the chemicals they supply through licensing allows authorities to ensure reasonable knowledge of the flows of chemicals in the country and in a certain measure to control users for which running a licensing systems is more complex and resource-intensive;
- Licensing primary suppliers finally leaves the responsibility of deciding which chemicals to be marketed to the companies (within the limits of the conditions for license attribution), which is more in line with the approach adopted by many countries with advanced chemicals management legislation.

As they serve different functions, licensing and registration/ authorization systems can also be superposed. For example, the FAO Code of Conduct recommends that governments “develop regulations and implement licensing procedures relating to the sale of pesticides” (art 8.1.1.), in addition to the development of a registration system for pesticides. The practical link between the two systems is that chemicals have to be registered before the entity supplying them can apply for a license. Very demanding in terms of expertise and resources, such superposed systems are to be developed only for chemicals of very high concerns and only if the required capacity is available in the country.

Box 10. Legal requirements for licensing systems

In case of establishment of a licensing system, legislation should:

- ⇒ Require licenses for all persons importing/manufacturing the targeted group of chemicals
- ⇒ Charge the competent authority with receiving, evaluating, approving or denying applications
- ⇒ Establish a system of evaluation of applications
- ⇒ Set out clear criteria for the grant or denial of licenses, as well as conditions for imposition of conditions, suspension and revocations
- ⇒ Charge the authority with providing notice of the reasons for denying
- ⇒ Establish the term of validity and procedure for renewal
- ⇒ Back up the licensing scheme with inspections
- ⇒ Enable the authority to charge fees for services associated with licensing
- ⇒ Set out an appeal procedure

Adapted from: FAO (2007); pp. 55-56.

6. Import and Export

Many developing countries have limited chemicals manufacturing capacity and mostly import the chemicals in use in the country. Therefore, custom controls of chemicals can play an important role in the implementation of legislation governing the placement of chemicals on the market, especially with regard to the prevention of illegal traffic of chemical substances and the implementation of the PIC procedure of the Rotterdam Convention.

Such controls are generally done through the establishment of an import permit system. As for registration/ authorization and licensing systems, an application procedure is provided and criteria are specified for the review by the competent authority, to ensure that only desired chemicals are imported.

In addition, inspections of the chemical imported can be conducted by custom officials. As customs inspections require specialized expertise that might not be available, they can be limited to ensuring that chemicals imported in the country are conveyed with relevant information and are adequately packaged and labelled. As well, custom control for different groups of chemicals might require different sets of expertise. Countries with limited financial and technical capacity can have difficulties in mobilizing such expertise at each port of entry. A way to overcome this constraint is to assign specific ports of entry for various groups of chemicals requiring similar expertise and/ or verification procedures.

Import permit systems are often operated in conjunction with registration/ authorization systems, as in particular for pesticides. In that case, the chemicals for which an import permit is requested should already have been registered/ authorized. In addition, it is possible to link the import permit scheme with a licensing system for importers (see section D.5 above). Licensed importers would still have to apply for an import permit, but the process for obtaining it would be faster as they are already recognized as primary suppliers.

Import permits scheme should also reflect the country's international obligations. In particular, under the Rotterdam Convention, imports of Annex III chemicals should be prohibited, unless written consent has been sent to the Secretariat of the Convention by the Responsible Authority. Harmonized System custom codes developed by the World Customs Organization (WCO) should be used on shipping documents. Similarly, the Stockholm Convention requires Parties to restrict the import of Annex A and B chemicals to two cases: a) environmentally sound disposal, and b) for permitted use (the country has obtained an exemption).

Imports requirements should be linked to export requirements. In particular, under the Stockholm Convention, the same conditions apply for export and import of annex A and B chemicals. The Rotterdam Convention requires that Parties ensure that exporters comply with decisions of importing countries no more than six months after being informed by the secretariat. Furthermore, as a general principle the same conditions should be imposed to domestic production than imports and exports⁴². This would avoid conflicts with regard to WTO rules, and prevent dumping of unsuitable chemicals in other countries.

7. Assistance, Incentives and Disincentives

Assistance, incentives and disincentives can have a similar effect than sanctions. Sanctions⁴³ penalize entities in case of non-compliance, or impose complying measures. On the other hand, assistance aims to decrease the cost of compliance by assisting the non-complying entity to take the necessary phases for complying. Similarly, incentives promote compliance by rewarding "good" behavior, while disincentives are intended to discourage "bad" or "less good" behaviors.

i Assistance

The ultimate objective of a sanction is the improvement of the behavior of regulated entities as compared to the goal of the policy and for the benefit of the whole society. In that sense, sanctions have in some situations failed to achieve their objective, in that they have resulted in the end of the underlying productive activity, and generated other issues (loss of jobs and livelihood, end of some activity important for economic development, generation of behavior that are more damaging for human health and/ or the environment, etc.).

An alternative therefore consists of assisting offending entities to comply with the legal requirements, which would reduce the costs associated with the change in behavior. Such an approach is particularly suited in the case where offending companies are SMEs with few capacity and scarce resources.

However, the adoption of such measures should be considered on a case by case basis, and examined in line with the allocation of responsibilities between the public and the private sector. In the case where responsibilities for managing the placement of chemicals on the market are mainly allocated to the private sector, attention should be paid for public authorities not to take over private sector responsibilities. This would tend to generate disincentives for the regulated entities to change behavior by themselves as the costs of such measures can be at least partly transferred to the public authorities.

ii Incentives and Disincentives

Another means for ensuring that a policy goal is achieved is to reward “good” behaviors through incentives, and/ or discourage “bad” or “less good” behavior through disincentives. Incentives and disincentives can take many different forms, depending on their type (i.e. economic, symbolic, etc.). The most well-known rewards however are economic incentives such as tax rebate, subsidy, etc. which constitute a specific category of economic instruments.

In addition, other types of market incentives/ disincentives can be used, for example a company’s public image and the reputation impacts associated with a change in the public perception of the company’s environmental performance. These instruments can be used as a means to complement the regulation, encouraging entities to comply with standards, or go beyond regulatory requirements, and foster a culture of innovation. They are also sometimes set up as voluntary, self-reported measures. However, experience has shown that the most efficient incentives/ disincentives are backed by regulatory measures.

E. Inspections

Inspection activities are a crucial component of any legislation as, coupled with dissuasive sanctions, they are one of the main tool to make sure that legislation is complied with by the regulated entities (compliance monitoring). In addition, inspection systems can provide valuable information to the responsible authority (i.e. for evaluation of the applications for licenses). Therefore, legislation governing the placement of chemicals on the market should establish a comprehensive inspection system.

Depending on the countries, responsibility for appointing inspection officers can be attributed to the authority responsible for the administration of the legislation, or to a central government agency in charge of appointing public servants and officials.

In their duties, inspectors should be allowed to:

- ⇒ Enter and inspect premises or storage facilities;
- ⇒ Search vehicles, persons and containers;
- ⇒ Take samples and seize equipment;
- ⇒ Take photographs;
- ⇒ Ask for information and evidence; and
- ⇒ Issue orders and/or apply sanctions in case of non-compliance.

In addition, they can often request assistance from the police when needed. These rights should be clearly stated in law.

Because inspectors’ powers are broad, they should be clearly defined. Such definitions should be done in line with the national legal framework defining the powers of public officials, and include limitations and obligations. Inspectors must be held accountable for their responsibilities. Rights and duties of inspectors can be outlined in a law, and detailed in subsidiary enactments (i.e. outline of procedures for carrying out inspections, taking and marking samples and submitting them for analysis).

The effectiveness of inspections crucially depends on the capacity of inspectors to perform their duties. Therefore, legislation should clarify required qualifications of inspectors. Inspection responsibilities should be allocated on the basis of the three main intervention points: the point of primary supply (targeting producers and importers), the point of retail sales, and the point of uses. In addition, the inspection scheme should be designed to allow coverage of large, medium and small companies.

As inspections at the three intervention points and in different sectors might require specialized sets of skills, it can be advantageous to house the inspection groups for certain sectors/ intervention points in government bodies already familiar with the operations to facilitate enforcement actions, or to use their existing capacity. Therefore, the law can include provisions for the responsible authority to use employees of various authorities (i.e. custom officers, agriculture inspectors, local authorities) for enforcement activities.

If different public bodies are responsible for specific inspection activities, good coordination of these activities is to be ensured. This will avoid that the same entity is inspected by more than one inspectorate on the same issue.

Inspections can be conducted on a scheduled or surprise basis, spot checks generally being the most effective for ensuring compliance. Inspections can also be conducted as a response to problems reported by public authorities, private companies, individuals or civil society organizations. This constitutes a cost-effective solution for designing an inspection scheme in situation of limited resources. Another way to save scarce resources is to target inspection activities to the high-risk chemicals/ activities.

1. The Accreditation and Use of Laboratories

A key component of enforcement and inspection activities is the use of laboratories. These are critical for conducting monitoring and other tests needed for ensuring compliance. Legislation governing the placement of chemicals on the market should establish a system for identification and certification of analysts and laboratories. This power is generally attributed to the Primary Authority. While such system is generally outlined in a law, the rules and procedures can be detailed in subsidiary enactments.

The development and maintaining of a comprehensive network of national laboratories may constitute a significant financial burden for countries with very limited budget for chemicals management. Therefore, countries should not seek to replicate the laboratory infrastructure of countries with advanced systems for chemicals management.

The acceptance and use of information generated in other countries (i.e. hazards assessments from countries with advanced chemicals management systems, risks assessment from countries with relatively similar conditions) can reduce the need for complex laboratory systems. In this case, countries should ideally at least have a national reference laboratory capable of performing qualitative analysis for the chemicals of major concern for verification and monitoring purpose.

Another option for reducing the costs of laboratory infrastructure is to engage in regional/ sub-regional cooperation. The establishment of a joint laboratory infrastructure with countries sharing similar chemicals issues and/ or ecosystems can be a cost-effective and efficient way to build analytical capacity in a region (see section III.D.5).

Box 11. Legal Basis for Inspections Systems

In establishing an inspection system, legislation should:

- ⇒ Provide the authority to appoint inspectors
- ⇒ Clarify the powers and obligations of inspectors, as well as work procedures
- ⇒ Ensure consistency with legislation on powers of public officials
- ⇒ Specify the qualifications required of inspectors
- ⇒ Ensure comprehensive coverage of the inspection system (sectors/ intervention points)
- ⇒ Establish a scheme for certification laboratories and appointment of analysts

Adapted from: FAO (2007); pp. 39-41.

F. Record-keeping and Reporting

In complement to inspections, record-keeping and reporting can facilitate compliance monitoring of regulated entities. They can also allow regulating bodies to collect data consistently over time, which can be a great asset to further develop chemicals management legislation.

1. Record-keeping

Review of records kept by regulated entities can greatly assist inspectors in their work. Record-keeping requirements generally specify the type of information to be recorded, the form of the record, and the duration of record-keeping. Such requirements can include the obligation for regulated entities to keep records of (1) chemical assessments; (2) samples; (3) types/amounts of chemicals handled; (4) chemicals problems uncovered or reported; and (5) communications regarding the handling of chemicals⁴⁴.

2. Reporting

Reporting requirements can be tied in with registration/ authorization, and licensing systems when such instruments are selected. This provides the basis for ensuring that decisions to authorize/ register a chemical substance or license a company for supplying a type of chemicals are updated based on the most recent available scientific knowledge.

Reporting requirements provides a useful way of ensuring that there is good communication between government and industry and that government is in-tune with chemical activities within the country. Further to collecting data on parameters related to chemical use, production, or distribution, reporting can include requirements to report emergency management and safety plans. This would encourage and implement a culture of assessing chemical release risk and provides a protocol to be followed in case of emergency.

To ensure that the governing bodies are informed about the latest information on chemical risks, reporting upon request can be included. For example, the party responsible for risks assessments and other parties can be obligated to report any new information they discover related to the risk of chemicals.

In addition, the responsible authority(ies) should be allowed to ask for any information about chemicals related to health and environmental risk. Cases when the government is justified to request for information should be clearly defined (e.g. when new evidence points to altering the risk associated with a chemical).

For the information collected under reporting to be easier to analyze, consolidate, and process, it is important to ensure that it is provided to the government in a consistent format. Therefore, it is important that templates are provided for forms. This also allows the governing bodies to clearly define the information that they wish to collect from the regulated entities. The structure of such templates can be outlined in the law and/or clarified in the subsidiary instruments.

While useful for monitoring compliance, reporting schemes can also be very demanding as they require the review of reports by qualified public officials. Their effectiveness in addition depends on the capacity to assess and use information reported for decision making and implementation. The development of such schemes should therefore be considered based on the available capacity and resources. In situation of scarce resources and capacity, reporting upon request should therefore be considered rather than regular or annual reporting.

In addition, reporting can only be efficient if backed up with credible sanctions in case of non-compliance, including incomplete or misleading reporting.

G. Enforcement

Several enforcement tools are available for governments to ensure compliance with the legislation. These tools are complementary and are generally used together. However, effective enforcement always critically relies on the availability of credible sanctions in case of non compliance. Effective inspection systems and reporting requirements are needed to ensure that regulated entities fulfill their responsibilities, while health and environment monitoring allows keeping track of the impacts of chemicals.

1. Offences

Sanctions (or penalties) are generally defined based on a list of specified offences to the law. The list should include offences from the regulated entities as well as from public authorities' officials. The offences then have to be separated between criminal and administrative ones. Depending on the situations, such separation might already be established in the country's constitution. In addition, the separation might also be guided by the country's international commitments⁴⁵.

In other cases, a choice can be made. As they are not imposed within the judicial process (not applying criminal court procedures and requiring lower evidentiary standards), administrative sanctions can be more cost-efficient and practical than criminal ones to implement. They can also be more efficient in situations where the judicial system is weak.

2. Sanctions

Sanctions (or penalties) are generally applied in cases of non-compliance with the legal requirements (intentional or not). Sanctions can include a) monetary punishments, b) imposing the execution of corrective action, c) limitations/ cessation of the activities of the entity (through cancellation of the permit, or through temporary/permanent closure of the facility), or even, for serious offences, d) incarceration.

To efficiently change behavior of the regulated entities in the desired direction, sanctions need to be carefully designed. In effect, low penalties (especially financial ones) that are perceived as less costly than changing behavior are likely to fail to attain their objective, even more if continuous non-compliance does not lead to tougher penalties or when enforcement is weak.⁴⁶

Sanctions for non-compliance with environmental law generally depend upon the penal system of the country, and are sometimes included in the main criminal law. In other cases, they can directly be mentioned in the environmental law, or, in the case of penalties related to the legal requirements governing the placement of chemicals on the market, in the related law. The general principle is however that sanctions are to be based on high-level legislation (i.e. law).

In addition, sanctions can also include liability measures that allow the victims of environmental damage to be compensated for the effects of this damage, or impose to the damaging entity to restore the damaged place/ ecosystem. Such systems have sometimes proven difficult to implement due to the challenges in demonstrating the causal relationship between an activity and damages.

The possibility of applying sanctions depends on the clarity of the requirements contained in the law. These requirements therefore have to be made extremely clear for sanctions to be applicable in real cases.

H. Confidentiality

Some of the information provided by companies to the public authorities for authorization, licensing, or other purposes may be confidential. Businesses and other entities which are required to provide information should therefore be entitled to request that some information is not distributed to the public.

This need for confidentiality is balanced by the right of the population to be informed about the chemicals hazards and risks for health and the environment. Such information should therefore be kept outside of the scope of confidentiality requirements, and the type of information that can be made confidential should be clearly delineated. In addition, public authorities should be allowed full access to information.

Confidentiality rules and requirements are typically defined in a specific legislation, often in accordance with the rules established by the World Trade Organization (WTO). The prevailing rules should therefore be applied with regards to confidentiality of information provided for the management of chemicals. In general, it is important to clarify which information is to be kept confidential and which is of public interest, how confidential records have to be maintained and stored, and who should have access to the records.

I. Appeals

In order to ensure transparency and the right to due process, legislation should enable appeals against decisions of the responsible authority(ies).

Appeals should be authorized for various types of decisions, including registration/ authorization decisions, licensing decisions, sanctions imposed, etc. Depending on the country legal tradition, special appeal procedure can be defined for chemicals management legislation or appeals can be channeled through the normal legal process.

Only specific groups are generally entitled to appeal to courts for an observed case of non-compliance. These typically include the persons directly affected by the decision. However, this is not sufficient in the

case of environmental protection, and right to appeal is most frequently extended to groups that are deemed to represent the public interest (i.e. NGOs, class action, citizen's suits, etc).

Adequately defining who is entitled to appeal to courts is crucial for the effectiveness of the legislation, as it is also through bringing cases to tribunals (or through the threat of it) that the legal requirements will be complied with. Public authorities, groups of users, and NGOs dealing with chemicals issues could be entitled, depending on the country situation.

V. Tools for Compliance Promotion

Enforcement activities are traditionally only considered in their negative dimension – punishing non-compliance. While required, this approach is very demanding in terms of resources, and sometimes even inefficient in changing the behavior of regulated entities in the desired way.

Compliance promotion activities can provide a cost-effective way of ensuring compliance compared to regulatory enforcement. However, effective compliance promotion activities are based on a credible system for enforcement of legislation, including sanctions. Therefore, compliance promotion activities should not be developed as a substitute to clear and effective regulatory enforcement systems but rather as a complement to such systems.

A. Transparency and Communication

To be able to comply with legal requirements, regulated entities first need to be aware of the goal of the policy and of their responsibilities and obligations. Regulated entities are even more likely to make the necessary phases towards compliance if they understand and agree with the requirements. Ensuring transparency and communication throughout the process therefore provides a cheap means of promoting compliance.

The first – and probably most efficient – option for ensuring regulated entities' awareness and understanding of the legal requirements is to involve them in the decision-making process through the establishment of multi-stakeholders consultative mechanisms (see sections II.B.1.i, and IV.C.2.ii) or other means (i.e. request for comments on draft papers, etc.). The development of websites, guidelines, and other types of information material can also facilitate access of the regulated entities to the requirements, and therefore promote compliance.

B. Education and Training

Several requirements governing the placement of chemicals on the market are likely to require training of various stakeholders.

For industry these include, among others:

- Assessing properties, hazards and risks of chemicals
- Classification and labeling of chemicals
- Adequate handling and use of chemicals

For authorities these include, among others:

- Establishment of technical criteria and standards
- Verification and approval of submitted dossiers
- Conducting inspections

Personnel from public authorities at different levels (e.g. parliament, ministries, agencies, inspectorates, etc.) need to be adequately skilled for developing and implementing the policy, including monitoring and inspection activities. In addition, personnel from private companies (primary suppliers) have to have expertise for proper management, including appropriate labeling, safe handling, and making proper decisions on chemicals to market, etc. Similarly, users of chemicals should be able to understand labels and Material Safety Data Sheets provided by suppliers in order to choose chemicals to use and to use them safely. Basic education on chemicals risks and appropriate – preventive and curative – measures can also contribute to effective enforcement of the policy.

Education and training programme can therefore be developed. For example, a licensing process for primary supplier of chemicals might require that the applicant demonstrate an adequate level of capacity

to handle safely the chemicals they intend to place on the market, which would involve that companies that do not have this expertise have to develop it through education and training.

These education and training components can either be included in the form of requirements that the regulated entities have to fulfill by themselves or of programmes that the authorities establish to build capacity of the regulated entities, or both. Where the private sector is made responsible for the main tasks involved by managing the placement of chemicals on the market, public authorities would normally not provide education and training programmes for companies, which would have to develop strategies for building the required capacity (internally, or through consulting companies).

In other cases where the targeted private sector group is comprised of small companies, it might be more effective for public authorities to provide education and training programmes to assist with capacity building in these small to medium sized enterprises (SMEs).

Depending on the targeted audience, on the expertise needed and on the national context, different approaches can be used for education and training programmes:

- Involving stakeholders in the policy making process can be an effective tool for building capacity of stakeholders, in addition to the other benefits of involving stakeholders in the decision making process⁴⁷.
- Development and diffusion of guidelines explaining procedures and options for selected activities (Access to international schemes on assessing risks of chemicals, laboratory practice for testing and evaluation, safe handling, etc.) can also help the regulated community build its capacity.
- Development of specialized curriculums in relevant universities and schools can also, though on a longer term, build capacity in the country for activities requiring highly specialized skills such as scientific assessments. It should be noted that the development of curriculums might not be sufficient to ensure that the capacity developed is effectively used, and so that such programmes could include activities to use this capacity.
- Organizing targeted workshops and training courses for selected stakeholders is another way for the public authorities to assist stakeholders in building their capacity.
- Establishing partnerships with civil society organizations and NGOs can also prove an efficient and cost-effective way for public authorities to build capacity of stakeholders, as some of these organizations have such activities as part of their mandates anyway and can have direct access to the local communities.
- Company training (through federations, firm's internal training programmes for workers, programmes of mentoring from big companies, promotion of consulting markets) can also be promoted through various means. Effective sanctions in case of non-compliance can already act as an incitation to build the required capacity, provided that the targeted companies have the resources to do so.
- Working with specialized international organizations that provide such assistance can finally be another useful means of organizing education and training programmes.

C. General Awareness Raising

In addition, raising awareness of the broader public on chemicals risks and safety measures can also contribute to the sound management of chemicals. The development of labeling and safety data sheets plays an important role for raising awareness of chemicals hazards and safety measures. In addition, awareness raising campaigns can be undertaken.

Attention should be paid to the selection of the target group for the awareness raising activity, as this is key for the success of the campaign. Special care should also be taken to communicate the adequate information, level of detail, and in an adequate language to the targeted audience. In addition, coordination of the communications from different groups (industry, NGOs, public authorities) should be sought as far as possible in order to avoid that the target group is faced with contradictory information.

Options for awareness raising activities include:

- Involving stakeholders in the policy making process
- Information workshops
- Public awareness campaigns (through the media, NGOs)
- Organizing training for journalists
- Making information publicly available
- Organizing site visits (of industries, laboratories) and other events
- Organizing information sessions in schools

The choice of one or several of these options will generally depend on the targeted audience, the type of information to be communicated, the context of the country, etc. The choice of the best communication strategy should be assessed on a case-by-case basis. See Box 12. below for a discussion on effective communication strategies.

Box 12. Five Guiding Principles for Effective Communication

- ⇒ **Careful selection of the target audience:** Special attention should be paid to the selection and identification of the target group. Characteristics of this group (type of impacts on/ from the policy, culture, perception of the issue, geographic location, access to media, etc.) are crucial inputs for the development of the communication programme.
- ⇒ **Meeting the needs of the target audience:** The communication programme should be tailored to the needs, perceptions and concerns of the target audience. A two-way communication process from the beginning of the process can greatly help understand these. The format and style of the information presented should be adapted to the needs, perceptions and concerns of the target group as well as to the situation.
- ⇒ **Providing comprehensive, balanced and easily understood information:** The language in which the information is communicated should be adapted to the audience. This includes the level of technicality, the use of appropriate dialects, expressions, pictograms and symbols, etc.
- ⇒ **Ensuring that the provider of information is reliable, credible and accountable:** Special care should be taken in choosing the provider of information. The choice will typically depend on the target audience, as well as on the situation.
- ⇒ **Evaluate the effectiveness of the communication programme:** Communication efforts should be based on the lessons learned and feedback from preceding programmes. For these lessons learned to emerge, effective monitoring and evaluation of the communication programmes is required.

Adapted from IPCS-IOMC (August 1998); p. 53.

VI. Costing the Development or Reform of Legal and Institutional Infrastructure Governing the Marketing of Chemicals

The resources available to address chemicals management issues at national, regional and global levels are widely recognized as inadequate. As such, the cost of legal and institutional infrastructures is seen as a key obstacle preventing countries with very limited budgets from developing and sustaining adequate frameworks for managing chemicals.

The cost⁴⁸ to all stakeholders – business, government and society as a whole – of better governance of chemicals introduced to domestic markets will depend in part on the information, monitoring and enforcement ‘ambitions’ for legal instruments. The number of chemicals subject to registration, authorization, licensing and permitting systems that are the central components of efforts to manage the placement of chemicals on the market at the national level: design elements like these determine the complexity of legal and institutional infrastructure, and therefore the cost of implementing them. A balance must be found between simplicity, or low resource requirements, and effectiveness of the various systems to reach the objective of managing the placement of chemicals on the market.

The requirement of industry to carry out most of the main tasks involved in the management of the placement of chemicals on the market (see table 3., p. 28) in effects transfers some costs from government to the private sector. Registration or licensing systems can be designed to either register discrete chemicals, chemical mixtures, products containing chemicals or individual firms involved in the import or production of such substances or products. As such, the higher the number of chemicals requiring registration and authorization, or the more complex the chemical and difficult to detect in products or mixtures, the more costly the procedures for firms to generate complete applications for registration, authorization, licenses and the application assessment, checking, monitoring and enforcement activities for government officials. Depending on the roles and responsibilities established under new legislation, or refined under existing legislation, industry can be held accountable for costs of:

- The preparation of a complete dossier for application to registration, authorization, licensing or permitting procedures including description of product, conduct of independent risk assessments, drafting of labels to be included on the product ...etc.;
- Administrative charges related to registration/authorization applications, including repeat and fast-track applications;
- Annual registration/authorization maintenance fees;
- Administrative fees related to licensing and permitting applications;
- Further laboratory analysis work required, particularly in relation to appeals procedures;
- Fines related to noncompliance with registration, authorization, licensing or permitting regulations or the reporting and inspection procedures coupled with these;
- Clean-up and remediation resulting from disasters associated with chemical(s) being placed on the market, where the firm has been proven to be negligent;
- Compensation payments to victims, at least to cover the cost of medical treatment, lost earnings, destruction to property ...etc.

Given that the primary focus of this guidance is cost recovery for public services delivered by all levels of government to the private sector for better managing chemicals being traded on markets, government costs are considered here and not private sector costs per se. Depending on the needs at national level, public costs related to the establishment of new legal and institutional infrastructures, or strengthening of existing structures, for managing the placement of chemicals on the market can include capital investment and operational costs in activities enabling the four main steps to be implemented.

For the purpose of this guidance, it is assumed that national governments have their individual cost estimation methods established within standard policy making procedures. However the following key elements set out what factors determine the magnitude of the costs of strengthening legal and institutional infrastructures for managing placement of chemicals on the market that may assist costing processes:

- The number of firms/commercial entities likely to be subject to registration/authorization/licensing processes;
- Length of validity of a registration, permit, license, i.e. how often the administration process has to be completed to maintain registration/authorization/licensing;
- Schedules for revision of registers and permits/licenses databases and the duration of this activity for government officials;
- Administrative burden of reporting assessments determined by schedules for firm (importers and producers) reporting requirements;
- Frequency of inspections, dictating the number of inspectors required.

As in all policy-making, the costs of these legislative and institutional efforts to govern the placement of chemicals on the market but be weighed against the benefits for society from that policy to determine how best to invest scarce public resources. Choosing the solutions should be based on the net costs for all stakeholders balanced with the positive impacts of improved sound management of chemicals resulting from development or reform of systems governing the placement of chemicals on the market.

The effectiveness of coordination between government ministries for existing and new functions is an important consideration in the cost-effectiveness of the legal instruments and institutional infrastructures is how existing resources can be better organized to deliver results before new resources – human and financial – are marshaled, including identifying opportunities for joint service delivery.

The costs of new legislation and institutions are likely to be considerable where no resources previously exist. However, given the expertise and capacity already developed in similar governance issues (i.e. drug enforcement, customs, tax collection), it is often the case that the real question is how to coordinate numerous government ministries and agencies effectively to establish a cost-efficient infrastructure that allows chemicals policy makers to know what chemicals are entering their national markets (through importation or production). The guiding rule of thumb should be that where expertise (i.e. other types of registration systems, inspections, and information management), human resources, office requirements (i.e. computers, desks) ...etc. already exists, it should be factored into the design of the regime to minimize costs.

New resources required for the various activities required under the different roles and responsibilities set out in legislation and structure of the regime means either investing in training of existing or new personnel, or hiring new personnel with the capacities required.

Many developing countries currently rely heavily on external funding coming from the Quick Start Programme Trust Fund and the Global Environmental Facility (GEF), as well as other bilateral and multilateral mechanisms to finance national public chemicals management activities taking place across various national Ministries.⁴⁹ However, Quick Start funds are limited to two years and typically seek to spread funding across a number of countries; and GEF windows are limited to specific themes and issues that do not cover the full range of chemicals management concerns potentially facing developing and 'in transition' countries. As such, it is suggested that if funding for chemicals management activities is to be sustainable, it is imperative that options for national-level funding are fully explored.⁵⁰

Within national budget cycles, in theory, chemicals-related line ministries (LM) must simply ask for support for their activities. For many reasons, however, predictable, reliable and sufficient funding is not always forthcoming. In the context of evolving aid modality – from project to General Budget Support (GBS), following the principle of country ownership – partnership funding for development is potentially one of the largest sources of financial and technical capacity for national chemicals management only if links are made between chemicals management and central decision making processes.

In making their case for further investment in public chemicals management activities, chemicals policymakers need to demonstrate to parliamentarians how investment in more stringent governance of chemicals being traded in national markets reaps benefits for other line ministries (e.g. health, economic development) industrial development, as well as societal health and well-being, through reducing or avoiding typical health, environmental and economic 'costs of inaction' from chemicals mismanagement. Yet these arguments are all too rarely 'translated' into the economic arguments pivotal to securing predictable and adequate funding from national budgets to support implementation activities. Moreover, the link between sound management of chemicals and sustainable economic development is not firmly established in the minds of key finance decision-makers, to the detriment of national funding support for chemicals management activities.

In addition to national budget and international funding, bolstering private sector financial and technical participation in meeting the costs of development/strengthening of legislation for Sound Management of Chemicals (SMC) at the national level, and the full implementation and enforcement of chemicals-related laws through adequately resourced institutions is thought to be a key feature of generating sustainable finance – defined here as sources of finance that are dependable, secure, predictable.

Table 4. Cost Categories for all Stakeholders of Development or Reform of Legal and Institutional Infrastructure Governing the Marketing of Chemicals

Private Sector Commercial entity producing or importing chemicals that they intend to sell or use	Public Sector Government entities providing services that contribute to governing the placement of chemicals on the market	Society
• Provision of information required as part of registration/authorization/licensing procedures, including credible hazard and risk information • Length of waiting times for authorization/licenses/permits • Length of validity of a registration, permit, license ...etc. determining how often business must undergo registration/authorization/licensing procedures; • Reporting obligations	• Investment in registration/authorization/licensing systems for managing market access for chemicals • Training and outreach activities for importers and other primary suppliers • Testing verification • Labeling verification • Testing of residues in products • Food monitoring • Monitoring of human health and environment	• Opportunity cost of investment in chemicals management • Distortionary impacts on economy from increased costs to business

VII. Sustainable Financing through Cost Recovery Charge Systems

Economic instruments are increasingly recognized as one set of policy mechanisms that are ripe for further exploration in chemicals management financing. One subset of economic instruments of particular interest is that of cost recovery – charges and fees⁵¹ attached to particular public services with the intention of recovering costs to government ministries and agencies of providing those services. In the context of managing placement of chemicals on the market, cost recovery measures essentially shift the hidden public costs of managing marketing of chemicals – administrative, capital and operational costs of programmatic activities, such as providing and maintaining chemical registration/authorization/licensing systems - from government budgets to private sources. Cost recovery mechanisms do not necessarily need to cover the full costs of such systems; what is important is that they enable a more appropriate cost burden-sharing between public and private sectors for chemicals management services.

A. Benefits to Private Sector of Better Regulation of Chemicals being Placed on the Market

Better regulation of chemicals benefits the private sector. There are very clear links between a precautionary approach to managing chemicals' placement on the market and economic growth; in particular the reduction of costs and creation of opportunities for business both directly and indirectly linked to chemicals production and use. Trade is a particularly important aspect.

1. Securing and Boosting Exports through Meeting International Product Standards

New legal and institutional infrastructures for the placement of chemicals on the market can play a role in preparing chemicals importers, producers and users for competing in international markets for their particular products and services.

Government regulations enforcing product and food safety standards represent an ever-strengthening safeguard blocking entry to the market of chemicals or products containing unsafe levels of chemicals or chemical residues worldwide. Perhaps the most commonly referred to example currently is the EU REACH Directive, but there are many other examples of pesticide residue testing for agricultural products⁵², chemicals residue testing for aquaculture products⁵³, and textile, toy and food safety standards...etc. either being currently implemented or anticipated in the near future in other markets.⁵⁴

Not meeting product and food safety standards because of poor chemicals management policies has very real impacts for national balance of payments. For example, in Thailand, it is estimated by the Department of Agriculture's Office of Agricultural Economics that the value of returned agricultural exports rose from US\$11million in 1992 to US\$27.8million in 2001 after 20 years of growth in intensive pesticide usage.⁵⁵

Furthermore, surging consumer demand in industrialized markets is growing for products and services that are certified and labelled as being sustainably produced. This demand is perhaps most effectively signaled to smaller-scale producers, exporters and importers through large-scale corporations such as international food producers, clothes manufacturers and supermarkets. Current examples include sustainability efforts by Nestlé⁵⁶, H&M, Cargill⁵⁷, Walmart⁵⁸ and Carrefour⁵⁹.

With the government providing systems for managing chemicals placement on the market, support is being provided to businesses aiming to develop higher value-added organic food production or simply to ensure acceptance of agricultural exports. Higher standards do not necessarily mean a threat to the viability of industries – conversely it can help improve potential for business expansion in foreign markets.

2. Harmonized Standards and Costs for Compliance

The costs of meeting standards demanded by end users in foreign markets can be high, particularly at the top end of the market. By establishing a system that requires all national players in that industry to 'step up

their game', a level-playing field is created whereby unfair advantages from placing unregulated chemicals on the market are to be eliminated.

3. Improved National Reputation as a Place to 'Do Business'

AccountAbility's⁶⁰ 2007 report on Responsible Competitiveness, which covers 108 countries and 96% of global economic activity, suggests that nations who do not address Corporate Responsibility issues, including those related to environmental performance, expose industries located within the State to risks in international economic competitiveness and prospects for growth across the board. Continued 'bad press' reduces the attractiveness of poorly performing nations as places to live and work, and as destinations of investment capital belonging to responsible investors. This infers positive knock-on effects from managing chemicals risks for other industries indirectly connected to chemicals production or use in secondary and service business activities.

4. Increased Well-Being and Productivity

Even where international export markets are not the primary focus for the industries engaged in using chemicals and products containing chemicals of concern in a country, there are significant benefits to be had in terms of health, well-being and productivity from governance of chemicals being placed on the market.

The negative health impacts of chemicals mismanagement typically fall on chemicals workers, chemicals users and local community where chemicals are produced, stored, used or disposed of (with the attendant risks of chemicals accidents and environmental releases). The existing medical evidence is generally well advanced in terms of linking exposures to illness, disease, loss of cognitive functions and death. Without trivializing the human suffering in this story, the 'value' of health, well-being or avoidance of loss of life is typically integrated into policy decision-making through using surrogate monetary values based on measures like costs of medical treatment, compensation for loss of life and loss of future earnings, amongst others.

The work to translate the health impacts from chemicals mismanagement into economic costs is not very well advanced outside of industrialized economies. Nonetheless, the link between chemicals exposure and ability to work, or labor productivity is observed worldwide.

As just one example, FAO/UNEP estimates that from 1 million to five million deaths occur each year due to pesticide poisoning, though official figures on both acute poisonings and deaths are likely to be significantly underestimated because of the problem of underreporting.⁶¹ To continue with this example, the economic costs of these nonfatal poisonings are thought to be considerable. In Sri Lanka, the estimated the productivity costs of farmers' exposure to pesticides are, on average, equal to about a month's income for these farmers.⁶² Similar links to productivity losses have been identified for lead⁶³ and mercury⁶⁴.

What is more, because children are uniquely vulnerable to the subclinical and developmental neurotoxic effects of pesticide, mercury and lead exposures, the associated costs to productivity across the economy are not confined to a single economic group or generation. Childhood exposures can undermine educational achievement and lifetime economic productivity, in turn affecting the economic opportunities for future generations.

As such, preventing exposures through managing the placement of chemicals on the market (and risks at other points on the chemicals life cycle), has the potential to secure increased well-being in a nation's population and with it, national productivity.

5. Benefits for Ecosystem Services and Associated Economic Sectors

Ecosystem services are the benefits that people obtain from ecosystems.⁶⁵ Most services provided by the natural environment are not captured by conventional macro-economic indicators because they are not traded in markets. However, given their vital contribution to long-term economic performance⁶⁶, to omit them in an assessment of benefits of managing chemicals placement on the market is to render that assessment incomplete. Further work is required in linking chemicals management to ecosystem services,

but some benefits from improved management of chemicals have been observed in the following examples:

- Reduced pesticide and nitrate use in agricultural production improves crop pollination services from honey bees and other insect pollinators⁶⁷;
- Improved water quality from reducing intensive use of pesticides and other agrochemicals reducing treatment costs and securing the Vittel brand (now a brand of Nestlé Waters)⁶⁸;
- Reduced cost of drinking water treatment in New York City through reducing the impacts of pesticides and other agrochemicals in management of the Catskills watershed⁶⁹.

6. Positive Feedback for Reduced Costs from Risk across the Chemicals Life Cycle

Instituting a new consideration of chemical risks at the point where the product is being placed on the market is likely to encourage greater early or upstream risk management. Incentives to minimise risks from chemicals are weak because they do not fall wholly on the stakeholders who benefit from their exchange on the market. Without counting human health and environment costs, net benefits perceived from the sale and use of chemicals may be artificially high and not fairly shared between those taking risks with their health and the health of their communities and ecosystems and those who do not take these risks but benefit nonetheless. Re-balancing the costs burden of investment in sound management of chemicals upstream sends a strong signal to importers and producers to take a greater consideration of lifecycle chemicals risks and their management when choosing which chemicals to bring to the market.

B. Service Provision in Governing the Marketing of Chemicals: Options for Cost Recovery Systems

Cost recovery charging systems are usually linked to regulatory systems which provide legal and institutional framework for their implementation and enforcement. It is important to note, that while environmental fines and sanctions do generate financial support for many public agencies engaged in chemicals management at the national level, sustainable cost recovery is not associated with such measures. Rather, cost recovery closes the loop between the delivery of a publically run service enabling better regulation of chemicals being placed on the market and the beneficiaries of such services.

The following is a list of the specific public services for managing the placement of chemicals on the market to which cost recovery fees can be attached. This is not to say that each and every service should have fees attached to it – one charge system is in many cases more efficient, both for administrators and firms.

1. Fees for Administration of registration, authorization and licensing systems

Cost recovery fees can be established to fund the administrative process of providing and maintaining systems for governing the placement of chemicals on the market, including the personnel, technical equipment and computer systems required for this activity.

Fees and charges for cost recovery can be linked to the sequence, schedule and duration of the tasks or activities for managing the placement of chemicals on the market. Once-off fees may be payable for the initial registration of a new substance, as well as ongoing, annual maintenance charges or fees for periodic renewal of the registration. Authorizations and licenses will also have a set length of validity after which they must be renewed – with an administrative charge payable for that renewal process.

2. Fees for training activities for regulations on placing chemicals onto the market

The introduction of new requirements for pre-market risk analysis and approval procedures in an national market will require outreach activities for importers, producers and dealers to inform them of what the regulations want to achieve and what compliance will require of various stakeholders. Charges can be implemented for training courses (with or without certification) that will cover the cost of preparing and delivering workshops to the private sector.

3. Fees for inspection activities

Under compliance monitoring, fees can be mandated for inspection activities and related follow-up verification procedures.

4. Fees for verification activities

While current approaches to chemicals management require private enterprises producing or bringing chemical substances and products containing chemicals to market to conduct the pre-marketing hazard testing, the work of public institutions may require chemical, analytical, biochemical, biological and forensic testing capabilities to verify applications for registration/authorization and/or licenses in some cases. In order to provide financing for the provision of necessary laboratory infrastructure, one option is to implement charges for verification testing procedures for applicant appeals to decisions to reject inclusion in inventories, registration/authorization and licenses due to concern over downstream risks the substance or product presents.

Where few options exist nationally for conducting the original risk analysis on a substance or product for an application for registration, authorization and/or licenses, applicants could feasibly contract a public laboratory to conduct this work. It is worth noting that where national laboratories are directly dependent on verification testing fees for funding, these facilities should not conduct both the original analytical work and the appeal or verification testing for the same application for moral hazard/conflict of interest reasons.

Table 5. Cost Recovery Measures in Managing Placement of Chemicals on the Market

Main Phases in Managing Placement of Chemicals on the Market	Example Public Services	Possible Cost Recovery Measures
1. Identification and assessment of chemicals' hazardous properties and risks	<i>The responsibility for the tasks falling under this step is allocated to the private sector. See p. 32.</i>	
2. Dissemination of hazard, risk and safety information	<i>The responsibility for the tasks falling under this step is allocated to the private sector. See p. 32.</i> Training and outreach activities for suppliers	• Fee for training activities
3. Limitation of sales and use of certain chemicals	Mandated registration/provision and maintenance of an inventory Supply controls, including imports Substances authorization Licensing dealers	• Registration fees • Authorization fees • License fees
4. Compliance monitoring	License/authorization inspections Testing verification Labeling verification Testing of residues in products Food monitoring Monitoring of human health and environment	• Inspection fees • Charges for verification procedures

C. The Legal Basis for Cost Recovery Charges

Cost recovery charging systems for services enabling management of chemicals introduced to markets are linked to the related regulatory systems providing the legal and institutional framework for implementation and enforcement described discussed earlier in this guidance. Cost recovery measures require a legal basis to provide the authoritative basis for these instruments and an institutional organization that oversees effective implementation.

As part of the overarching legislation, necessary elements underpinning cost recovery instruments include the following:

- Empowerment of the Minister, acting in consultation with relevant stakeholders, to enact fees or charges under the respective legislation for activities on managing the placement of chemicals on the market – i.e. requirements for registration, authorization and licensing;
- The allocation of responsibilities for hazard and risk analysis verification activities, stipulating essentially if the private sector must pay for verification analyses to be undertaken, or if the government takes on this responsibility –with the attendant costs;
- The actual fee amount to be paid for a first-time registration, authorization and licensing services, including fast-track applications;
- Annual registration/authorization maintenance fees;
- The interval at which renewals/repeat applications need to be made for the above, and the fees to be paid in respect of this service, including fast-track applications;
- The interval at which inspections and monitoring for compliance with terms of registration/authorization/licenses may be made and the fees to be paid with respect to inspection, monitoring or verification conducted by the public authority,
- Provisions to be made for payment of fees in the case of “orphan” chemical substances or products containing chemical substances that require licenses for importation, production and handling or must be included in national inventories;

- Waiver of fees payable for such services listed above; and
- Fees for further laboratory analysis work required, particularly in relation to appeals procedures;
- Use of revenues generated by the fees should be clearly stated;
- Empowerment of Minister to enact regulations required for better implementation of the cost recovery system; and
- Date of commencement and length of validity of the cost recovery system.

D. Who is Subject to Cost Recovery Systems?

The beneficiaries of public services for managing the placement of chemicals on the market are subject to cost recovery charges or fees, be they domestic producers, foreign-owned firms or importers.⁷⁰ Cost recovery charges should be non-discriminatory, with international firms being treated similarly to national firms, and state-owned firms being subject to the same fees as non-state enterprises. Box 13. lists some questions for identifying firms and individuals likely to be beneficiaries.

Box 13. Questions for identifying entities subject to administrative charges and fees

- ⇒ What entities produce or import chemical substances or products containing chemicals substances that require importation, production and/or handling licenses?
- ⇒ What entities produce or import chemical substances or products containing chemicals substances that are required to be registered on national inventories?
- ⇒ What entities produce or import chemical substances or products containing chemicals substances that require licenses before they can be placed on domestic markets?
- ⇒ What entities benefit from public training activities vis-à-vis regulations for placement of chemicals on the market?
- ⇒ What entities are subject to inspections to ascertain compliance with registration/authorization/licensing requirements?
- ⇒ What entities have initiated appeal procedures which require verification procedures to be conducted by public services?

E. Cost Recovery Charge/Fee Structures

Cost recovery charging typically uses flat rate fees per unit (i.e., per chemical, per volume, per firm) that do not differentiate environment or health impacts of chemical substances or products being registered/authorized, but simply provide a predictable, steady source of funding that covers the cost of providing and maintaining the registration/authorization and licensing system. However, there is scope with these instruments to levy fees by chemical substance, toxicity class, by quantity (per unit), by emissions level, or a combination of these, if desired. Moreover, fee structures do not have to remain fixed over time. As national requirements change, so can the design of cost recovery measures.

1. Flat rate fees

Flat-rate fees per unit (per chemical, per volume, per firm) do not differentiate between chemical substance properties but is instead raised on service provision, product sales, importation or production (with no differentiation between different products within this category based on environmental or health impacts) or volume of emissions above a certain threshold level. Flat rate charging may not create incentives for environmental improvement but it can generate a guaranteed level of revenue at lower information and monitoring costs (though enforcement will still be important) with which public environmental agencies can support other chemicals management activities.

2. Differentiated fees

Environmentally-motivated fees and charges can be graduated with respect to toxic or hazardous properties of a product or a substance to be placed on the market. This system is likely to be fairer and more environmentally-effective than flat-rate versions but is also more difficult to implement as the knowledge to classify all chemicals with respect to the risk they represent is not complete, even in developed countries. As such, the classification would have to be based on a political judgment which could be then open to appeals and challenges.

It is also worth noting that setting significant charges for processing documentation on small number of the most hazardous pollutants, products or perhaps a single sector to reduce information, monitoring and enforcement requirements may not raise adequate financing. Where substitutes that present a lower risk to health and environment are not obliged to be registered/ authorized being traded in markets, differentiated charges can have the effect of reducing the import or production of a more risky product or substance, but little revenue for the government. As such, policy-makers who have revenue-raising as a secondary goal for charge measures must take account of the scope and environmental impact of substitutes available when designing differentiated fee structures.

3. Hybrid fees

The third option is a hybrid between flat and variable rate levies combining flat-rate charges to recover administrative costs and differentiated taxes or fees corresponding to chemical risk. This option, though more complicated than simple flat-rate fees, is a compromise that can generate stable income flows while also providing environmental incentives.

F. What Level should Cost Recovery Charges be set at?

Typically expenditure on public service provision funded through cost recovery mechanisms is driven by the revenues received. An inverse funding process, known as valorization, sees desirable activities identified and finance raised to implement them. In this case, charge and fee levies are set in accordance to the cost of providing a particular service such as administering Pollutant Release and Transfer Registers (PRTs), Integrated Pollution Control licenses or permits, chemical risk assessments, inspection services and training. There may also be national preferences for how taxes and charges are levied in this regard that will be important to consider, but the following guidelines are relevant to most cases.

1. The advantage of low initial charge levels

Low charges, even below the cost of providing the services and systems that manage the placement of chemicals in the market, can be one way to initially secure the cooperation of the private sector in paying new cost recovery-oriented charges.¹ This is particularly important the context of illegal trade and use. The more time-consuming and costly it is for private sector firms to engage in the systems established to manage the placement of chemicals on the market, the more likely they are to risk operating outside of these structures, resulting in increases in illegal movements of products and substances. One further concern to be aware of includes the potential for hoarding of products which polluters know in advance will be required to register (as has happened in pesticides or fertilizers taxation).

2. Administrative feasibility

The design of the regime and the activities required under every aspect of its operation will influence greatly the cost of the systems, their implementation and enforcement – and therefore either the cost-effectiveness of the regime and the amount of financing that must be raised to support implementation. Overall, a balance must be found between simplicity, or low resource requirements, in system design and effectiveness of the various systems to reach the objective of managing the placement of chemicals on the market. Otherwise, administrative procedures become prohibitively expensive for all stakeholders. Box 14. summarizes important considerations for the simplicity of systems that aim to manage the placement of chemicals on the market.

3. Stakeholder engagement

The inclusion of industry stakeholders – including producers, importers and dealers – in setting charge levels for cost recovery instruments is likely to be pivotal to their acceptability and therefore their success.

A good rule of thumb is that charges be kept as low as possible and the services to which they are attached demonstrate clear good ‘value-for-money’. Box 14 lists some important considerations for simplicity of systems design to achieve lowest running costs for regulatory systems governing placement of chemicals on the market.

Box 14. Considerations for systems design to achieve lowest running costs for regulatory systems governing placement of chemicals on the market

- ⇒ Are licenses or authorization given to firms or substances?
- ⇒ How many firms are envisaged as being subject to the register/permits/license systems?
- ⇒ What case for firms with many substances/products containing chemical substances?
- ⇒ What length of validity should be given to registration, permit, license ...etc.?
- ⇒ How often should inspections take place?
- ⇒ How well are the sequence of all activities are organized and planned, including length of waiting times?
- ⇒ How often should registers and permits/licenses databases be revised?
- ⇒ What is a reasonable schedule for firm (importers and producers) reporting/application requirements, and their assessment by government officials?

G. How are Charges to be Implemented?

Successful implementation of cost recovery is conditional on private sector cooperation, effective institutional arrangements for charge implementation and efficient revenue collection systems.

1. Value-for-Money Services and Closed Loop Charges

The degree of industry opposition to new cost recovery measures is likely to depend on the costs involved, the size of the company⁷¹ and the extent to which they can pass on the additional cost to consumers. Linking cost recovery clearly to the service being charged for may help overcome resistance within an industry or in society. Where there is an overlap between payers and beneficiaries, a ‘closed-loop’ of paying charges and receiving benefits of service within a particular sector, locality or in the context of a particular pollution control issue is more positively perceived than money disappearing into the labyrinthine “pot” of general government revenues.⁷²

Incentive compatibility issues are also important to consider. Is there a moral hazard or conflict of interest created in the design of the system, i.e. if institutions are directly dependent on fees and charges for services rendered, are they likely to ‘oversupply’ their service and therefore reduce value-for-money?

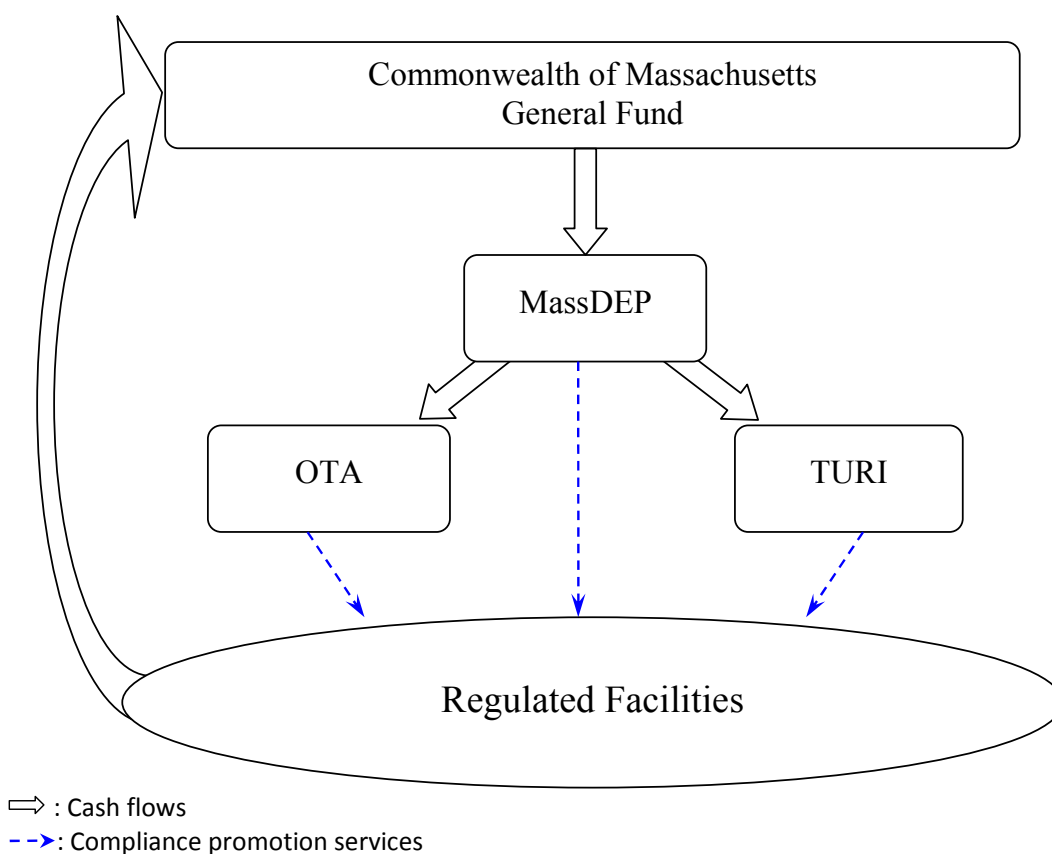
Some partnership models exist that represent an opportunity for closed-loop charge systems, whereby academic institutions, public agencies and private firms work together on implementing governance measures aimed at improving chemicals control (See Box 15).

Box 15. The Massachusetts Toxic Use Reduction Act (TURA) program funding model

The Massachusetts Toxics Use Reduction Act (TURA) programme provides an example of a successful closed-loop charge system.

Under TURA – adopted in 1989 to protect public health and the environment while enhancing the competitiveness of Massachusetts businesses – facilities that use large amounts of toxic chemicals are required to report on their chemical use, conduct toxics use reduction planning every two years, and pay an annual fee. The fees vary by size of facility and by the number of regulated chemicals reported. These fees support the work of the three TURA implementing agencies, including the Massachusetts Department of Environmental Protection (MassDEP), the Office of Technical Assistance & Technology (OTA), and the Toxic Use Reduction Institute (TURI) of the University of Massachusetts, Lowell.

Prior to 2003, all TURA fees went into a dedicated Toxics Use Reduction Fund (TURF). The fund was eliminated in 2003 and the fees now go into the state's general fund. In order to ensure that the fees paid by facilities subject to TURA program requirements are spent for TURA enforcement activities, funds are allocated to a retained revenue account at MassDEP. They are then distributed accordingly to the implementing agencies. In particular, the funding collected is used to provide a wide variety of services, including training, research, grant programs and technical assistance that promote and assist compliance of the regulated facilities. The allocation of collected revenue for compliance promotion services was an instrumental compromise to make industry accept the law.

TURA funding flows:

Sources: - <http://www.mass.gov>
 - <http://www.turi.org>
 - Ellenbecker and Geiser (2011)
 - Informal consultation with Dr. Kenneth Geiser, TURI

2. Phased Implementation

Progressing from a localized pilot (either in geographic or sectoral terms) to broader implementation can offer a 'grace period' to policy-makers and other stakeholders without taking on an unacceptable degree of political risk. Moreover, given uncertainties surrounding actual performance small-scale piloting can give a less costly indication of likely outcomes before moving to a larger scale implementation.⁷³

3. Institutional Organization for Cost Recovery Systems

In terms of institutional arrangements, clarification of responsibilities in implementation is fundamental and must be mapped thoroughly to assign roles in cost recovery operations as efficiently as possible, and set out in the legislation underpinning the charge systems which details the designation of authorities.

The level to which the fiscal system is centrally or de-centrally organized for implementing charges will have implications for cost recovery mechanisms. Specifically, designers of cost recovery charge systems must identify which ministry or agency is best suited to:

- Designing necessary legislation that underpins the charge system
- Collecting revenue from maintaining registries of domestically-produced or imported chemical substances or products, issuing licenses or authorizations, conducting testing and conducting training (either inter-agency or for private enterprise)
- Engaging in stakeholder consultations on the charge systems
- Monitoring compliance with charge systems
- Enforcing compliance with charge systems

4. Systems for Revenue Collection

A transparent, pragmatic approach must be followed in revenue collection activities. Identifying mechanisms that already exist for collecting charges is not only important in determining pre-existing fiscal burdens for charge payers, but also might serve to identify appropriate payment vehicles on which new charges may build on existing charges or fees to avoid unnecessary additional administrative costs. Box 16. lists some questions to be considered in thinking about how fees are to be collected. In the interest of transparency, it is recommended that fees are not collected directly by inspectors due to corruption risks.

Box 16. Important considerations in establishing revenue collection procedures

- ⇒ Which ministry or agency typically engages in revenue collection?
- ⇒ Can this system facilitate or be reasonably adapted to suit the needs of the proposed cost recovery charge system?
- ⇒ How can transparency and accountability be ensured?

H. Monitoring and Enforcing Compliance with Cost Recovery Charges

Inspection services must be in a position to detect firms that have either not completed mandated registration/authorization procedures and/or have not paid the administrative fees attached to these types of systems for managing the placement of chemicals on the market with some degree of regularity.

What is more, even if 'fee-avoiders' have a reasonable chance of detection but it is unlikely that they will be prosecuted, the effectiveness of cost recovery measures will be poor. Weak laws, corruption or a lack of capacity to initiate and persevere with legal action can present problems. In the case of revenue-generating instruments, enforcement mechanisms can capitalize on existing tax laws and their enforcement; and if environmental-related fees, charges and taxes are covered by the same branch of law, performance with other public finance-raising structures will indicate the likelihood of success of these instruments.

The use of sanctions and penalties for late or non-payment of fees can also be considered to encourage compliance with the cost recovery system.

I. Allocating Revenues earned through Cost Recovery

Five generalized options for managing revenues are:

- Direct contribution to general government revenue with no earmarking of the costs recovered;
- Earmarking tied to national budget approval procedures whereby revenues are allocated to supporting chemicals management activities across all ministries in accordance with national prioritization of chemicals management in development planning processes;
- Earmarking tied to national budget approval procedures, whereby funds are returned to the ministry implementing the cost recovery charges via the national budget allocation process;
- Earmarking through environmental funds external to national and line ministry budgets; and
- Direct appropriation by the ministry implementing the cost recovery charges.

At first glance, it seems obvious that revenue raised through cost recovery instruments is generally captured for the provision of services by the agency responsible for chemicals management to fund their own sector or subsector programmes and activities. Yet, revenue raised through chemicals management cost recovery and other financing mechanisms are not always routed back into providing public chemicals management services.

Often, the rules of procedure governing the management of public revenues stipulate that funds raised go to the general returns for the government. From a governance standpoint, earmarking or hypothecation can be viewed as placing costly limitations on how taxes and expenditures are managed. The argument is that effective budgetary control is not possible when government revenue is managed in opaque funds outside the national budget; that earmarking has potential to generate a misallocation of resources, with too much funding been given to earmarked activities and not enough to other social priorities. Furthermore, setting aside revenue infringes on the discretionary powers of the legislative and executive branches of government to decide how government expenditure best matches national interests.

The criticisms of earmarking rest largely on the assumption that central government 'knows best' however. That it is a single entity with a single will that reflects the preferences and wishes of the population, holding the correct understanding of priorities for the nation and operates with close to zero inefficiency. Yet central government inefficiencies certainly do exist. Furthermore, in the case of chemicals management, minimising chemicals risks it is not a priority in many of the countries where it perhaps should be, for many reasons. How then can it be assured that chemicals management receives appropriate funding levels from central government while also maintaining efficiency in governance of national budgets?

From this point of view, cost recovery fees and charges on systems governing placement of chemicals on the market should be routed back into providing financial support for chemicals management activities across ministries. This support can take many forms however. For example, it may be desirable that at least some portion of these funds be returned to industry to support compliance promotion activities, particularly small-to-medium sized enterprises training. Schemes such as these may also have the knock-on effect of reducing public monitoring and enforcement costs.

Similarly, allocating some revenue to a separate national fund (or other instrument) for responses to chemicals-related accidents and incidents may be appropriate, so long as the fund is transparently managed and included in national budget accounting.

Given the cross sectoral nature of chemicals management, it is typically the case that chemicals management activities take place under the programme and project work of various Line Ministries. For governing the placement of chemicals in the market, it may be however, that the Ministry of Environment (MoE) is responsible for chemicals registration and permitting systems that manage chemicals upstream and thereby reduce downstream costs for other Ministries, e.g. Health, Agriculture. Where benefits from managing chemicals that are traded on the market in line with the 'sound management' principle are observed across LM budgets, there is a strong argument for somehow ensuring that the cost of investment in the legislation and institutions required to do this does not fall solely on one already underfunded Line Ministry. Essentially, this can mean allowing for situations whereby funds raised through tax or cost

recovery measures in one institution is earmarked to support chemicals implementation activities in another.

The case for earmarking – or no earmarking – should preferably be made at the stage of law development and included in the law. Therefore, some balanced assessment of the various options for allocating revenue raised through cost recovery, noncompliance penalties and environmental taxation instruments related to the placement of chemicals on the market. The choice between options is a choice to be taken at the national level, depending on what the policy goals and legal/institutional strengths and limitations are in the national context.

VIII. Conclusions and Recommendations

A. Legal and Institutional Infrastructures

1. Legislation should be adapted to the national legal framework and be in accordance with the international commitments of the country.

The choice of the elements to include at the level of law or subsidiary instruments is to be made in accordance with the legal tradition. In general, the law should be kept simple and the technical requirements included in regulations. The law should also provide adequate powers for public bodies to succeed in their mandates. Given the trade related dimension of the placement on the market, particular attention should be paid to international/regional agreements, standards and norms, as well as addressing illegal international traffic. International/ regional harmonization also provides trade opportunities.

2. Improved inter-sectoral information exchange is critical for efficient use of existing information.

Understanding chemical flows, hazards and risks is an integral aspect of proper chemicals management. Proactive and informed decisions to protect human and environmental health can be made in concert with the expanding body of chemicals' risk knowledge. The establishment of cross-sectoral information management systems can help uncover precious existing information, strengthen strategic planning, and facilitate the development of integrated solutions. Careful use of information generated internationally and in countries with similar conditions can also prove to be valuable when localized data are lacking.

3. Legislation governing the placement of chemicals on the market should be comprehensive, coherent, and transparent.

In order to provide an enabling framework for SMC, the scope of legislation governing the placement of chemicals on the market should be broad enough in terms of substances and risks covered. It should clarify the links with other chemicals management legislation (management of chemicals production, use, transport, pesticides, etc.) and to national environment and development policies in a life-cycle perspective. Legislation should address the principle of transparency in decision making, right of information, stakeholders' participation, publicity and community right to know about the presence and emissions of toxic chemicals.

4. There must be a very clear delineation of obligations and responsibilities of key stakeholders affected by chemicals management.

Clear responsibilities should be allocated to public and private sectors stakeholders, taking into account respective capacity and resources. Many countries have transferred the main responsibilities for safe management of chemicals to companies. At least, producers and importers should have the responsibility to generate and provide information on chemicals properties, hazards, risks and safety measures throughout the supply chain. The need for all stakeholders to build the required capacities for sound management of chemicals should be addressed. Education and training can be considered – especially for SMEs, but taking into account the allocation of responsibilities between the public and private sectors.

5. Best use of resources and strong coordination are key for efficient organization of national administration.

Mandates of public authorities should be clear and specific at the three levels (decision-making, implementation and enforcement), and inter-sectoral coordination should be strengthened and formalized. Rules on the conflict of mandates can help improve coordination and resolve potential conflicts. Coherence in public authorities' activities should be sought, by concentration and/or sharing of expertise and resources. Arrangements for resources mobilization should be ensured.

6. Selection and design of policy instruments and measures can be tailored to national circumstances, implementation and enforcement capacity.

Classification and labelling is among the most important instruments for ensuring efficient and cost-effective lifecycle chemicals management. It ensures generation and dissemination of information

throughout the supply chain and assists in building awareness and capacity for chemicals management. Information inventoried through licensing systems for primary suppliers and registration of high-concern chemicals also contribute to building the knowledge-base critical for lifecycle chemicals management. Furthermore, bans and restrictions, and import and export permits are critical instruments for preventing negative impacts of chemicals.

7. Comprehensive and credible compliance systems are the basis effective implementation and enforcement.

Inspections systems should be designed to ensure adequate powers and capacity for inspectors. Coherent and efficient coordination of inspection activities should occur at the three intervention points (customs, primary supply, use). Basic laboratory capacity should be ensured. Reporting requirements can be useful for monitoring compliance and collecting information, but should only be developed to the needed extent as these are demanding for public authorities and companies. Offences and sanctions in case of non-compliance should be carefully designed to ensure effective deterrence of unlawful practices; Compliance promotion activities provide a cheap means for ensuring enforcement of the legislation in complement to effective inspections and sanctions.

8. Regional cooperation can provide an effective and cost-efficient means for strengthening chemicals management.

Cooperation with countries of the same region can provide opportunities for sharing of knowledge and resources. Mutual acceptance of information and/ or decisions as part of registration/ authorization systems should be considered when localized data and capacity are lacking. As well, the development of shared laboratory infrastructures can assist in making the best use of limited resources. Sharing of experience in chemicals management can also be valuable.

B. Sustainable Financing

1. Policy conditions do not need to be perfect for achieving sustainable financing

What matters for effective implementation of these measures is not that policy conditions are ideal but that chemical policy goals are coherent with related economic, environmental and social goals, that an appropriate legal and institutional context has been created and that the design of cost recovery charge systems are consistent with the strengths and limitations of the institutional framework in which they operate.

2. Demonstrate net benefits to all government Ministries, industry and society of strengthening legal and institutional infrastructures governing the placement of chemicals on the market (COI)

Showing that clear net benefits from legal and institutional infrastructures exist, and the benefits are to be shared across both the public and private sectors, the task of arguing for sharing the cost of investment to obtain these benefits between the public sector and private industry is not as impossible.

3. Minimise costs of legal and institutional infrastructures upfront

Since the costs of new legal and institutional infrastructures will depend on the design of registration, licensing and permitting systems and the effectiveness of coordination between government ministries in implementing the new legislation, amongst other cost factors, the public sector has a responsibility to ensure that costs are minimized from the outset through sensible cost effective system design. Charges should be kept as low as possible.

4. Build credibility with the private sector

In paying at least part of the cost for managing the placement of chemicals on the market to reduce risks across the chemicals lifecycle, the private sector has the 'right' to expect an adequate service in return. That is to say, that inventories will be adequately maintained and registration/authorization and licensing laws enforced such that any firm found to be noncompliant *will* have costly consequences to face. In this way, the principle of a level-playing field is upheld with those who do not play by the rules of the game not benefiting from an *unfair* competitive advantage.

5. Make it clear what is being paid for

By closely linking cost recovery charging with spending – or service delivery – resistance within industry or society to cost recovery systems may be overcome. A ‘closed-loop’ of paying charges and receiving benefits of service within a particular sector, locality or in the context of a particular issue, is more positively perceived than money disappearing into the labyrinthine “pot” of general tax returns. The services to which they are attached demonstrate clear good ‘value-for-money’

6. Seek out windows of opportunity

Identifying ‘windows of opportunity’ or opportune moments in broader policy-making or legislative changes will increase the chances of successfully funding programmes for managing placement of chemicals on the market.

7. A broad range of stakeholder consultation means a more considered legal and cost recovery system design (general point)

Identifying and engaging with a broad range of stakeholders is one way of ensuring that important design issues are covered and political acceptability for the measures achieved.

8. Phased Implementation

Progressing from a localized pilot (either in geographic or sectoral terms) to broader implementation can offer a ‘grace period’ to policy-makers and invested stakeholders without taking on an unacceptable degree of political risk. Moreover, given uncertainties surrounding actual performance small-scale piloting can give a less costly indication of likely outcomes before moving to a larger scale implementation. Low charges to higher

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X. Annexes

A. Annex 1: Template for a Framework Law Governing the Placement of Chemicals on the Market

1. General

1.1. Purpose of the legislation, scope and general application

This section clearly defines the purpose of the legislation.

1.2. Scope

The scope should clarify the coverage of substances/ uses, hazards and risks, and activities. The scope should also identify the existence of other pre-existing, specialized chemicals management legislation and state the exemptions.

1.3. Definitions

This section provides a list of the definitions used in the legislation. In drafting the definitions, internationally agreed sources such as the Code of Conduct should be used, along with other national legislation on related subjects, if any.

Possible terms to define include:

- Chemical:
- Substance:
- Mixture:
- Toxic chemical:
- Use:
- Import/export:
- Supplier:
- User:
- Distributor:
- Qualified user/distributor/supplier (eg. what qualifications are needed to handle the chemical):
- Pictogram:
- Symbol:
- Label:
- Hazard:
- Package:
- Storage label:
- Risk:
- Active substance:
- Official laboratory:
- Importer:
- Exporter:

1.4. Discretion in definitions

This subsection provides flexibility to altering definitions as issues are identified or more stringent policies are set in place. Included in this section can also be provisions to allow the governing body(ies) to define substances as 'toxic' or 'hazardous' despite their categorization under the current definitions.

2. General Responsibilities

2.1. Governing bodies

This subsection should present, in detail, the responsibilities and obligations imposed on governing bodies. This includes activities such as licensing, enforcement, risk assessment review, preparation of annual summary reports for public disclosure, etc.

2.2. Enterprises and others handling chemicals

This subsection should present, in detail, the responsibilities of entities which handle chemicals in some form. Obligations might include the reporting of hazard and risk information to users and the obligation to ensure that all held and distributed chemicals conform to GHS standards.

3. Administration

This sub-section allows for clearly stating the powers and mandates of public authorities. Inter-sectoral coordination mechanisms can also be formalized in this section.

3.1 Powers of the Primary Responsible Authority

This section describes the powers of the Primary Responsible Authority. Adequate powers should be provided to the Primary Authority to carry out its mandate.

3.2 Power to issue detailed provisions

This section adds flexibility to the legislation, by allowing for the issuance of more detailed regulations at a later date.

In general, the power to issue subordinate enactments is not limited in the law, and the Primary Authority is authorized to issue all regulations required to achieve the objectives of the law. In some cases, a list of areas for possible regulations is included in an annex to the law.

3.3 Coordination mechanisms

This section outlines the mandate, functions and powers of the coordination mechanisms. The section should designate the authority to appoint members and the conditions for appointment and renewal, define the membership (especially with regard to qualifications), and delineate rules of procedure.

3.4 Delegation

Further flexibility is added to the legislation in this section, with provisions allowing for the government to delegate and assign authorities on specific subjects. This could include external sources of risk assessment information such as GHS.

4. Bans and Restrictions

This section provides authority to the Government to ban or restrict import, marketing, use, export, or other handling of a dangerous chemical, including its use in articles, in the country. The list of banned or restricted substances can possibly be presented as regulation.

5. Registration/ Authorization

This section should identify the authority responsible for registration/ authorization, and clarify its power and functions. The powers of the responsible authority will typically include the right to ask for further information at any time, to amend, suspend or cancel the registration if new information justifies it, and to charge fees.

An application procedure should be established, including the procedure to follow when applying for already approved chemicals or chemicals conditionally approved.

Legislation should also define transparent criteria to be used by the responsible authority for decision making. These criteria should preferably be based on internationally recognized guidelines. Generally, a bounded period is given to authorities to make and communicate a decision to the applicant. In addition to risk factors, the label is generally also reviewed as part of the registration/ authorization process. In case the decision is to deny registration/ authorization, authorities are commonly required to provide a written explanation of the reasons for the denial. A procedure should also be established for applicants to appeal against the decision.

Possible decisions by the responsible authority should also be indicated. Three types of decisions are generally included: approval, conditional/provisional approval, and deny. Registration/ authorization

should be time limited because of the need to take into account evolution of scientific knowledge on chemicals risks.

Provisions allowing the responsible authority to review registration/authorization in light of new knowledge should also be included, as well as powers to impose new conditions, or revoke the registration/authorization if a) the use of the chemical is not judged desirable, and b) as a penalty for non-compliance. To facilitate enforcement, third parties presenting new relevant information can also be entitled to call for a re-evaluation the application by the responsible authority.

The authority responsible for record-keeping is to be assigned, and the content of the records defined. Special attention should be paid to the confidentiality of information provided by companies.

5.1. Obligations to register chemicals

The subsection must clearly define who is obligated to register the chemicals (ie. What stage of the supply chain), what types/categories of chemicals need to be registered, as well as what information is required.

5.1.1. Valid External Sources

To alleviate some resource concerns, the legislation can identify external sources which serve as “valid” sources of information for risk data or any other information presented in the registration form.

5.2. Exemptions, special cases

To add flexibility to the legislation, exemption of specific substances can be given. This could be in the form of a “pre-authorization” or inherent registration. This would only apply for low risk chemicals or chemicals that are low risk when used in small quantities.

6. Licensing

Similar detail to registration would be required, such as when licensing is required, what enterprises or chemicals require licensing, renewal period for licensing, information required to apply for a license, etc.

The law on chemicals should charge the competent authority with receiving, evaluating, approving or denying applications for licenses, specify the application form and procedure, indicate the requirements for the grant of a license, list the types of licenses, define the term of validity of the licence and the procedures for its renewal. The law should require products to conform to relevant standards. It should also set out an appeal process linked to the licensing scheme.

7. Evaluation

7.1. Purpose of Evaluation

To ensure quality of evaluations, legislation must clearly define what the expected outcomes of an evaluation are. Possibly there could be several types of evaluations for different categories of chemicals, quantities, uses, inherent toxicity, and other such defining characteristics.

7.2. Responsibility of Evaluation

Defines who is responsible to evaluate the risk of the chemical.

7.3. Method of Evaluation

To facilitate the risk assessment process and to ensure comprehensive studies, a standard protocol and/or guidelines to evaluate the risk of a substance can be provided in this subsection. Several unique protocols would likely be needed depending on the category of chemical. The protocol and classification scheme can be adopted from another program (i.e. GHS). It is suggested that detailed protocols be included as regulation or schedules to the legislation.

7.3.1. Valid External Evaluations

To minimize resources required, allow for the use of evaluations done in other jurisdictions so long as they comply with certain standards (ie. OECD Guidelines or GHS). Very broadly, the legislation could accept all evaluations done under REACH or similar programs.

8. Import and export

Specifies the authority for import and export permit systems. The application procedure for import and export permits should be outlined, as well as the procedure and criteria for decisions.

Donations or imports by public entities for identified specific purposes can be exempted.

9. Packaging and repackaging

The law should contain provisions on packaging and repackaging of chemicals, taking into account the Rotterdam Convention.

10. Classification, Labelling, Storage/Transportation requirements

10.1. Classification and Labelling

Explicit statement that hazard assessments, classification, and labelling shall be done in accordance with the selected classification and labeling scheme (i.e. GHS). It should be clear what chemicals, substances, mixtures, and intermediate products this applies to.

When the GHS is applied, this section should also make clear the obligation to provide Material Safety Data Sheets (MSDS) to the user by the supplier.

10.2. Storage/Transportation requirements

The legislation should clearly state the requirement for users/producers/distributors to follow standard protocols of the classification and labeling scheme applied (i.e. in GHS and MSDS sheets) for storage and transportation. This would include requirements for proper signage on transport vehicles and storage vessels, records of transport, and use of specific safety equipment and vehicles.

11. Reporting Requirements

11.1. Authority to request for information

The subsection is to provide provisions which allow for the governing bodies to ask for any information about chemicals related to health and environmental risk. Clearly define when the government is justified to request for information (eg. when new evidence points to altering the risk associated with a chemical). It is also possible to tie in reporting requirements with registration, authorization, and licensing.

11.2. Obligation to report new information

To ensure that the governing bodies are always kept informed about the latest information on chemical risk, a provision should be included which obligates industry (and other parties) to report any new information they discover related to the risk assessment of chemicals.

11.3. Obligation to give information about activities with registered chemicals

Further to collecting data on parameters related to chemical use, production, or distribution, reporting requirements can include requirements to give access to information upon request i.e. on report emergency management and safety plans. This would encourage and implement a culture of assessing chemical release risk and provides a protocol to be followed in case of emergency.

11.3.1. Form of reports

This subsection indicates the form of reports to be submitted as part of the reporting requirements. Templates can be provided as part of this subsection, so as to maximize standardization of information reported.

12. Inspections

12.1. Inspection Authority

Delineates the authority/authorities that are given the responsibility of inspections. Inspectors can be appointed by a governing body to carry out these activities.

The law should permit this authority to use not only its employees but also employees of other ministries or agencies or even private contractors for carrying out the inspection measures. This possibility can be allowed for by including in the law that inspectors are those officers appointed “or designated” as such.

The law should establish a system for identifying and certifying the official analysts and laboratories that will carry out the required analysis of samples taken under the law.

12.1.1. Obligations of enforcement authority

States the obligations and activities that must be carried out by the enforcement authority. This could include a schedule for inspections related to certain high risk chemicals or a general statement about inspections when it is deemed necessary (by the authority).

12.1.2. Power of enforcement authority

Makes clear statements about the power of the enforcement authority to request for information, inspect premises or storage, and to ask for evidence within the scope of enforcing this legislation. This section can likely be adapted from existing legislation with inspection and enforcement provisions.

12.2. Orders

This section allows for an order to be imposed by an enforcement agent to an entity under this legislation. The order provides a record of non-compliance and should provide a timeline for the entity to come into compliance. This allows for further escalation of enforcement activities and penalties to be issued. This subsection must clearly delineate what can be asked for in an order (eg. cease and desist)

12.2.1. Appeal of orders and enforcement actions

Allows for the appeal of order and enforcement actions. Clearly delineates what group or body would be in charge of overseeing the appeal and given the responsibility to pass final judgment.

13. Advertising

Provisions for the control of advertising should be included in the law. The authority for enforcement of advertising requirements should be designated.

Advertising of any unregistered or illegal chemical; advertising any chemical in a false or misleading manner or in a manner intended to deceive; and advertising in a way that is contrary to the conditions of the registration of the chemical or contrary to its approved label should be prohibited.

15. Offences

Offences must be defined in the law, as a basis for determining the penalties that may be imposed. The offences should also include actions by persons acting officially on behalf of the competent authority. They should be categorized as criminal or administrative observing the country's international commitments such as the *Basel Convention on the Transboundary Movement of Hazardous Wastes and Their Disposal*.

16. Penalties, sanctions

16.1. Penalties

Delineates that penalties (typically fiscal) can be applied for non-conformance with any part of the legislation (and regulations) as well as any order made by the enforcement authority under 0. The schedule of fees for various types of violations would typically be delineated in regulations

16.2. Sanctions

In cases of continual non-conformance with orders, allows for the governing body/bodies, in their judgment, to apply sanctions and restrict the operations of the non-conforming entities.

16.3. Procedure

After determining the applicable penalties, the law should next set out the procedures applicable once an offence has been committed (unless this is governed by a criminal or administrative procedure code). These

procedural rules are important as they protect an individual's basic rights by defining, *inter alia*, the notice obligation, the right to a hearing and the right to appeal a negative decision.

17. Confidentiality

The confidentiality of the information provided by the companies in the course of the registration process is a sensitive topic for the production industry and requires detailed provisions. Therefore, it is recommended not to include provisions governing the confidentiality into the law on chemicals or pesticides but to refer to the provisions and guidelines specifically concerning the confidentiality of intellectual property on formulations.

17.1. Request for confidentiality

This section states the conditions under which information submitted to public authorities by businesses and other entities required to provide information can remain confidential and not distributed to the public.

17.2.1. Confidential Business Information

Delineates what types of information can be made confidential and the acceptable types of justification.

17.2.2. Form of application

Clearly states what must be provided by the business in a request for confidentiality.

17.2.3. Exemption from confidentiality

Allows for the governing body to distribute any information to the public, if it is in the interest of public health, regardless of confidentiality claims or requests.

18. Appeal

Sets out procedures for appeals against negative administrative decisions. Appeals should be allowed for registration, licensing and permit decisions, as well as with regard to penalties and sanctions.

Clearly delineates what group or body would be in charge of overseeing the appeal and hear the appeal. In some countries the appeals can or have to be channeled through the normal legal system.

19. Miscellaneous provisions

Under this section, the law may contain other issues that do not fit into the categories already addressed but a country may wish to address in the law. These include provisions on the liability of inspectors or officials, legal presumptions, appeals against negative administrative decisions under the chemicals law and the many subject matters that the minister or other competent person may address through regulations in order to carry out the purposes of the law.

20. Entry into force and application. Transitional

20.1. Schedule of Entry into Force

Clearly states when the legislation (or pieces of it) come into force and must be complied with. If periodic reporting is required, ensures that it is clear when the schedule for reporting starts and the deadline for submission of the first report.

20.2. Transitional

Clearly defines how previous activities with now regulated substances will be handled. If other regulations are being phased out when this legislation comes into force, ensure that the transition between legislation is clearly defined. This can be done through regulation.

It is important to explicitly refer to any existing law or legal provisions that are superseded by the new law. If an earlier pesticide law is being replaced, then the new law will either state that the old law is repealed in its entirety, or it may list specific provisions that have been repealed.

B. Annex 2: Sectoral Public Bodies Generally Engaged in Some Aspect of Chemicals Management⁷⁴

The titles of ministries are generic and countries may use different ones for their authorities:

- ⇒ Ministries of *Agriculture* are generally concerned with the use of agricultural chemicals for the benefit of securing food supplies;
- ⇒ *Customs Authorities* are generally responsible for ensuring that chemicals do not enter or leave the country contrary to government regulations, and tariffs and duties;
- ⇒ Ministries of *Environment* are generally concerned with the direct and indirect effects of releasing chemicals into the environment as emissions and wastes to air, water and land;
- ⇒ Ministries of *Finance* have a central role in financial resource allocations for chemicals related activities;
- ⇒ Ministries of *Foreign Affairs* usually co-ordinate all international aspects of chemicals management, such as participation in relevant international agreements and conventions;
- ⇒ *Government printing/publications offices* are generally concerned with the publication and distribution of laws, regulations and other government documents, and can play a role in raising public awareness;
- ⇒ Ministries of *Health* are mainly concerned with the short- and long-term health impacts of chemicals (including emergencies and poisonings) on the general public or specific population groups;
- ⇒ Ministries of *Industry* are often concerned with the production of chemicals and chemical products and the introduction of cleaner production technologies;
- ⇒ Ministries of *Justice* or *Legal Affairs* are generally concerned with the development and enforcement of laws and regulations, and often deal with issues concerning public access to information, the protection of confidential business information, criminal and forensic issues and accidents/incidents/terrorism;
- ⇒ Ministries of *Labour* are generally concerned with occupational health and safety issues related to the use and handling of chemicals at the workplace;
- ⇒ Ministries of *Planning* primarily deal with economic planning (and land use/regional development). This ministry can also often deal with the donation or receipt of development assistance, which could include chemicals for agricultural use, technical or financial assistance for the development of chemical industries, or technical assistance for the management of chemicals;
- ⇒ Ministries of *Science and Technology* play an important role in deciding the future direction and resource allocations for research and, at least indirectly, action on chemicals;
- ⇒ Ministries of *Trade* are generally responsible for regulating the import and export of chemical substances and often have the authority to issue relevant trade permits; and
- ⇒ Ministries of *Transport* are generally concerned with the safe transportation and storage of chemicals during the distribution phase.

C. Annex 3: Sources of Information for Chemicals Management

International sources of information include:

- IOMC Global Information Network for Chemicals (GINC).
- WHO Global Health and Environment Library Network (GELNET).
- UNEP-WHO Health and Environment Linkages Initiative (HELI) website. www.who.int/heli
- IPCS INCHEM. <http://www.inchem.org/>
- WHO International Agency for Research on Cancer (IARC). <http://monographs.iarc.fr/>
- UNEP-INFOTERRA. <http://www.unep.org/infoterra/>
- UNEP Chemicals Chemicals Information Exchange Network. <http://jp1.estis.net/communities/cien/>
- OECD eChemPortal. <http://webnet3.oecd.org/echemportal/Home.aspx>
- International Council of Chemicals Associations (ICCA) Global Product Strategy (GPS) Chemicals Information Search Portal. <http://www.icca-chem.org/en/Home/ICCA-initiatives/global-product-strategy/chemical-information-search/>
- Different types of publications:
 - *Environmental Health Criteria* documents;
 - *Concise International Chemical Assessment Documents*;
 - *Health and Safety Guides*;
 - *International Chemical Safety Cards*;
 - *Poisons Information Monographs*;
 - JECFA and JMPR Monographs;
 - OECD Screening Information Data Sets (SIDS) Information Assessment Reports;
 - UNEP and European Centre for Ecotoxicology and Toxicology of Chemicals (ECETOC) *inventory of critical reviews on chemicals*.
 - OECD *Guidelines for the Testing of Chemicals and Principles of Good Laboratory Practice*;

Regional, national and local sources of information include:

- Public bodies involved in one aspect or the other of chemicals management (transport, industry, agriculture, mines, health, environment, etc.). Cross-sectoral and multi-level sharing of available information can be beneficial for all as it allow the development of new knowledge on and solutions for addressing the country's needs, and considerably reduces the costs of information.
- General national assessments such as census, demographic data, health statistics, health/environmental monitoring results, etc.
- Publications and research papers from research institutions and universities, professional bodies;
- Data and publication from private sector import organizations;
- Data and publication from trade unions;
- Data and publication from "grass roots" organizations;
- Information maintained by rescue service agencies (e.g., police and fire departments), hospitals and local planning/zoning boards;
- Information on toxic exposures to chemicals and on chemical incidents collected by poison centers

¹ For a preliminary overview of existing information on environment and health impacts of chemicals, see UNEP (Nov2009).

² OECD (2001):35, OECD (2008): 381

³ SAICM/ICCM.2/12, para. 29

⁴ SMC is defined as: the application of “managerial best practices to chemicals throughout their life cycle to prevent, and, where this is not possible, to reduce or minimize the potential for exposure of people and the environment to toxic and hazardous chemicals.” UNDP (2010); p. 5.

⁵ For the purpose of these guidelines, the expression “legal and institutional infrastructures” includes legislation and institutional arrangements. Legislation includes the collection of legislative statutes and subordinate enactments regulating a specific issue (i.e. the placement of chemicals on the market). Institutional arrangements are the organization of human, financial and technical resources of national administration for decision-making, implementation and enforcement of a national chemicals management policy.

⁶ Note: “SAICM does not cover products to the extent that the health and environmental aspects of the safety of the chemicals and products are regulated by a domestic food or pharmaceutical authority or arrangement.”, Overarching Policy Strategy, Section II Scope, p. 11.

⁷ See for example: UNEP (1995), IPCS-IOMC (August 1998), UNITAR/UNDP/GEF Action Plan Project review (April 2005), and UNITAR-IOMC (January 2004).

⁸ As: “the basic governance framework – such as legal, technical, administrative, institutional, civic, and policy capabilities – which a country must have to support effective management of chemicals throughout their life cycles.” See: UNEP-CIEL (2007); p. 6.

⁹ These categories are taken from UNEP (1995).

¹⁰ FAO (2007); pp. 86-88.

¹¹ See UNITAR-IOMC (August 1998); p. 19.

¹² Some Small and Medium Enterprises (SMEs) might not have access to Internet.

¹³ UNITAR-IOMC, 1998, p. 33.

¹⁴ For more information on information exchange mechanisms and on the use of electronically available information, see: UNITAR (August 2001); and IPCS-IOMC (August 1998).

¹⁵ For more information, see: www.unep.org/roa/hesa/

¹⁶ This issue has been recognized as crucial in SAICM and is one of the five main categories of needs for SAICM implementation. See *SAICM Overarching Policy Strategy*, para. 11, p. 14.

¹⁷ Under the WTO rules, “like” is defined not by the physical or chemical properties of a product; if two products have the same end-use, perform to the same standard, are considered substitutes, and require no different treatment for use, handling or disposal, they are considered to be “like” products. See IISD/UNEP (2005: 34-38) for further discussion on interpretations of “like” products. Far beyond the scope of this guidance, but interesting nonetheless, would be some further analysis on how the principle of substitution in sound management of chemicals relates to this concept.

¹⁸ The justification must be scientifically based and the need for trade measure clearly demonstrated. Furthermore, the Chapeau of Article XX states that countries can not require another State to adopt a certain technology; differences in conditions prevailing in other countries must be shown to have been taken into account; negotiations must precede unilateral measures; foreign countries must be given time to adjust; and, due process must be followed.

¹⁹ See http://www.wto.org/english/tratop_e/gatt_e/gatt_e.htm, last accessed 30 March 2011.

²⁰ See http://www.wto.org/english/thewto_e/whatis_e/tif_e/agrm1_e.htm, last accessed 30 March 2011.

²¹ Information on a significant amount of standards can be found on the website of the International Standardization Organization (ISO), at: www.iso.org

²² Bucht (2008); p. 6.

²³ In this Guidance, broad coverage of chemical substances is defined in line with SAICM’s scope. See section I.C.1.

²⁴ See for example the UNEP Chemicals in Products (CiP) project: <http://www.chem.unep.ch/unepsaicm/cip/default.htm>

²⁵ These categories are adapted from: Bucht (2010); p. 18.

²⁶ Such cost-sharing allocation should be done in light of a) the hidden public costs of managing the marketing of chemicals, and b) of the private benefits of better regulation. See chapter VII, Sustainable Financing through Cost Recovery Charge Systems.

²⁷ As included in the Dubai Declaration on International Chemicals Management of SAICM, 2006, paragraph 20: “We stress the responsibility of industry to make available to stakeholders such data and information on health and environmental effects of chemicals as are needed safely to use chemicals and the products made from them” (p. 8)

²⁸ Bucht (2008); p. 27.

²⁹ Adapted from Bucht (2008); p. 28.

³⁰ For more information on the rationale for and value of this approach, see: www.who.int/heli/, and www.unep.org/roa/hesa/

³¹ See the chapter “Sustainable Financing through Cost Recovery Charge Systems” of this Guidance, and especially sections G and I.

³² See FAO (2007); p. 49.

³³ For more information on the GHS, see: <http://www.unitar.org/cwm/ghs> and the related publications.

³⁴ Several chemicals conventions have either included reference to GHS or have use GHS criteria in their requirements. For more information, see: UNITAR (June 2010); p. 9.

³⁵ See: http://www.who.int/ipcs/publications/pesticides_hazard/en/

³⁶ It is to be noted that Parties to the WTO need to notify the secretariat of their bans and restriction decisions.

³⁷ FAO (2002); Article 7.5, p. 18.

³⁸ See in particular: FAO (April 2010), FAO (January 1989). For other related guidelines, see:

<http://www.fao.org/agriculture/crops/core-themes/theme/pests/pm/code/list-guide/en/>, and FAO (2007); pp. 42-49.

³⁹ For definitions of “registration”, see: IPCS-IOMC (August 1998); Annex 2, p. 75, as well as FAO (November 2002); p. 7.

⁴⁰ See for example: FAO (2007); p.43.

⁴¹ See for example: ILO, *Encyclopaedia of Occupational Health and Safety*, Part VII. "The Environment", art. Laws and Regulations, http://www.ilo.org/safework/info/databases/lang--en/WCMS_113329/index.htm

⁴² The article 8.2 of the FAO Code of Conduct specifically recommends that manufacturers ensure that exported pesticides meet the same quality standards than comparable domestic products.

⁴³ Sanction is generally defined as "the detriment, loss of reward, or coercive intervention annexed to a violation of a law as a means of enforcing the law". Adapted from the Merriam Webster online dictionary, at: <http://www.merriam-webster.com/dictionary/sanction>. In this approach, "penalty" is defined as a negative sanction.

⁴⁴ UNEP (1995); p. 40.

⁴⁵ The Basel Convention for example requires that Parties consider illegal traffic of hazardous waste as a criminal activity (article 9)

⁴⁶ See, for example: International Labour Organisation (ILO), *Encyclopaedia of Occupational Health and Safety*, "Part VII. The Environment, art. Laws and Regulations", available at: http://www.ilo.org/safework/info/databases/lang--en/WCMS_113329/index.htm

⁴⁷ For more information of the benefits of involving stakeholders in the policy making process, see for example: IPCS-IOMC (August 1998), UNITAR/UNDP/GEF Action Plan Project review (April 2005), and UNITAR-IOMC (January 2004).

⁴⁸ The following discussion does not detail all potential costs for individual national cases, nor are all the cost categories and factors relevant for each and every circumstance. Rather, the purpose is to outline the different cost categories generally anticipated in designing, establishing and implementing new chemicals legislation and the factors influencing the magnitude of these costs.

⁴⁹ SAICM/ICCM.2/12: 7-9 and para. 28,31.

⁵⁰ SAICM/ICCM.2/12, para. 29

⁵¹ Charges refer to prices typically levied on a pollution source to finance the service provision, administration and enforcement of legislation concerning that particular pollution. Fees are paid as remuneration for administrative services.

⁵² FAO(2004): 56-57

⁵³ See SEAFDEC (2000) *Use of Chemicals in Aquaculture in Asia*, [http://www.seafdec.org.ph/pdf/Use of Chemicals in Aquaculture in Asia.PDF](http://www.seafdec.org.ph/pdf/Use_of_Chemicals_in_Aquaculture_in_Asia.PDF), accessed 16 June 2010

⁵⁴ See for example, Australia and New Zealand: <http://www.daff.gov.au/aqis/import/food>, accessed 15 June 2010;

⁵⁵ WHO/UNEP (2008): 58-60

⁵⁶ See <http://www.nestle.com/MediaCenter/NewsandFeatures/AllNewsFeatures/TheCocoaPlan.htm>, accessed 15 June 2010

⁵⁷ See http://www.cargillcocoachocolate.com/News%20Centre/2010_article06.shtml, accessed 15 June 2010

⁵⁸ See <http://walmartstores.com/Sustainability/9292.aspx>, accessed 15 June 2010

⁵⁹ See <http://www.carrefour.com/cdc/responsible-commerce/product-safety-and-quality/>, accessed 15 June 2010

⁶⁰ AccountAbility (2007) <http://www.accountability21.net/default.aspx?id=982>, last accessed 14 June 2008.

⁶¹ FAO/UNEP (2004)

⁶² Wilson and Tiddsell (2001), Wilson (2002)

⁶³ See Wallsten and Whitfield (1986); Schwarz (1994); Salkever (1995) ; Grosse et al. (2002), Landrigan et al.(2002); Tsai and Hatfield (2010), <http://www.csun.edu/~vchsc006/lead.pdf>, last accessed 30 March 2011.

⁶⁴ See Hylander and Goodsite (2006); Trasande et al. (2005, 2010)

⁶⁵ UNEP (2009) *Ecosystem Management Programme: A New Approach to Sustainability*, <http://www.unep.org/ecosystemmanagement/LinkClick.aspx?fileticket=gbPVsoUCp-E%3D&tabid=293&language=en-US>, accessed 16 June 2010

⁶⁶ TEEB (2009) The Economics of Ecosystems and Biodiversity for National and International Policy Makers – Summary: Responding to the Value of Nature, <http://www.teebweb.org/LinkClick.aspx?fileticket=l4Y2nqqlICg%3d&tabid=1021&language=en-US>, accessed 16 June 2010

⁶⁷ TEEB (2010:8)

⁶⁸ See Perrot-Maitre (2006), <http://www.ibcperu.org/doc/isis/8085.pdf> last accessed 30 March 2011.

⁶⁹ See New York City Watershed Programme, Department of Environmental Conservation, New York State, <http://www.dec.ny.gov/lands/25599.html>, accessed 16 June 2010

⁷⁰ See above discussion on compliance with international trade rules on pg 25.

⁷¹ OECD (2005):100

⁷² Sterner (2002):98

⁷³ O'Connor (1998):107

⁷⁴ Adapted from: UNITAR (January 2004), *Developing and Sustaining an Integrated National Programme for Sound Chemicals Management*, pp. 30-31.

International Conference on Chemicals Management**Third session**

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Item 4 (d) of the provisional agenda*

**Implementation of the Strategic Approach to
International Chemicals Management:
Financial and technical resources for implementation****Global burden of disease attributable to chemicals:
information provided by the World Health Organization****Note by the secretariat**

1. The secretariat has the honour to circulate, in the annex to the present note, information provided by the World Health Organization (WHO) pursuant to resolution II/3 of the International Conference on Chemicals Management which encourages additional research on the economic and social costs of unsound chemicals management, including the cost of inaction and the implications for the health sector.

2. The annex contains the published WHO study "Known and unknowns on burden of disease due to chemicals: a systematic review"¹. This study systematically reviews all available information on the global burden of disease involving chemicals through various media, including air, water, occupational exposures and direct ingestion.

The study finds that globally, 4.9 million deaths (8.3% of total) and 86 million Disability-Adjusted Life Years (DALYs) (5.7% of total) were attributable to environmental exposure and management of selected chemicals in 2004 for which data were available. This figure includes indoor smoke from solid fuel use, outdoor air pollution and second-hand smoke, with 2.0, 1.2 and 0.6 million deaths annually. These are followed by occupational particulates, chemicals involved in acute poisonings, and pesticides involved in self-poisonings, with 375,000, 240,000 and 186,000 annual deaths respectively. Considering only those selected industrial and agricultural chemicals for which data were available,² the global burden of disease amounts to 1.7% globally (in DALYs), or 2.0% of all deaths.

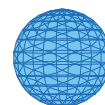
* SAICM/ICCM.3/1

¹ Environmental Health 2011, 10:9 doi:10.1186/1476-069X-10-9.

² The limited number of chemicals or their mixtures for which data were available for the study includes for example chemicals involved in acute poisonings, occupational lung carcinogens and particulates, outdoor and indoor air pollution mixtures, lead, asbestos and arsenic

The burden of disease from chemicals which could not yet be assessed at global level remains unknown. This WHO study on the global burden of disease has been utilized by the United Nations Environment Programme in its report on the "Cost of Inaction" and the OECD's "Global Environment Outlook" due for release in 2012.

Annex



REVIEW

Open Access

Knowns and unknowns on burden of disease due to chemicals: a systematic review

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Abstract

Background: Continuous exposure to many chemicals, including through air, water, food, or other media and products results in health impacts which have been well assessed, however little is known about the total disease burden related to chemicals. This is important to know for overall policy actions and priorities. In this article the known burden related to selected chemicals or their mixtures, main data gaps, and the link to public health policy are reviewed.

Methods: A systematic review of the literature for global burden of disease estimates from chemicals was conducted. Global disease due to chemicals was estimated using standard methodology of the Global Burden of Disease.

Results: In total, 4.9 million deaths (8.3% of total) and 86 million Disability-Adjusted Life Years (DALYs) (5.7% of total) were attributable to environmental exposure and management of selected chemicals in 2004. The largest contributors include indoor smoke from solid fuel use, outdoor air pollution and second-hand smoke, with 2.0, 1.2 and 0.6 million deaths annually. These are followed by occupational particulates, chemicals involved in acute poisonings, and pesticides involved in self-poisonings, with 375,000, 240,000 and 186,000 annual deaths, respectively.

Conclusions: The known burden due to chemicals is considerable. This information supports decision-making in programmes having a role to play in reducing human exposure to toxic chemicals. These figures present only a number of chemicals for which data are available, therefore, they are more likely an underestimate of the actual burden. Chemicals with known health effects, such as dioxins, cadmium, mercury or chronic exposure to pesticides could not be included in this article due to incomplete data and information. Effective public health interventions are known to manage chemicals and limit their public health impacts and should be implemented at national and international levels.

Background

Chemicals are part of our daily lives. On the other hand, they may cause diseases. Which fraction of the current disease burden do chemicals however cause, and which are the chemicals of greatest concern? This is an important question for decision-makers in order to prioritize efforts to protect us from the harmful effects of chemicals.

This article describes and summarizes the main estimates available to date of the health impact of chemicals on the population at global level. It provides their sum

and the relative importance of the groups of chemicals contributing to these health impacts. This information on the collective role of chemicals as contributors to global disease may assist policy makers in setting priorities in view of health protection. As the population health impacts from many chemicals have not yet been assessed, an overview of exposures and health impacts is provided to map estimated disease burden to the actual burden and identify data gaps. We also outline the main exposures involved and highlight areas relevant to prevention of exposure.

This review has focused on toxic exposures to chemicals which can be significantly reduced or eliminated through environmental and occupational management. These environmental exposures to chemicals cause a

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disease burden of unknown magnitude, and have yet been attracting considerable attention of the public, policy makers and research communities. This situation has been the main motivation for undertaking this review, and for defining its focus. Chemical exposures that are not primarily linked to environmental management, as for example active smoking, are not addressed in this review. Radioactive substances have equally not been included here, as they have a different mechanism of action, often concern other interest groups and require a specific set of safety measures. Indirect consequences of chemicals, acting for example through climate change, have not been taken into account.

Human exposure to chemicals

Chemicals, whether of natural origin or produced by human activities, are part of our environment. Naturally occurring chemicals include arsenic and fluoride in drinking water, suspended particulate matter and sulfur dioxide from volcanic emission or forest fires, or naturally occurring toxins. Manufactured chemicals include industrial and agricultural products such as pesticides, petroleum products, processed metals, and products of combustion

such as toxic gases and particles from industrial emissions and burning of fuel. Some chemicals are manufactured for specific uses, while others are unwanted by-products, wastes, or products of combustion.

Their chemical, physical and toxicological properties vary greatly - while many are not hazardous or persistent, some are life-threatening on contact and some persist in the environment, accumulate in the food chain, travel large distances from where they are released, and are harmful to human health in small amounts. Human exposure can occur at different stages of the life-cycle of a chemical, including through occupational exposure during manufacture, use and disposal, consumer exposure, exposure to contaminated products, or environmental exposure to toxic waste (Figure 1). Exposure can occur via various pathways, including inhalation of contaminated air and dust, ingestion of contaminated water and food, dermal exposure to chemical or contaminated products, or fetal exposure during pregnancy (Table 1). Further information on human exposure to chemicals is available from a variety of documents [1-4]. As illustrated in Figure 1, several sectors and programmes have a role to play in preventing human exposure to

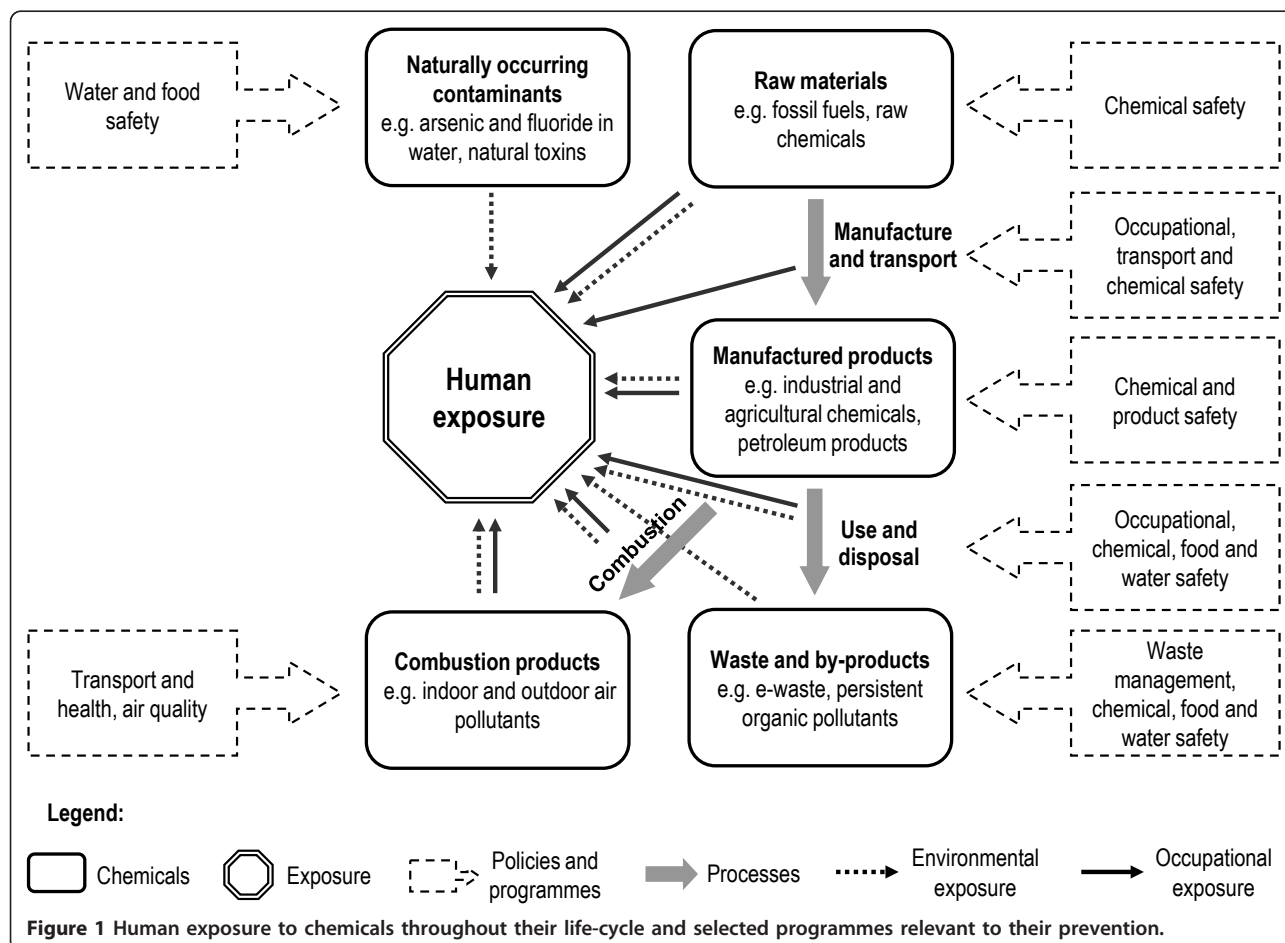


Table 1 Examples of sources and pathways of human exposure to a few selected chemicals

Exposure media	Example sources of exposure and exposure pathways	Examples of chemicals
Outdoor air	Inhalation of toxic gases and particles from vehicle and industrial emissions, or naturally occurring sources such as volcanic emission or forest fires.	Sulfur dioxide, nitrogen oxides, ozone, suspended particulate matter, lead, benzene, dioxins and dioxins-like compounds
Indoor air	Inhalation of pollutants released during indoor combustion of solid fuels, tobacco smoking, or from construction materials and furnishings, contaminants in indoor air and dust.	Suspended particulate matter, nitrous oxide, sulfur oxides, carbon monoxide, formaldehyde, polyaromatic hydrocarbons (PAH), mercury, lead dust from lead-based paints, benzene, asbestos, mycotoxins, phthalates, polybrominated diphenyl ether fire retardants (PBDEs)
Drinking water	Ingestion of drinking water contaminated with toxic chemicals from industrial effluents, human dwellings, agricultural runoff, oil and mining wastes, or from natural sources.	Pesticides, herbicides, fertilisers, metals (copper, lead, mercury, selenium, chromium), arsenic, fluoride, nitrate, cyanide, industrial solvents, petroleum products, disinfection by-products.
Food	Consumption of food contaminated with chemicals at toxic levels through agricultural practices, industrial processes, environmental contamination, and natural toxins.	Pesticides, methylmercury, lead, cadmium, dioxins, aflatoxin.
Non-food consumer products	Exposure by ingestion, inhalation or dermal exposure to toxic chemicals contained in toys, jewellery and decoration items, textiles, or food containers, consumer chemical products	Lead, mercury, cadmium, phthalates, formaldehyde, dyes, fungicides or pesticides.
Soil	Ingestion (particularly for children) or inhalation of soil contaminated through industrial processes, agricultural processes or inadequate household and industrial waste management.	heavy metals, pesticides, and persistent organic pollutants.
Occupational exposure	Chronic or acute exposures through inhalation, dermal absorption, or secondary ingestion of toxic chemicals or by-products of industrial processes such as agriculture, mining or manufacturing.	Pesticides, benzene, heavy metals, solvents, suspended particulate matter.
Human to human	Foetal exposure to toxic chemicals during pregnancy (through placental barrier) or through consumption of contaminated breast milk.	Heavy metals, pesticides, benzene, etc.

chemicals and promoting their sound management throughout their life cycle, including health, environment, agriculture, energy and transport sectors, and water, food and chemical safety programmes.

Methods

We systematically reviewed the published literature for studies estimating the disease burden, expressed in deaths or DALYs (a measure combining mortality and morbidity), either at global level or covering a large part of the total burden (i.e. national level estimates were generally not retained). We reviewed the disease burden estimates developed by the World Health Organization and those published in the peer reviewed literature. We used combinations of the terms of main chemicals of concern or their mixtures (which might be expected to have broad exposure information and epidemiological evidence, see Additional file 1: Search terms used in Pubmed), “global”, “world health”, “burden”, “impacts”, “effects” and “review” in PubMed Databases and Google from 1990 to December 2009.

Relevant estimates were found for 14 chemicals or their groups or mixtures. Most estimates were developed by groups of experts coordinated by the World Health Organization. Methods underlying the estimates were reviewed and summarized. For estimating the total known burden of disease from chemicals, methods were reviewed for

compatibility, summed up and categorized into broad exposure groups. Estimates from overlapping exposures (i.e. compounds appearing again in mixtures) were removed.

In order to map the available estimates of disease burden to the total burden of disease from chemicals we reviewed the literature to develop a basic frame. Table 2 lists the main health outcomes associated with exposure to toxic chemicals to illustrate this wide range of diseases.

Methods underlying the burden of disease estimates

In most disease burden estimates for risk factors, the basic method can be summarized in the following steps: (a) estimating the exposure distribution in a population; (b) selecting one or more appropriate relative risk estimates from the literature, generally from a recent meta-analysis; and (c) estimating the population attributable fraction (simplified formula in Panel 1 [5,6]). The resulting population attributable fractions, estimated for each disease, age group, gender, and population group, are then multiplied by the total number of deaths and disability-adjusted life years (DALYs) for the disease in each population group. DALYs are a weighted measure of deaths and disability [7].

Panel 1: Population attributable fraction

$$PAF = \frac{p(RR - 1)}{p(RR - 1) + 1}$$

Table 2 Main disease groups with suspected or confirmed linkage to chemicals

Diseases/disease groups	Examples of exposures	Examples of associated outcomes [22,66,67]
Respiratory infections and chronic respiratory diseases	Occupational exposures to dusts, gases, irritant chemicals, fumes	Chronic Obstructive Pulmonary Disease (COPD) [68,69]
	Second-hand smoke; occupational exposures to cleaning-agents, pesticides, hairdressing chemicals etc.	Asthma onset and exacerbation [28,70-72]
	Second-hand smoke	Acute lower respiratory infections [28]
	Occupational exposure to asbestos Metal dusts, particulate matter	Asbestosis Bronchitis, pneumoconiosis, silicosis
Perinatal conditions	Maternal exposure to pesticides or other chemicals	Low-birth-weight and preterm infants [73-76]
Congenital anomalies	Maternal exposure to pesticides, polychlorinated biphenyls (PCBs), polychlorinated dibenzofurans (PCDFs), lead, mercury, other endocrine disruptors	Various birth defects [77,78]
Diseases of the blood	Lead, arsine, naphthalene, benzene	Anaemia, methaemoglobinemia
Cancers	Occupational exposures to carcinogens, aflatoxins in food, second-hand smoke, outdoor air pollution by carbon particles associated with polycyclic aromatic hydrocarbons, asbestos, arsenic; volatile organic compounds such as benzene, pesticides, dioxins. etc.	Numerous cancer sites, including of the lung, skin, liver, brain, kidney, prostate, bone marrow, bladder [79-82]
Neuropsychiatric and developmental disorders	Lead, methylmercury, polychlorinated biphenyls (PCBs), arsenic, toluene etc.	Cognitive development, mental retardation, Parkinson disease, Attention-deficit disorder, Minamata disease [51,78,83,84]
Sense organ diseases	Carbon disulfide, mercury, lead	Hearing loss
Cardiovascular diseases	Ultrafine particles in polluted air, lead, arsenic, cadmium, mercury, pollutant gases, solvents, pesticides, second-hand smoke	Ischaemic heart disease, cerebrovascular disease [28,49,85]
Diabetes mellitus	Arsenic, N-3-pyridylmethyl-N'-p-nitrophenyl urea (rodenticide), 2,3,7,8-Tetrachlorodibenzo-p-dioxin.	Diabetes Type II [86-89]
Systemic auto immune diseases	Crystalline silica dust	Systemic sclerosis, systemic lupus erythematosus, rheumatoid arthritis, systemic small vessel vasculitis [90]
Endocrine diseases	Ethanol, hexachlorobenzene	Porphyria
Genito-urinary diseases	Beryllium, cadmium, lead	Calculus of kidney, chronic renal disease
Digestive diseases	Ethanol, chloroform, carbon tetrachloride, manganese	Hepatitis, cholestasis, pancreatitis
Skin diseases	Antiseptics, aromatic amines, cement, dyes, formaldehyde, artificial fertilizers, cutting oils, fragrances, glues, lanolins, latex, metals, pesticides, potassium dichromate, preservatives	Atopic dermatitis, allergic and irritant contact dermatitis, chloracne, hyperkeratosis [91]
Musculoskeletal diseases	Cadmium, lead	Osteoporosis, gout
Oral conditions	Fluoride	Dental fluorosis
Poisonings	Accidental ingestion of household products, occupational exposures and accidents, intentional self-harm by ingestion of pesticides	Unintentional poisonings, self-inflicted injuries [92-94]

RR = relative risk; p = prevalence of exposure

The available disease burden estimates have been developed with variations of the above method, or different approaches supported by differing levels of evidence. Additional features on the various approaches used are detailed as follows:

Comparative Risk Assessment (CRA)

The method systematically assesses changes in population health by varying distribution of exposure using a unified framework linked to the Global Burden of Disease [7]; Developed by WHO and numerous experts, [8] this study included risk factors causing more than 0.5% of the global disease burden, with high likelihood of causality, and reasonably complete exposure data.

CRA approaches involve estimating the disease burden compared to a “counterfactual” exposure distribution which will generally lead to the lowest conceivable disease burden, irrespective of whether currently attainable in practice [9]. For example, the counterfactual exposure for outdoor air pollution was the natural background level of particulate matter, and zero for second-hand smoke. The disease burden estimates essentially represent the burden that could be prevented if the risk factors were removed. Additional details of the methods are provided in greater detail in the original publications [8-10].

Limitations of the CRA approach include (a) the limited scope by addressing only risk factors with large

impacts at global level; (b) the restriction to high level of evidence, not taking account of “likely” impacts (which can also be seen as an advantage) and therefore generally underestimating the total impacts; (c) the inclusion of only those diseases defined through the International Classification of Diseases (ICD), rather than all health effects. For example loss of IQ points from lead (unless resulting in mental retardation) has not been taken into account, as it is not a disease according to ICD.

Other exposure-based estimates than CRA

Some estimates use methods similar to the CRA but not necessarily a unified framework [11,12]. This means that the choice of outcomes and exposure-risk relationships does not necessarily underlie specific selection criteria, and that different approaches are used in terms of counterfactual scenarios (i.e. alternative exposure scenario). Such assessments may be equally rigorous as compared to the CRA, but results may not be comparable or additive with CRA estimates.

Estimates based on evidence synthesis completed with expert opinion

These methods combine CRA estimates and evidence synthesis from partial or geographically limited assessments, and fill knowledge gaps with expert estimates. This approach may provide approximate estimates when global exposure information is limited, or when quantitative exposure-risk relationships are supported by weaker evidence. Rigorous estimates can so be completed to obtain a fuller picture of likely population health impacts from various risks. The main disadvantage obviously consists in the lower level of evidence supporting those estimates. Further details on the method are provided in the original publication [13].

Before adding up the estimated burden of disease from various chemicals, any joint effects of different risks need to be considered. The burden of disease estimates describe the burden that would be removed if exposure was reduced to the counterfactual exposure [8]. As diseases may be caused by multiple factors, the estimated disease burdens could add up to more than 100%. For example, one childhood deaths of respiratory infection of an underweight child could be prevented both by removing the source of indoor air pollution, or by improved nutrition [8]. Deaths from those two risk factors should therefore not be added up. In the case of the chemicals identified in this article, however, significant overestimation of the burden due to joint effects is unlikely: few exposures are expected to overlap significantly and at the same time cause synergistic effects or health impacts that could be avoided by reducing either of those exposures. For greater consistency with previous estimates and better comparability and additivity, we preferred CRA types of assessments and others using a counterfactual exposure.

Results

The systematic literature review revealed burden of disease estimates for the following chemicals or groups of chemicals: (a) chemicals involved in unintentional acute poisonings, (b) chemicals involved in unintentional occupational poisonings, (c) pesticides involved in self-inflicted injuries, (d) asbestos, (e) occupational lung carcinogens, (f) occupational leukaemogens, (g) occupational particulates, (h) outdoor air pollutants, (i) indoor air pollutants from solid fuel combustion, (j) second-hand smoke, (k) lead, and (l) arsenic in drinking water. The following paragraphs describe and discuss available estimates for these chemicals. An overview of the global burden of disease attributable to these chemicals is presented in Table 3. More detailed descriptions of the methods used for the presented burden of disease estimates are found in the original referenced publications. Most of the identified burden of disease estimates from chemicals follow CRA methods and provide data for the year 2004 [14], which was used as the reference year in this article.

Chemicals in unintentional acute poisonings

Unintentional ingestion, inhalation or contact with chemicals caused 346,000 deaths (7,447,000 DALYs) from acute poisonings in 2004. About 71% of unintentional poisonings were estimated to be preventable through improved chemical safety [13], amounting to 240,000 deaths and 5,246,000 DALYs in 2004. The share of this disease burden affecting children amounts to 19%, and 30,000 deaths were estimated to occur at the workplace. Chemicals responsible for unintentional poisonings may include methanol, diethylene glycol, kerosene, pesticides, and many others. Original methods for occupational poisonings were developed in the CRA framework [15]. This estimate also includes inadequate use of pharmaceuticals, which is however likely to be a minor contributor.

Pesticides in self-inflicted injuries

A large body of evidence supports the causation of various diseases (e.g. cancers, birth defects) and other health effects (e.g. endocrine disruption, neurotoxicity, kidney/liver damage) by exposure to pesticides [16]. Both exposure and exposure-response data available are unfortunately too limited to estimate the global health impacts of pesticides. The global impact of self-poisoning (suicides attempts) from preventable pesticide ingestion was, however, estimated to amount to 186,000 deaths and 4,420,000 DALYs in 2002 (analysis of evidence complemented by expert opinion [13]). The total burden of suicides from pesticide ingestion was estimated to amount to 258,000 deaths in 2002 with a more rigorous approach, but the former estimate is used in this context for methodological reasons (includes a

Table 3 Overview of available disease burden estimates attributable to chemicals

Chemicals/Groups of chemicals	Disease outcomes considered (attributable fraction)	Deaths	DALYs [†]	Main limitations [‡]	Data year/ method [§]
<i>Chemicals in acute poisonings</i>		526,000 (sub-total)	9,666,000 (sub-total)		
Chemicals (including drugs) involved in unintentional acute poisonings (methanol, diethylene glycol, kerosene, pesticides etc.)	Unintentional poisonings (71%)	240,000 ^a	5,246,000 ^a	Limited to preventable poisonings. Total unintentional poisonings would amount to 346,000 deaths and 7,445,000 DALYs[12]	2004; C [13] ^b
Chemicals involved in unintentional occupational poisonings	Unintentional poisonings (occupational) (8.6%)	30,000 ^c	643,000 ^c	-	2004; A [14]
Pesticides pesticides involved in self-inflicted injuries	Self-inflicted injuries (23%)	186,000	4,420,000	Limited to preventable self inflicted injuries. Impact of accidental and chronic exposures not considered.	2002; C [13]
<i>Chemicals in occupational exposures (longer term effects)</i>		581,000 (sub-total)	6,763,000 (sub-total)		
Asbestos	Malignant mesothelioma (NA); trachea, bronchus, lung cancer (0.3%); asbestosis (NA)	107,000 ^d	1,523,000 ^d	-	2004; A [14] [50]
Occupational lung carcinogens (arsenic, asbestos, beryllium, cadmium, chromium, diesel exhaust, nickel, silica)	Trachea, bronchus, lung cancer (8.6%)	111,000	1,011,000	Only 8 of the chemicals or chemical mixtures classified as carcinogenic or probably carcinogenic to humans taken into account	2004; A [14]
Occupational leukaemogens (benzene, ethylene oxide, ionizing radiation)	Leukaemia (2.3%)	7,400 ^e	113,000 ^e	Only 2 of the chemicals or chemical mixtures classified as carcinogenic or probably carcinogenic to humans taken into account	2004; A [14]
Occupational particulates - causing COPD (dusts, fumes/gas)	COPD (13%)	375,000 ^f	3,804,000 ^f	-	2004; A [14]
Occupational particulates - other respiratory diseases than COPD (silica, asbestos and coal mine dust)	Asbestosis (NA); silicosis (NA); pneumoconiosis (NA)	29,000	1,062,000	-	2004; A [14]
<i>Air pollutant mixtures</i>		3,720,000 (sub-total)	60,669,000 (sub-total)		
Outdoor air pollutants (particulate matter, sulfur dioxide, nitrogen oxides, benzo[a]pyrene, benzene, others)	Lung cancer (7.9%); acute respiratory infections (1.6%); selected cardiopulmonary diseases (3.4%)	1,152,000	8,747,000	Only urban air pollution in cities with >100 000 inhabitants taken into account. Health impact from rural air pollution unknown.	2004; A [14]
Outdoor air pollutants emitted from ships (particulate matter, sulfur dioxide, nitrogen oxides, benzo[a]pyrene, benzene, others)	Lung cancer (0.3%); selected cardiopulmonary diseases (0.4%)	60,000 ^g	NA	-	2002; B [95]
Indoor air pollutants from solid fuel combustion (carbon monoxide, nitrogen oxides, sulfur oxides, benzene, formaldehyde, polyaromatic compounds, particulates, others)	Lung cancer (2.9%); acute respiratory infections (33%); COPD (33%)	1,965,000	41,009,000	Disease burden from emissions from building materials and household products is not know. BoD from second hand smoke has been evaluated separately.	2004; A [14]

Table 3 Overview of available disease burden estimates attributable to chemicals (Continued)

Second-hand smoke (nicotine, formaldehyde, carbon monoxide, phenols, nitrogen oxides, naphthalenes, tar, nitrosamine, PAHs, vinyl chloride, various metals, hydrogen cyanide, ammonia, others)	Lower respiratory infections (6.3%); otitis (1.7%); asthma (11%); lung cancer (1.8%); ischaemic heart disease (4.5%)	603,000	10,913,000	-	2004; B [29]
<i>Single chemicals with mostly longer term effects</i>		<i>152,000 (sub-total)</i>	<i>9,102,000 (sub-total)</i>		
Lead	Mild mental retardation; Cardiovascular diseases	143,000	8,977,000	-	2004; A [14]
Arsenic in drinking-water	Diabetes mellitus (0.04%); ischemic heart disease (0.11%); lung cancer (0.25%); bladder cancer (1.2%); kidney cancer (NA); skin cancer (0.30%)	9,100 ^a	125,000 ^a	Limited to exposure through drinking water. Limited to Bangladesh.	2001; B [11]
Total ^{#,h} Total in children <15 years	All considered diseases	4,879,000 (8.3%) 1,073,000 (22%)	86,200,000 (5.7%) 46,627,000 (54%)		Mainly 2004; A

[†] DALYs are "Disability-adjusted life years", a weighted measure of years of life lost due to premature death, and years lived with disability. [‡] Only outcomes qualified as strong evidence were considered. [§] Methods: A: Comparative Risk Assessment (CRA); B: Based on exposure and exposure-response (similar to CRA); C: Evidence synthesis and expert evaluation. [#] The estimates were developed within three years and their pooling is unlikely to introduce a significant error. NA: not available. -: none.

^a Estimate not compared to counterfactual exposure, which is however estimated to be negligible using a theoretical minimum exposure given available management options for concerned chemicals.

^b Values updated for 2004 based on original reference.

^c Already included in total unintentional acute poisonings and therefore not included again in the total.

^d Lung cancer and asbestosis caused by asbestos are also considered in occupational lung carcinogens and particulates and this part of the burden is therefore not counted twice in the total.

^e Also includes a small fraction of leukaemia caused by ionizing radiation.

^f Parts of the particulates are organic in nature, and the estimate therefore includes a small fraction that is not or not directly related to chemicals.

^g Overlaps with the burden from outdoor air pollution and is therefore not included in the total.

^h Total is corrected for double counting (chemicals considered in more than one estimate); not all disease burdens are however additive, and joint exposures could lead to slight overestimate (see Methods section).

counterfactual approach, to allow for additivity of results) [12]. Current evidence supports that suicide rates could be significantly reduced through limiting access to lethal means, among other methods [17,18]. About 30% of self-inflicted injuries globally involve pesticides, and occur mainly in Asia and to a lesser extent in almost all other parts of the world.

Asbestos

Exposure to asbestos causes lung cancer, mesothelioma and asbestosis (fibrosis of the lungs), and other outcomes [19]. The global burden of disease attributable to asbestos has been estimated to amount to 107,000 deaths and 1,523,000 DALYs for the three mentioned diseases in 2004. Among these, 41,000 deaths and 370,000 DALYs were due to asbestos-caused lung cancer, and 7,000 deaths and 380,000 DALYs to asbestosis. The remaining 59,000 deaths and 773,000 DALYs were attributed to malignant mesothelioma [14,15,20]. Deaths and DALYs from lung cancer and asbestosis are also included in the estimates for occupational lung carcinogens and occupational particulates, and are therefore not counted twice when summing the total disease burden from chemicals in Table 3.

Occupational lung carcinogens

Occupational exposure to arsenic, asbestos, beryllium, cadmium, chromium, diesel exhaust, nickel and silica were estimated to cause 111,000 deaths (and 1,011,000 DALYs) from lung cancer in 2004 [14]. This represents about 9% of the total burden of lung cancer. Health impacts from additional lung carcinogens, such as bis (chloromethyl)ether, 2,3,7,8-TCDD, soot exposure while chimney sweeping, aluminium production, iron and steel founding, rubber manufacturing among others could not be estimated [21].

Occupational leukaemogens

Benzene, ethylene oxide and ionizing radiation were the only occupational leukaemogens considered in the estimation of global burden of disease from occupational leukaemogens [15]. This analysis resulted in a total of 7,400 deaths (and 113,000 DALYs) in 2004 [14], representing 2.3% of the total burden of leukaemia. IARC has classified few additional chemicals or exposures as supported by sufficient evidence in their association with leukaemia, including formaldehyde and exposures in the rubber manufacturing industry [21].

Occupational particulates

Exposure to particulate matter has been linked to a vast range of respiratory and other diseases. The estimation of disease burden from occupational exposure to particulate matter was limited to selected respiratory diseases

as exposure and risk information at global level is limited [15]. Effects from exposure to dust and/or gas/fumes on COPD, and from exposure to silica, asbestos and coal mine dust on silicosis, asbestosis and coal workers' pneumoconiosis were considered. The estimated health impacts were 375,000 deaths and 3,804,000 DALYs from COPD, and 29,000 deaths and 1,061,000 DALYs from asbestosis, silicosis and pneumoconiosis in 2004 [14,20]. Occupational agents associated with the development of COPD include for example mineral fumes, welding fumes, cadmium fumes and sulfur dioxide [22]. The fraction of COPD attributable to occupational particulates is estimated to amount to 13% globally. Some dusts of biological nature, such as cotton, grain and wood dusts, are also suspected to have a role in COPD causation [22]. Despite the possible inclusion of biological dusts, this estimate may still be an underestimate as only part of the respiratory diseases caused by chemicals were considered.

Outdoor air pollutants

Outdoor air pollution contains particulate matter and gaseous pollutants, such as sulfur dioxide (SO₂), nitrogen oxides (NO_x) and carbon monoxide (CO), as well as secondary pollutants such as ozone (O₃) formed from directly emitted pollutants. Further constituents of the pollutant mixture include carcinogens such as benzo[*a*]pyrene, benzene and 1,3-butadiene [23]. Health impacts from urban air pollution, largely from combustion sources, caused overall about 1,152,000 deaths (8,747,000 DALYs) worldwide in 2004 [14,24]. In particular, respiratory infections in children contributed 121,000 deaths (1,555,000 DALYs) to this burden, lung cancer 108,000 deaths (931,000 DALYs) and other cardiopulmonary illnesses 923,000 deaths (6,261,000 DALYs). About 10% of this burden is estimated to affect children. Exposure was measured, and modeled when not available, using particulate matter (PM₁₀ and PM_{2.5}) as an index for common mixtures of urban air pollution [24]. These estimates cover cities with >100,000 inhabitants. Rural outdoor air pollution, e.g. caused by forest fires [25] or indoor combustion of solid fuels, may also contribute to global health impacts and have not been estimated.

Indoor air pollutants from solid fuel combustion

Indoor air pollution is caused by both traditional sources of pollution, primarily by the combustion of solid fuels for cooking or heating, and modern sources such as building materials and household products emitting chemicals. Household combustion of coal or biomass produces smoke that contains carbon monoxide (CO), nitrogen oxides (NO_x), sulfur oxides (SO_x), benzene, formaldehyde, polyaromatic compounds, and

particulates and many more [26]. Building materials and household products can release toxic chemicals such as benzene and formaldehyde. About half of the world's households still use solid fuels, which were estimated to cause 872,000 deaths (30,854,000 DALYs) from lower respiratory infections in children, 36,000 deaths (338,000 DALYs) from lung cancer, and 1,057,000 deaths (9,817,000 DALYs) from COPD in 2004 [14]. With 75%, children bear the greatest burden from exposure to these pollutants. This estimate only covered indoor smoke from solid fuel combustion, and did not address emissions from building materials and household products, such as benzene and formaldehyde, and other indoor air contaminants.

Second-hand smoke

Second-hand smoke is a complex mixture of compounds emanating from tobacco smoke causing indoor air pollution. These include more than 30 known or suspected human carcinogens, such as 4-aminobiphenyl, 2-aminonaphthalene, benzene, nickel, and a variety of polycyclic aromatic hydrocarbons (PAHs) and *N*-nitrosamines [27]. A number of irritants, such as ammonia, nitrogen oxides, sulfur dioxide and various aldehydes, and cardiovascular toxicants, such as carbon monoxide, nicotine and some PAHs, are also present [28]. Second-hand smoke was estimated to cause 166,000 deaths (6,616,000 DALYs) in children in 2004, and 436,000 deaths (4,297,000 DALYs) in non-smoking adults [29], which means that 61% of the burden is borne by children.

Lead

Human exposure to lead contributes mainly to cardiovascular diseases, mild mental retardation from childhood exposure leading to reduced intellectual function, and additional outcomes which are more difficult to quantify [30]. The 2004 global burden of disease for these outcomes was estimated to be 143,000 deaths and 8,977,000 DALYs [14]. Among those, all deaths and 1,789,000 DALYs were due to lead-induced cardiovascular diseases in adults, and 7,189,000 DALYs were a result of mild mental retardation due to lead-associated IQ deficits, which means that children carried 80% of the disease burden from lead. Childhood lead exposure was estimated to contribute to about 600,000 new cases of children with intellectual disabilities every year. Between 2000 [31] and 2004, the proportion of the global population with blood lead levels above 10 µg/dl decreased from 20% to 14%, and resulted in similar reductions in the disease burden, mainly due to important efforts in phasing out leaded gasoline in most countries. It should be noted that blood lead levels can cause disease well below 10 µg/dl. Other significant sources of

lead exposure however persist and continue to contribute significantly to the overall disease burden [32,33]. Additional confirmed or suspected outcomes (see Table 2) or health impacts from "hot spots" (e.g. locally elevated exposures from industrial activities) were not included in the estimate.

Arsenic in drinking-water

Human exposure to arsenic can cause a variety of health effects and diseases, including cancer of the skin, bladder, kidney and lungs. Other effects of long-term exposure are peripheral neuropathy, gastrointestinal symptoms, diabetes, reproductive effects, enlarged liver, bone marrow depression, destruction of erythrocytes, high blood pressure and cardiovascular disease [34-36]. Exposure to arsenic can occur through different environmental pathways, including from mining and smelting activities, burning of arsenic-rich coal and ingestion of contaminated drinking-water. Arsenic mainly enters drinking-water supplies through natural deposits in the soil, but also through industrial and agricultural activities (including discharge of industrial wastes, burning of fossil fuels - especially coal - and wastes, or use of pesticides and food additives). The health impacts of exposure to arsenic in drinking water have been estimated for Bangladesh [11]. Another estimate has been performed at global level, but is not comparable [37]. Arsenic-contaminated drinking-water in Bangladesh alone contributed 9,100 deaths and 125,000 DALYs in 2001 from diabetes mellitus, ischaemic heart disease, lung cancer, and bladder, kidney and skin cancer [11]. About two thirds of the total population exposed to elevated drinking-water levels are estimated to reside in Bangladesh [11]. The estimated burden of disease therefore represents a significant part of the global burden from arsenic in drinking water. A global estimate, or an estimate for other exposures than drinking water was not available for arsenic.

Other health impact estimates available

Additional assessments of global health impacts of selected chemicals have been made but results are not comparable to the other analyses compiled here, either because they were not expressed in DALYs and deaths, or because DALYs have not been estimated in a comparable format. Examples include fluoride and mercury. They are presented in the following paragraphs.

Fluoride

Insufficient fluoride intake increases the risk to develop dental caries, while excessive intake can lead to dental and skeletal fluorosis. High concentrations of fluoride can enter public water systems from natural sources, including runoff from the weathering of fluoride-containing rocks and soils and leaching from soil into

groundwater. Fluoride pollution from various industrial emissions can also contaminate water supplies [38]. Excessive fluoride concentrations in drinking water was estimated to have caused about 47 million of dental fluorosis cases and 20 million skeletal fluorosis cases in 17 countries (in terms of prevalence, based on point estimates published between 1953 and 2000) [39].

Mercury

Mercury compounds are toxic to the nervous, digestive, cardiovascular and immune systems, to the lungs, kidneys, skin, eyes, and gastrointestinal tract, and adversely impact on development [40,41]. Mercury releases in the environment result mainly from human activity, for example emissions from coal-fired power plant, and the use of mercury-containing products. Once in the environment, elemental mercury is naturally transformed into methylmercury that bioaccumulates in fish and shellfish. Human exposure occurs mainly through inhalation of elemental mercury vapors during industrial processes and through consumption of contaminated fish and shellfish. Transplacental exposure of the foetus may also occur [42]. The analysis of disease burden from methylmercury was limited to cognitive impacts and mild mental retardation. It was estimated that, among selected subsistence fishing populations, between 1.5/1000 and 17/1000 children showed cognitive impacts caused by the consumption of fish containing methylmercury. These results are however not comparable to estimates of deaths and DALYs [41,43].

Results on data used in the burden of disease estimates

Exposures used in the burden of disease estimates have included (a) international databases or systematic reviews of monitoring/modelling of environmental levels, such as for outdoor air pollution [44,45] and arsenic [11,37] (b) international databases or systematic reviews of survey data, such as for indoor air pollution [46] and second-hand smoke [29] (c) systematic reviews of bio-monitoring data, such as blood lead levels [31,47], or (d) international databases or systematic reviews of occupational exposures by sector or occupational category, such as for occupational carcinogens [48] or occupational particulates [15]. These exposure data have been combined with exposure-risk information from major reviews or epidemiological studies to result in burden of disease estimates. Examples include lead and hypertension or cardiovascular effects [49,50]; lead and children's intellectual function [51,52]; outdoor air pollution and cardiopulmonary disease [53]; second-hand smoke and related outcomes [27,28,54]; arsenic in drinking-water and related outcomes [55]; occupational exposure and lung cancer [56] or asbestos [57]). The estimation of acute effects from chemicals at population level has generally been based on the direct assessment

of cases or deaths, such as mortality statistics for unintentional poisonings [58] and systematic reviews of vital statistics, autopsy reports, surveillance systems, hospital-based studies etc. for suicides involving pesticides [12].

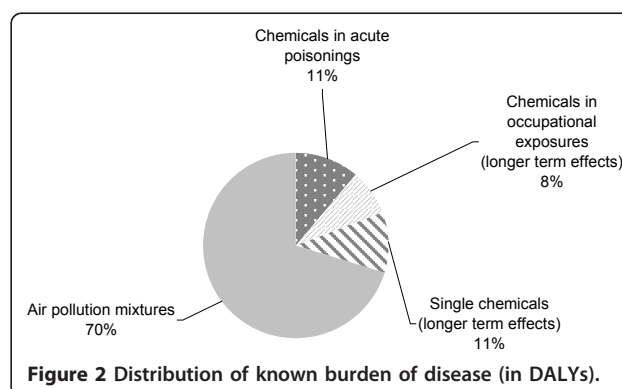
Discussion

Estimated burden of disease from chemicals

This review shows that, based on estimations available to date, the global burden of disease attributable to environmental exposure and management of selected chemicals amounts to at least 4.9 million deaths (86 million DALYs) per year. This represents 8.3% of the total deaths and 5.7% of the total burden of disease in DALYs worldwide. For comparison, this is more than the burden of all cancers worldwide, which account for 5.1% of all DALYs [58]. Fifty-four percent of this burden (counted in DALYs) is borne by children under the age of 15 years. The share of the total disease burden is considerable, and supports the need for further public health considerations in this area. By far the largest disease burden is related to exposure to air pollution mixtures with 70% of the total (Figure 2). Our estimate includes available information for chemicals in a broad sense, i.e. not only industrial and agricultural chemicals but also air pollutants and some naturally occurring chemicals. Available information for industrial and agricultural chemicals and acute poisonings only (i.e. without air pollution nor arsenic-contaminated drinking-water) amounts to a global burden of disease of at least 1.2 million deaths (25 million DALYs), corresponding to 2.0% of the total deaths and 1.7% of the total burden of disease worldwide.

Limitations

The global estimates presented in this article undoubtedly underestimate the real burden attributable to chemicals. Comparing the identified disease burden from chemicals with the health effects listed in Table 2 shows that only limited relevant exposures and some of the health impacts they cause have so far been quantified at



population level. There are several reasons for this underestimate: (a) Quantified exposure-response relationships, supported by strong evidence, between many chemicals and their health outcomes are lacking. Establishing further links between certain chemicals and their health hazards would be useful but may be complex; (b) Large-scale exposure data are insufficient. Even chemicals with health consequences supported by strong evidence of causality therefore bear considerable knowledge gaps in terms of population impact; (c) This analysis also failed to capture much of the health impacts from exposure to polluted sites which are estimated to put at risk more than 56 million people worldwide [59]; such locally-specific health impacts are difficult to estimate with available methods and should be considered separately.

As this review is mostly built on previous estimates developed by WHO - given the limited availability of other estimates - the use of rigorous methods further contributes to restricting the estimates to only those supported by strong evidence and to ICD disease categories rather than including all health outcomes. Development of additional estimates would contribute to obtaining a fuller picture of the population health impacts from chemicals.

This review is also limited in its scope: Not all chemicals have been reviewed here, but only toxic exposures to chemicals which can be significantly reduced or eliminated through environmental and occupational management as described in the background section. Therefore lifestyle issues, such as active smoking or other substance abuse, have not been taken into account here. The same applies to chemicals acting on health through radiation rather than their toxic properties.

Significant examples of chemicals with yet unknown burden of disease include: a) chronic exposure to toxic pesticides; b) exposure to mercury c) exposure to cadmium, d) exposure to additional occupational carcinogens. It is, unfortunately, not possible to conduct estimates based on the different modes of action by which chemicals exert their toxic effects, such as through endocrine, immune or other systems.

While certain outcomes, such as those resulting from acute poisonings or high-level exposures, may easily be traced back to chemicals, other delayed or sub-clinical health effects such as cancers or certain neurological diseases are much more difficult to allocate to specific exposures (Figure 3). This is particularly true for diseases with long lag-times from exposures, complex exposure assessment, and often non-specific health outcomes. Also current toxicological test systems have limitations in their ability to predict effects in humans. Figure 2 schematically represents the possible fraction of the true burden of disease from chemical exposure that

has effectively been traced back with sufficient scientific evidence to chemicals. It highlights that acute poisonings, outcomes caused by high-level exposures and rare health effects in more controlled occupational environments are often easier to trace back to chemicals than health effects resulting from the more frequent but lower-level exposures.

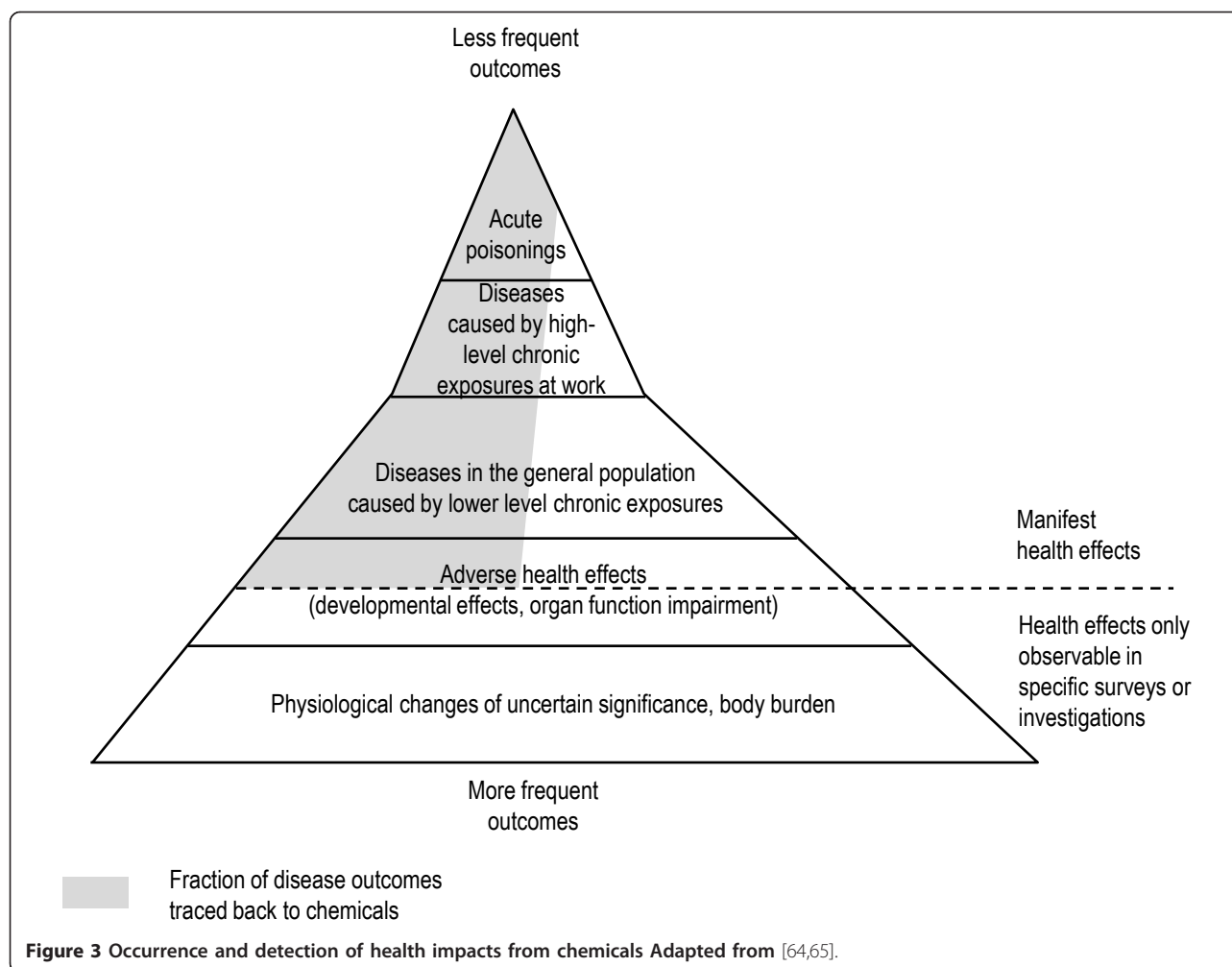
Uncertainty estimates were rarely available for the identified burden of disease estimates, and even if they were, they mostly relied on expert opinion or variation of selected input parameters rather than more systematic assessments. This was due to difficulties in the evaluation of the numerous uncertainties inherent to burden of disease estimates, which stem from exposure and exposure-response relationships, their extrapolation from one population to another or other parameter or model uncertainties. Sources of uncertainties were different for each of the assessed risk factors, and additional information on their specific sources can be found in the original publications (see references in Table 3).

The estimated disease burden does not show the important beneficial effects of long-term regulation of chemicals in food, consumer and other chemical products, industrial emissions and workers' protection which have already prevented a significant fraction of the disease burden that would have occurred had these controls not been in place. This is due to the fact that the burden of disease estimates represent a "snapshot" for about the year 2004, and limited information on trends. For example, in 2003, the European Commission forecast the health benefits of its REACH legislation to be 50 billion Euros over 30 years [60].

To improve exposure information, bio-monitoring initiatives are developing, and should continue improving large-scale exposure information [61,62]. New strategies and initiatives have been implemented which might change the picture of chemical exposure and risk assessment and could improve estimation of disease burden caused by chemicals (e.g. the REACH programme [60], the High Throughput Screening Initiative [63]). In addition, alternative, innovative methods may be required to estimate the full health impacts involving chemicals at population level, using for example a combination of disease trends, exposure patterns, biomarkers, and an improved understanding of the human relevance of effects seen in chemical testing systems.

Link to policy initiatives

In 2002 at the World Summit on Sustainable Development (WSSD), governments renewed their commitment to the sound management of chemicals throughout their life cycle and of hazardous wastes. Governments aim to assure, by 2020, that chemicals are used and produced in ways that lead to the minimization of significant



adverse effects on human health and the environment, using transparent science-based risk assessment procedures and science-based risk management procedures. The burden of disease information presented here shows that this goal has not been reached, and the limited available trend information indicates that renewed efforts will be required over the next decade to 2020. This is despite the knowledge that has long existed about the adverse health impacts of lead, mercury, asbestos and the other chemicals considered in this paper.

While the estimation of the burden of disease attributable to air pollution and naturally occurring chemicals has involved exposure and risks assessments by health or environment authorities, managing these exposures and reducing risk often requires action by other sectors and stakeholders, including regulatory bodies, industry and civil society. These actors are often different than those responsible for the sound management of agricultural and industrial chemicals. For example, health

impacts and exposure to air pollution can primarily be modified through action in the energy and transport sectors and the industry, while arsenic in drinking-water is managed through the water sector. Other exposures involve chemicals only as a side-product of energy generation or of tobacco consumption, such as the main contributions to outdoor and indoor air pollution. Reducing human exposure to air pollutants and naturally occurring chemicals therefore requires efforts from a wide range of stakeholders, including industry and civil society.

Our review indicates that public health can be improved substantially, and in some cases relatively quickly, by identifying and implementing further effective interventions on chemicals of major public health concern including those addressed in this article. It is particularly urgent to address those chemical such lead and asbestos for which evidence, exposure and policy options have been known for quite some time, international agreements are in place, but exposure and effects

are still significant in several populations. In addition governments can improve public health by collecting information to identify the additional hazardous chemicals to which their populations are exposed in order to take action on the most important problems. Finally, research aiming to improve our understanding of the link between chemicals and negative health impacts is imperative in order to prioritize actions and assess their effectiveness.

Conclusions

This review shows that the currently known disease burden from chemicals is large, and that the yet unknown burden may be considerable. Although underestimated, the global burden of disease attributable to chemicals is useful information for international, regional and national decision-makers from the different sectors and programmes who have a role to play in reducing human exposure to toxic chemicals (Figure 1). This review supports that further attention should focus on investigating population health impacts from chemicals, and on the preventive measures limiting harmful exposures to chemicals.

The estimated burden of disease from chemicals and its preventable fraction provides an indication of how much disease burden could be prevented through targeted action, and will facilitate the evaluation and monitoring of these actions in the future. For example the proportion of people with blood lead levels above 10 µg/dl globally decreased from 20% to 14%, alongside similar reductions in the disease burden it caused. This reduction is due mostly to the phase out of leaded gasoline in most countries, providing a powerful example of the impact risk management can have in a relatively short time.

Additional material

Additional file 1: Search terms used in Pubmed. Contains search terms used in the search of articles in Pubmed databases

Abbreviations

COPD: Chronic Obstructive Pulmonary Disease; CRA: Comparative Risk Assessment; DALY: Disability Adjusted Life Years; ICD: International Classification of Diseases; IQ: Intellectual Quotient; IARC: International Agency for Research on Cancer; PAH: Polycyclic Aromatic Hydrocarbon; REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals; WHO: World Health Organization.

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Authors' contributions

APU reviewed the literature, synthesized the data and drafted the main part of the manuscript. PH provided input to the drafting process. CV drafted the section 'link to policy initiatives' and reviewed the draft. Roberto Bertollini provided overall guidance and reviewed the draft. All authors read and approved the final manuscript.

Competing interests

The authors declare that they have no competing interests.

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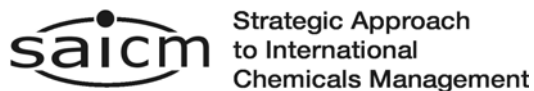
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Item 4 (c) of the provisional agenda*

**Implementation of the Strategic Approach to
International Chemicals Management:
Strengthening of national chemicals management capacities**

Global Chemicals Outlook

Note by the secretariat

1. The secretariat has the honour to circulate, in the annex to the present note, a document provided by the United Nations Environment Programme (UNEP) entitled *Synthesis Report for Decision-Makers - Global Chemicals Outlook: Towards Sound Management of Chemicals*. The document assesses the status of health, environmental, economic and institutional factors related to the production, use and disposal of chemicals, with a focus on issues relevant to developing countries and countries with economies in transition.
3. The document is circulated for the information of participants and has not been formally edited.

* SAICM/ICCM.3/1

Annex



GCO

Global Chemicals Outlook

Towards Sound Management of Chemicals



Synthesis Report for Decision-Makers



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Glossary

ACC	American Chemistry Council
BRIICS	Brazil, Russia, India, Indonesia, China, South Africa
CEPIC	European Chemicals Industry Council
DALY	Disability Adjusted Life Year
FAO	Food and Agriculture Organization
GDP	Gross Domestic Product
GEF	Global Environment Facility
GHG	Greenhouse Gas
IOMC	Inter-Organization Programme for the Sound Management of Chemicals
ICCA	International Council of Chemical Associations
ILO	International Labour Office
IPEN	International POPs Elimination Network
MEA	Multilateral Environment Agreement
NGO	Non Governmental Organization
ODA	Overseas Development Assistance
OECD	Organization for Economic Cooperation and Development
PCBs	Polychlorinated Biphenyls
POPs	Persistent Organic Pollutants
PRTR	Pollutant Release and Transfer Register
REACH	Registration, Evaluation and Authorization of Chemicals
SAICM	Strategic Approach to International Chemicals Management
SME	Small and Medium-sized Enterprise
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNIDO	United Nations Industrial Development Programme
UNITAR	United Nations Institute for Training and Research
VOC	Volatile Organic Compound
WHO	World Health Organization
WSSD	World Summit on Sustainable Development



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This synthesis report for decision-makers describes the main findings and conclusions of the full report: ***“Global Chemicals Outlook: Towards Sound Management of Chemicals.”*** The report was developed by UNEP in collaboration with the WHO. It was also developed in collaboration with the OECD and other institutions forming the Inter-Organization Programme for the Sound Management of Chemicals (IOMC) and reflects the work of the Global Chemicals Outlook Steering Committee composed of representatives of governments, private sector, civil society and academia.¹

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Foreword

The way the world manages chemicals will play a key role in the transition towards an inclusive Green Economy and the realization of a sustainable 21st century.

Governments across the globe recognize that chemicals are essential in areas from medicine and agriculture to consumer goods, clean technologies and overcoming poverty yet chemicals and the pollution linked with their manufacture, use, and disposal come at a cost.

There is increasing recognition among governments, non-governmental organizations and the public that human health and the environment are being compromised by the current arrangements for managing chemicals and hazardous wastes.

These concerns take on a new level of urgency as the quantity and range of new and existing chemicals grow rapidly in developing countries and economies in transition.

At the World Summit on Sustainable Development in 2002, governments agreed on “using and producing of chemicals in ways that do not lead to significant adverse effects on human health and the environment” and set a deadline of 2020 to achieve this goal. This commitment was reaffirmed at the Rio+20 Summit in Brazil in 2012.

This report, *Global Chemicals Outlook*, which was compiled by UNEP working with international experts, is designed to inform governments and industry on trends in chemicals production, use and disposal while offering policy advice aimed at meeting the 2020 goal. It focuses particularly on the challenges and opportunities facing developing nations.

The report, which also supports the work and actions of the three chemical and hazardous waste conventions—Basel, Rotterdam and Stockholm—and the Strategic Approach to International Chemicals Management, demonstrates the dramatic growth in the industry, which has seen global output climb from \$171 billion in 1970 to over \$4.1 trillion today.

The shift in production from developed to developing countries is underscored by China, which today is the largest consumer of textile chemicals with 42% of global consumption, and South Africa, where spending on pesticides has grown by close to 60 per cent since the late 1990s.

The Global Chemicals Outlook states that of the 5.7 million metric tonnes of pollutants released in North America (United States, Canada and Mexico), close to two million were chemicals that are persistent, able to accumulate in humans and animals and are toxic. The report also deemed toxic a further million tonnes of substances that are linked with or have suspected links with cancer.

An important aspect of this new report is the economic analysis that compares the benefits of action to the costs of inaction in terms of improved management.

2020 is fast approaching. I am sure that this report can provide some much-needed energy, focus and confidence that what was agreed in 2002 can be met, thus bringing significant benefits for the global population and the environmental services upon which each one of us depends for our lives and livelihoods.

Achim Steiner
UNEP Executive Director
United Nations Under-Secretary General



INTRODUCTION

Chemicals are an integral part of daily life in today's world. There is hardly any industry where chemicals are not used and there is no single economic sector where chemicals do not play an important role. Millions of people throughout the world lead richer, more productive and more comfortable lives because of the thousands of chemicals on the market today. These chemicals are used in a wide variety of products and processes and while they are major contributors to national and world economies, their sound management throughout their lifecycle is essential in order to avoid significant and increasingly complex risks to human health and ecosystems and substantial costs to national economies.

Industries which produce and use chemicals have a significant impact on employment, trade and economic growth worldwide, but chemicals can have adverse effects on human health and the environment. A variety of global economic and regulatory forces influences changes in chemical production, transport, import and export, use and disposal over time. In response to the growing demand for chemical-based products and processes, the international chemical industry has grown dramatically since the 1970s. Global chemical output (produced and shipped) was valued at US\$171 billion in 1970. By 2010, it had grown to \$4.12 trillion.

The OECD's *Environmental Outlook to 2050* notes that while annual global chemical sales doubled over the period 2000 to 2009, OECD's share decreased from 77% to 63% and the share of the BRIICS countries (Brazil, Russia, India, Indonesia, China, and South Africa) increased from 13% to 28%. Figures 1 and 2 illustrate the growth of chemical industry output over time, broken out by country or region.

Many national governments have enacted laws and established institutional structures with a view to managing the hazards of this growing volume of chemicals. Leading corporations have adopted chemical management programs and there are now many international conventions and institutions for addressing these chemicals globally. However, the increasing variety and complexity of chemicals and the ever longer and more intricate chemical supply chains and waste streams exposes serious gaps, lapses and inconsistencies in government and international policies and corporate practices. Consequently, international concerns are growing over the capacity to achieve the Johannesburg Plan of Implementation goal that, by 2020, chemicals will be produced and used in ways that minimize significant adverse effects on the environment and human health.

These concerns are important to all countries, but are particularly salient in industrializing economies that face pressing needs to achieve development, national security and poverty eradication objectives. One obstacle to integrating the sound management of chemicals into the broader sustainable development agenda is the tendency to address and consider chemicals on a case-by-case basis separate from the economic development agenda. To protect human health and the environment and to fully benefit from the value that chemicals can yield, all countries must include in their economic and social development priorities the means to manage chemicals soundly.

The exact number of chemicals on the global market is not known but under the pre-registration requirement of the European Union's chemicals regulation, REACH, 143,835 chemical substances have been pre-registered. This is a reasonable guide to the approximate number of chemicals in commerce globally.



This synthesis report for decision-makers highlights the main findings and conclusions of the full report: Global Chemicals Outlook: Towards Sound Management of Chemicals. The Global Chemicals Outlook report assembles scientific, technical and socio-economic information on the sound management of chemicals. It is targeted to decision makers in order to build capacity and to implement policy change to protect the environment and human health. As such, the Global Chemicals Outlook covers three broad inter-linked areas building upon the findings of existing and concurrent studies:

1. Trends and indicators for chemical production, transport, use and disposal, and associated health and environment impacts;
2. Economic implications of these trends including costs of inaction and the benefits of action; and
3. Instruments and approaches for sound management of chemicals, including promotion of safer alternatives and guidance to accelerate the achievement of SAICM goals by 2020.

Figure 1. Chemical Industry Output: Developed Regions*

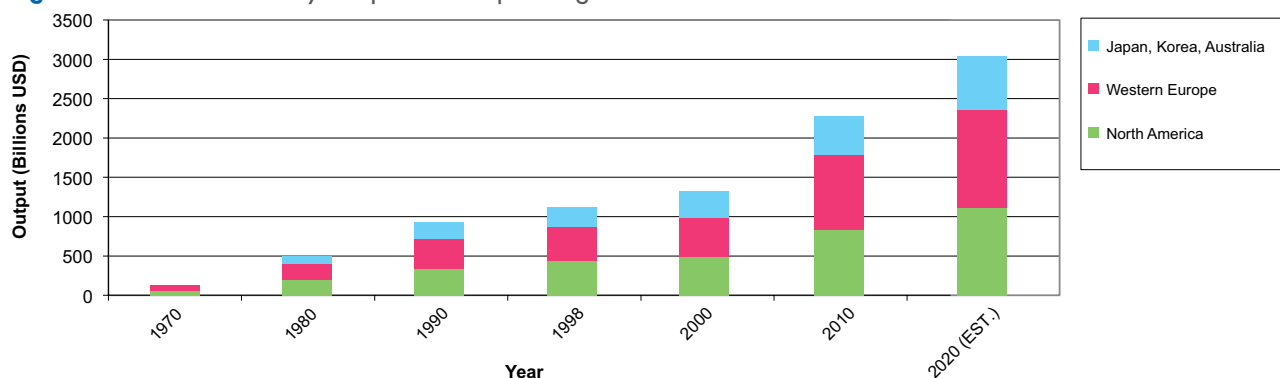
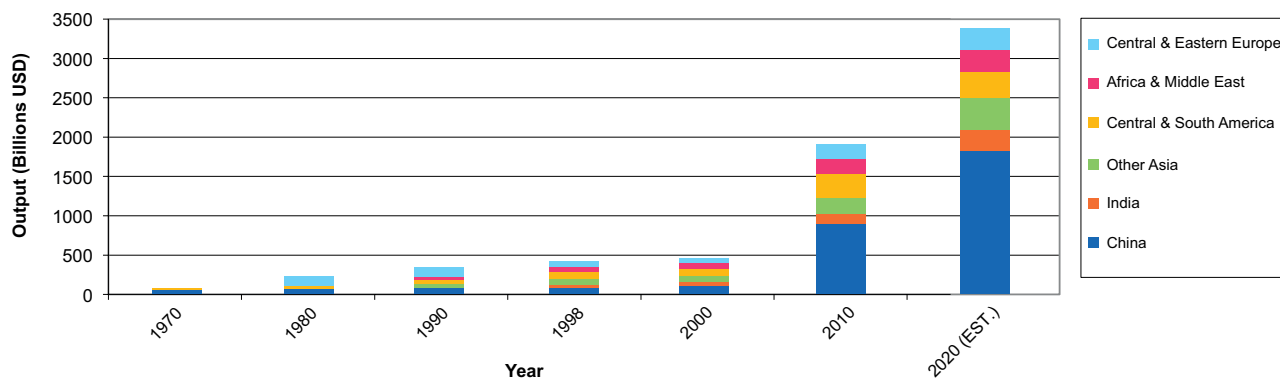


Figure 2. Chemical Industry Output: Developing Regions* & Countries with Economies in Transition



*As categorized by UN Statistics Division, <http://unstats.un.org/unsd/methods/m49/m49regin.htm>, accessed 24 November, 2011, with the exception of the Republic of Korea. **1970-1990 Source:** U.S. Chemical Manufacturers Association (1998). *U.S. Chemical industry Statistical Handbook*. Chemical Manufacturers Association, Inc. **2000-2010 Source:** American Chemistry Council (2011). "Global Business of Chemistry: Global Chemical Shipments by Country/Region (billions of dollars)." Retrieved from: <http://www.americanchemistry.com/jobs/EconomicStatistics/IndustryProfile/Global-Business-of-Chemistry>. Accessed: 11 August, 2011. **2020 Estimation Source:** American Chemistry Council, *Mid-Year 2011 Situation & Outlook*, June 2011.





I - GLOBAL PRODUCTION, TRADE, USE AND DISPOSAL OF CHEMICALS AND THEIR HEALTH AND ENVIRONMENTAL EFFECTS: AN INCREASING CHEMICAL INTENSIFICATION² OF THE ECONOMY

Both the continuous growth trends and the changes in global production, trade and use of chemicals point toward an increasing chemical intensification of the economy. This trend affects all countries but will particularly exert an added chemicals management requirement on developing countries and countries with economies in transition that often have limited capacities to deal with such complex challenges.

This chemical intensification of the economy derives largely from three factors: 1) the increased volume and a shift of production and use from highly industrialized countries to developing countries and countries in economic transition; 2) the penetration of chemical intensive products into national economies through globalization of sales and use; 3) the increased chemical emissions resulting from major economic development sectors.

1) Increased volume of chemical production and imports and shift of chemical production and use from highly industrialized to developing countries

Studies, projecting trends to 2050, forecast that global chemical sales will grow about 3% per year to 2050. However as chemical production, trade, use and disposal continue to expand worldwide, this expansion is not evenly distributed geographically. Chemical manufacturing and processing activities, once largely located in the highly industrialized countries, are now steadily expanding into developing countries and countries with economies in transition. Chemical use in developing countries is influenced both by countries' needs for additional production domestically, and by production related to trade. Factors influencing the location of growth of chemical use in manufacturing include proximity to raw materials, proximity to final markets and a suite of other factors. The worldwide expansion of the chemicals industry has been driven in large part by the emergence of multinational chemical companies as OECD-based companies invested in production facilities in non-OECD countries.



² Chemical intensification of economy is used in this report as an analytical framework to better capture the trends and changes in the volume of chemicals produced, used and disposed throughout their lifecycle and the penetration of chemical intensive products into national economies.

Chemical intensification includes:

1. Products of the chemical industry that are increasingly replacing natural materials in both industrial and commercial products. Thus, petrochemical lubricants, coatings, adhesives, inks, dyes, creams, gels, soaps, detergents, fragrances and plastics are replacing conventional plant, animal and ceramic based products.
2. Industries and research institutions which are increasingly developing sophisticated and novel nanoscale chemicals and synthetic halogenated compounds that are creating new functions such as durable, non-stick, stain resistant, fire retardant, water-resistant, non-corrosive surfaces, and metallic, conductive compounds that are central to integrated circuits used in cars, cell phones, and computers.

Chemical intensification is not just a measure of the chemical production and use but reflects changes in functions of chemicals and the importance of chemicals in all aspects of economic development. It also incorporates the increased complexity of chemicals themselves and the ever lengthening and more intricate chemical supply chain. The potential for negative effects on environment and human health of the chemical intensification of the economy if unregulated shows the importance of advancing the sound management of chemicals now. The concept of chemical intensification, possible indicators and ways to measure it, is still under development.

OECD member countries as a group still account for the bulk of world chemical production, but developing countries and countries with economies in transition are increasingly significant. Over the last decade, chemical production in the BRICS countries has far exceeded the growth rates of the OECD countries (Figures 1 and 2). For example, from 2000 to 2010, chemical production in China and India grew at an average annual rate of 24% and 14%, respectively, whereas the growth rate in the United States, Japan and Germany was between 5 and 8%.

In 2001, the OECD issued projections that by 2020, developing countries would be home to 31% of global chemical production, and 33% of global chemical consumption. Recent forecasts from the American Chemistry Council (ACC) also predict significant growth in chemical production in developing countries in the period to 2021 and more modest growth in developed countries (Table 1).

Table 1. Chemical Production: Predicted Growth, 2012-2020

		Percent change, 2012-2020	
North America		25%	
	United States		25%
	Canada		27%
	Mexico		28%
Latin America		33%	
	Brazil		35%
	Other		31%
Western Europe		24%	
Emerging Europe		35%	
	Russia		34%
	Other		36%
Africa & Middle East		40%	
Asia-Pacific		46%	
	Japan		22%
	China		66%
	India		59%
	Australia		23%
	Korea		35%
	Singapore		35%
	Other		44%

Source: Percentages calculated based on projections for the regions and for selected countries by Swift, Thomas Kevin et al., (June 2011). "Mid-Year 2011 Situation & Outlook," American Chemistry Council.

2) Penetration of chemical intensive products into national economies

Many countries are primarily importers of chemicals and are not significant producers. Agricultural chemicals and pesticides used in farming were among the first synthetic chemicals to be actively exported to developing countries.

Today, as consumption of a wide range of products increases over time, these products themselves become a significant vehicle increasing the presence of chemicals in developing and transition economies (Table 2). These include liquid chemical personal care products for sale directly to consumers; paints, adhesives and lubricants; as well as chemically complex articles ranging from textiles and electronics, to building materials and toys. Emissions from products pose different management challenges from those associated with manufacturing, as they are diffused throughout the economy, rather than being concentrated at manufacturing facilities.

Increasingly, articles are important vehicles of the global transport of chemicals with potentially significant impacts at every stage of the product life cycle. For example, trade in articles has been identified as a significant driver of global transport of lead, cadmium, mercury and brominated flame retardants. In some instances, the most significant human and environmental exposures occur through product use and disposal, and are added to those occurring during manufacturing.

It is often the case that electrical and electronic equipment, which contain hazardous or toxic substances, are purchased in developed countries before being disposed of or recycled in unsafe and unprotected conditions in developing or countries with economies in transition. Products such as cell phones and laptops are being purchased and used in regions of the world recently thought to be too remote. Increasing consumer demand for electrical/electronic goods and materials, along with rapid technology change and the high obsolescence rate of these items have led to the increasing generation of large quantities of obsolete and near end of life electronic products. These trends contribute to global electronic waste generation estimated at 40 million tons per year. These trends are expected to rise with the increased use and disposal of electronic products by developing countries and countries with economies in transition.



During just the first quarter of 2010, worldwide shipments of personal computers were estimated to total 84.3 million units, an increase of 27% from the first quarter in 2009.

Worldwide sales of mobile phones were estimated to total 314.7 million units in the first quarter of 2010, a 17% increase from the same period in 2009.

Table 2. Examples of Toxic Substances in Articles

Article	Chemical & health effects	Pathways of Exposure
Automobiles		
Automotive switches	Mercury. Effects include neurotoxicity, including developmental neurotoxicity (methyl mercury) as well as organ damage.	Mercury can be released when automobiles with mercury-containing switches are crushed or shredded. Elemental mercury can be transformed into methylmercury, which is bioaccumulative. Humans can be exposed through consumption of contaminated fish and other routes.
Tires	Polycyclic aromatic hydrocarbons (PAHs); 1,3-butadiene. Effects include the following: some PAHs are carcinogenic, and 1,3-butadiene is a known human carcinogen.	Highly aromatic oils containing PAHs are used to make the rubber polymer easier to work and to make the tire tread soft. Rubber particles containing PAHs can wear off tires over time, dispersing PAHs into the environment.
Wheel weights	Lead. Effects include neurotoxicity, including developmental neurotoxicity; high blood pressure; organ damage.	Lead wheel balancing weights fall off car wheels, then are run over by other cars and dispersed into the environment.
Electronic Products		
Electronic products	Lead, mercury, cadmium, brominated flame retardants. Effects of cadmium include carcinogenicity; possible damage to fertility; possible fetal damage; organ damage. Effects of brominated flame retardants include neurotoxicity; thyroid disorders. Effects of lead and mercury are listed above.	Heavy metals and brominated flame retardants are released during disposal or recycling of electronic wastes. Developing countries and countries with economies in transition bear a particularly large burden from unsafe disposal and recycling of these articles.
Batteries	Lead. Effects of lead are listed above.	The major use for lead globally is in lead-acid batteries. In many countries, recycling of batteries/car batteries is a common source of human and environmental exposure to lead.
Children's products		
Toys	Lead, cadmium, phthalates. Effects of some phthalates include endocrine disruption, effects on fertility, and possible effects on sexual development. Some phthalates are possible carcinogens. Effects of lead and cadmium are listed above.	Toys and children's jewelry can contain lead in the form of lead paint and metal clasps, chains or charms. Lead is also used as a stabilizer in some toys and other children's items made from PVC plastics. Lead can leach out of these products during use. Phthalates are used as plasticizers (i.e., chemical agents that make plastics soft and flexible) in toys made of polyvinyl chloride (PVC) plastics. These substances leach out of toys during use.

Adapted from: Massey, R., Becker, M., Hutchins, J. (2008). *Toxic Substances in Articles: The Need for Information*. Swedish Chemicals Agency.

3) Increased chemical emissions resulting from major economic development sectors

Individual industries that are users of chemicals or that emit significant amounts of chemicals as unintentional by-products also contribute to the chemical intensification of national economies. As developing countries and those in economic transition increase their economic production, related chemical releases have raised concerns over adverse human and environmental effects. Chemical contamination and waste associated with industrial sectors of importance in developing countries include pesticides from agricultural runoff; heavy metals associated with cement production; dioxin associated with electronics recycling; mercury and other heavy metals associated with mining and coal combustion; butyl tins, heavy metals, and asbestos released during ship breaking; heavy metals associated with tanneries; mutagenic dyes, heavy metals and other pollutants associated with textile production; and toxic metals, solvents, polymers, and flame retardants used in electronics manufacturing. An added concern includes the direct exposure resulting from the long range transport of many chemicals through environmental media that deliver chemical pollutants which originate from sources thousands of kilometres away.

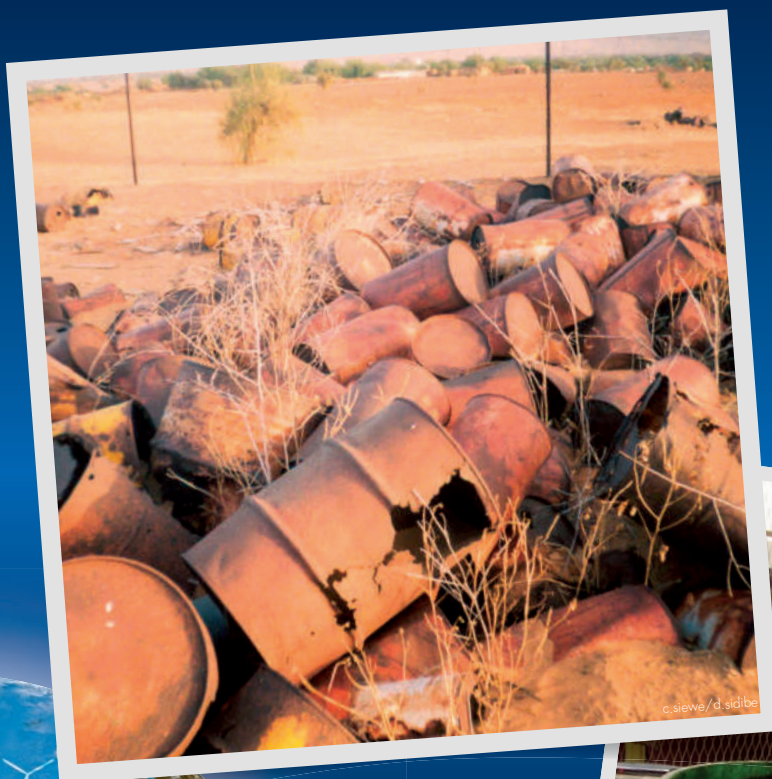
Economic forecasts in these sectors suggest that emissions will continue to increase. In many developing countries, agriculture

Total pesticide expenditures in South Africa rose 59% over the period 1999 to 2009, and are projected to rise another 55% in the period 2009 to 2019.

is the largest economic sector, and accounts for the most significant releases of chemicals in the economy. Agricultural chemicals, including fertilizers and pesticides, are among some of the largest volume uses of chemicals worldwide. World consumption of fertilizers is estimated to grow 2.6% per year in the period

2010 to 2014. While over 500 different chemicals are used in electronics manufacture, electronic production has grown globally and is expected to continue to grow with an increasing percentage in developing countries and those with economies in transition. China is the largest consumer of textile chemicals with 42% of global consumption, and its consumption of textile chemicals - along with other Asian countries (excluding Japan) - is expected to increase 5% per year over the period 2010 to 2015. Global consumption of cement is anticipated to increase 4% per year to 3.5 billion metric tons in 2013. Sixty-nine percent of world cement consumption in 2013 is predicted to be in China and India. Africa and the Middle East are predicted to be the next largest consumers, accounting for 12% of global demand in 2013.





HEALTH AND ENVIRONMENTAL EFFECTS OF CHEMICAL EXPOSURES: AN INCREASINGLY COMPLEX CHALLENGE

The release of chemicals continues to affect all aspects of natural resources including the atmosphere, water, soil and wildlife. Chemicals released to the air can act as air pollutants as well as greenhouse gases and ozone depleters and contribute to acid rain formation. Chemicals can contaminate water resources through direct discharges to bodies of water, or via deposition of air contaminants to water. This contamination can have adverse effects on aquatic organisms, including fish, and on the availability of water resources for drinking, bathing, and other activities.

It is common for soil pollution to be a direct result of atmospheric deposition, dumping of waste, spills from industrial or waste facilities, mining activities, contaminated water, or pesticides. Soil contamination impacts include loss of agricultural productivity, contamination of food crops grown on polluted soil, adverse effects on soil microorganisms, and human exposure either through food or through direct exposure to contaminated soil or dust.

Persistent and bioaccumulative chemicals are found as widespread contaminants in wildlife, especially those that are high in the food chain. Some of these chemicals cause cancers, immune system dysfunction, and reproductive disorders in wildlife. Dioxins and polychlorinated biphenyls (PCBs) are among the chemicals that have been documented at high levels in wildlife. As measures have been taken to reduce the presence of these contaminants in the environment, others have taken their place. For example, while levels of dioxins and PCBs in wildlife have gradually decreased in most areas, levels of brominated flame retardants and perfluorinated compounds have increased.

Some halogenated organic compounds have been identified as Persistent Organic Pollutants (POPs) under the Stockholm Convention on Persistent Organic Pollutants. The first chemicals listed as POPs under the Stockholm Convention were aldrin, chlordane, DDT, dieldrin, endrin, heptachlor, hexachlorobenzene,

Of the 5.7 million metric tons of pollutants released or disposed of in North America in 2006, 1.8 million metric tons were of chemicals considered persistent, bioaccumulative or toxic, 970,000 metric tons were known or suspected carcinogens and 857,000 metric tons were of chemicals that are considered reproductive or developmental toxicants.

mirex, toxaphene, PCBs, and polychlorinated dibenzop-furans and polychlorinated dibenzofurans (PCDD/PCDF). Additional chemicals were added to the list more recently: alpha-hexachlorocyclohexane; beta hexachlorocyclohexane; chlordecone; technical endosulfan and its related isomers; hexabromobiphenyl; hexabromodiphenyl ether and heptabromodiphenyl ether (commercial octabromodiphenyl ether); lindane; pentachlorobenzene; perfluorooctane sulfonic acid, its salts and perfluorooctane sulfonyl fluoride; and tetrabromodiphenyl ether and pentabromodiphenyl ether (commercial pentabromodiphenyl ether).

Environmental effects of the chemical intensification of the national economies are furthermore compounded by the trans-boundary movement of chemicals through the air or water. In some countries this occurs because they lie downriver or downwind from the polluting industries of neighbouring countries. In other countries, the runoff of pesticides and fertilizers from agricultural fields or the use of chemicals in mining in neighbouring countries, may leach into ground water, or run into estuaries shared across national boundaries. Throughout the globe, atmospheric air currents deliver chemical pollutants which originate from sources some thousands of kilometres away.

Whilst each chemical-intensification factor contributes to a small share of the environmental burden of each country and nation



state, when combined, these together can form an increasingly significant and complex overall mix of chemicals not present fifty years ago. As this chemical intensity increases, the prospects for widespread and multifaceted exposures of humans and the environment to chemicals of high and unknown concern also arise.

Of the tens of thousands of chemicals on the market, only a fraction has been thoroughly evaluated to determine their effects on human health and the environment. Even as progress is being made to develop better information on the effects of chemicals, for example through data submission under the European Union's REACH programme, United States Toxic Substances Control Act (TSCA), Canada's Chemicals Management Plan (CMP) and the Japanese Chemical Substances Control Law, this data remains limited to individual chemicals. Real-life exposures are rarely limited to a single chemical and very little information is available on the health and environmental effects of chemical mixtures.

Nevertheless, many of these chemicals in widespread use have been associated with well-established risks to human health and the environment. Exposure to toxic chemicals can cause or contribute to a broad range of health outcomes. These include eye, skin, and respiratory irritation; damage to organs such as the brain, lungs, liver or kidneys; damage to the immune, respiratory, cardiovascular, nervous, reproductive or endocrine systems; and birth defects and chronic diseases, such as cancer, asthma, or diabetes. The vulnerability and effects of exposure are much greater for children, pregnant women and other vulnerable groups.

Workers in industries using chemicals are especially vulnerable

through exposure to toxic chemicals and related health effects. These include an increased cancer rate in workers in electronics facilities; high blood lead levels among workers at lead-acid battery manufacturing and recycling plants; flame retardant exposures among workers in electronic waste recycling; mercury poisoning in small-scale gold miners; asbestosis among workers employed in asbestos mining and milling; and acute and chronic pesticide poisoning among workers in agriculture in many countries.

Toxicological research has also revealed that for a range of chemicals, very low levels of exposure can influence disease risk and that both dose and timing of exposure are important. For example, human exposure to certain chemical toxicants at low levels during periods of rapid growth and cell differentiation (e.g., foetal life through puberty) can be important factors that influence disease risk. Individuals living in poverty are particularly vulnerable, both because their exposures may be particularly high, and because poor nutrition and other risk factors can increase susceptibility to the effects of toxic exposures. Due to their size, children's responses to small doses of toxic chemicals are disproportionately large compared to adults. Because their metabolic pathways are immature, children are also slower to detoxify and excrete many environmental chemicals and thus toxins may remain active in their bodies for longer periods of time (table 3). Research has also made clear that the elderly are among those particularly susceptible to health effects from a range of chemical contaminants.

CHEMICAL IMPACTS ON FISHERIES

Fisheries, an important source of protein and of economic value for populations around the world, can be severely affected by chemicals. Persistent organic pollutants can accumulate in fish, especially those high in the food chain. As a result, the value of this otherwise excellent protein source is diminished or lost completely.

Industrial and agricultural run-off can lead to large-scale fish kills, and lower-level chemical contamination of water bodies can decimate fish populations over time. Chemical contamination is also associated with disease in fish populations, including cancers and increased vulnerability to infectious agents.



Table 3. Studies of Reproductive & Developmental Health Effects Associated with Chemicals: Examples from Developing & Countries in Economic Transition

Conception, pregnancy and foetal and child development are complex processes that research has shown can be adversely affected by industrial chemicals. This table provides a sampling of a few examples from developing countries and countries with economies in transition.

Health Outcome	Country	Example
Reproductive effects	China	Reduced sperm concentration was significantly associated with the urine phthalate metabolite, monomethyl phthalate among a cohort of Chinese men from Chongqing exposed to phthalates in the general environment.
	China	In rural China, elevated placental concentrations of several persistent organic pollutants, including o,p'-DDT and metabolites, α -HCH, and PAHs were associated with increased risks of neural tube defects. Strong associations were observed for exposure to PAHs—placental concentrations above the median were associated with a 4.5 fold increased risk for any neural tube defect.
	Sudan	In central Sudan, hospital-and community-based case control studies revealed a consistent and significant two-fold elevated risk of perinatal mortality associated with pesticide exposure. The risk was over three-fold among women engaged in farming.
Developmental Disorders	Mexico	A group of children exposed to high levels of pesticides in an agricultural area showed neurodevelopmental deficits (diminished short-term memory, hand-eye coordination, and drawing ability) compared with children living in otherwise similar communities but with low or no pesticide exposure.
	Ecuador	Ecuadorian school children whose mothers were exposed to organophosphates and other pesticides during pregnancy demonstrated visuospatial deficits compared with their unexposed peers.
	Ecuador	Families living in La Victoria are involved in producing ceramic roof tiles or ceramic objects glazed with lead salts made from melting batteries. Children as young as 6 years of age are engaged in the trade. A small study found very high blood levels in children aged 6-15 years (23 $\mu\text{g}/\text{dl}$ to 124 $\mu\text{g}/\text{dl}$, with a mean of 70 $\mu\text{g}/\text{dl}$). Half of the children had repeated one or more years of school.

Note: There is a vast literature on all these health endpoints. Much of the evidence comes from developed countries. For a recent review of the literature see: Stillerman, K.P., Mattison, D.R., Giudice, L.C., et al., (2008). Environmental exposures and adverse pregnancy outcomes: a review of the science. *Reproductive Sciences*. 15, 631-650.

Research undertaken recently in developed countries has indeed led to some detailed information concerning the presence of industrial chemicals in the human body. Less research of this kind has been conducted in developing countries, but it is reasonable to conclude that to the extent that people are exposed to the same chemicals, the results will be similar. A 2009 study by the United States Centers for Disease Control (CDC) found that of

212 chemicals studied, all were detected in some portion of the US population. Findings from the report indicate widespread exposure to some industrial chemicals; 90 to 100% of samples assessed had detectable levels of toxic substances including perchlorate, mercury, bisphenol-A, acrylamide, multiple perfluorinated chemicals, and the flame retardant polybrominated diphenyl ether-47 (BDE-47).



Despite ubiquitous exposure to chemicals in both developed and developing nations, little is known about the total disease burden attributable to chemicals. In 2011, the World Health Organization (WHO) reported that globally, 4.9 million deaths (8.3% of total) and 86 million Disability-Adjusted Life Years (DALYs) (5.7% of total) were attributable to environmental exposure and management of selected chemicals in 2004 for which data were available. This figure includes indoor smoke from solid fuel use, outdoor air pollution and second-hand smoke, with 2.0, 1.2 and 0.6 million deaths/year. These are followed by occupational particulates, chemicals involved in acute poisonings, and pesticides involved in self-poisonings, with 375,000, 240,000 and 186,000 deaths/year respectively.

Estimates for selected chemicals (including pesticides) involved in unintentional acute and occupational poisonings, a limited number of occupational carcinogens and particulates and lead, correspond to a total of 964,000 deaths and 20,986,153 DALYs, corresponding to 1.6% of the total deaths and 1.4% of the total burden of disease worldwide.

To compare, among the global top ten leading causes of death in 2004, HIV/AIDS caused 2 million deaths, tuberculosis caused 1.5 million deaths, road traffic accidents caused 1.27 million deaths, and malaria caused 0.9 million deaths (WHO, 2008).

This global estimate is an underestimate of the real burden attributable to chemicals. Only a small number of chemicals were included in the WHO analysis due to limitations in data availability. Critical chemicals not incorporated in the analysis due to data gaps include mercury, dioxins, organic chlorinated solvents, PCBs, and chronic pesticide exposures as well as health impacts from exposure to local toxic waste sites.







II - ECONOMIC AND FINANCIAL IMPLICATIONS: UNRECOGNIZED AND SUBSTANTIAL COSTS AND BENEFITS

The financial cost of chemical exposure on national economies and the public are often unrecognized and substantial. Efforts to overcome the challenging task of quantification indicate that risks associated with a poorly resourced, fragmented and ineffective approach to policy are considerable.

Debates about resource allocations have frequently posited a trade-off between the economic gains associated with industrial development, on the one hand, and the costs imposed by regulation on the other. What is lost in this formulation is recognition that sound chemicals management can yield significant benefits in terms of economic development, poverty reduction, human health and environmental quality. Conversely, the absence of sound chemicals management can impose large economic costs. Preventive approaches to chemical risk management can also create additional benefits beyond 'avoided costs' in the form of improved production and resource efficiencies, trade and investment, innovation and employment impacts.

Many countries have the fundamentals of law to manage chemicals; but the implementation is poorly resourced and often fragmented and ineffective. Moreover, weak chemical regulation in developing countries and countries with economies in transition occurs while greater expansion of chemical production and/or use is taking place. Many chemical risks of concern in developing countries exist in developed countries though most are managed more effectively due to greater regulatory infrastructure, financial resources, and techniques learned over time. What is needed is to facilitate the exchange of experience and lessons learned in managing chemical risks between countries. As such, policy responses to keep up with the pace of economic development and related trends in chemical production, transport, import, export, consumption and disposal require further investment in policy development and implementation; and transfer of relevant management experience.

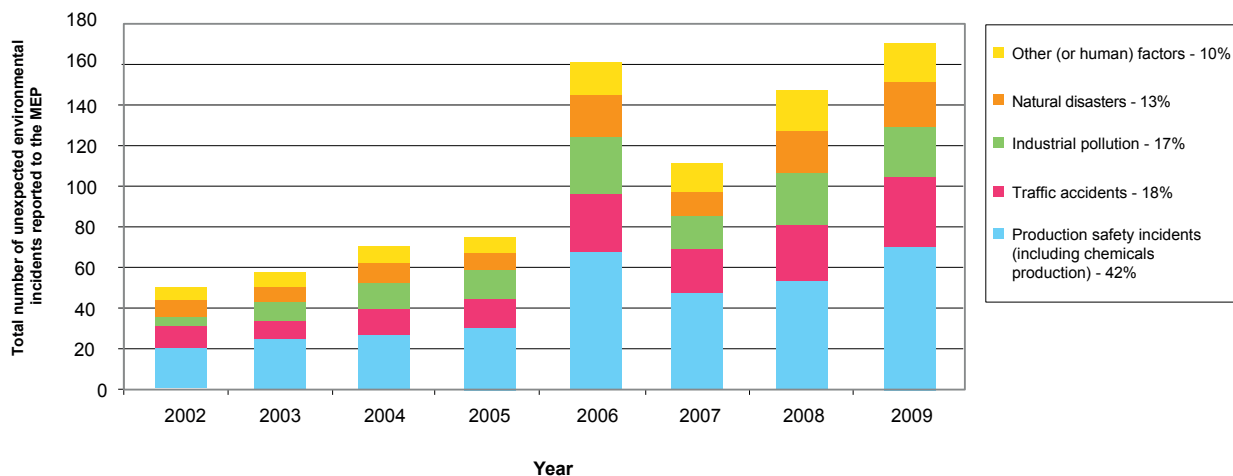


Financial costs to the chemicals and related industries: Higher insurance costs, loss of productivity, reputation impacts

A report from the United Nations Environment Programme, *Risks to the Financial Sector from Chemicals*, 2012; explores the way in which the financial sector (insurance, banking and asset management) interacts with the chemical sector. The study concludes that poor management of chemicals across lifecycles contributes to inefficiencies in the chemicals industry, with increased risks leading to higher insurance costs, loss of productivity and significant reputation impacts. It also stresses the following implications related to the chemical intensification of developing countries economies. With no progress in policies and regulations, financial risks may increase even further:

- a) The scope for unintended incidents is growing rapidly (figure 3); this is compounded by the introduction of numerous novel compounds, e.g., nano-scaled and genetically synthesized chemicals which may, by themselves, or in combination with others, generate new risks. While it is not possible to give an economic estimate of the global chemical risks to the finance sector, the costs incurred in a few specific cases demonstrate that they can be significant. Examples include asbestos (over \$100 billion globally), contaminated dry wall (\$25 billion), the Bhopal disaster (\$3.5 billion), RC2 toys (\$500 million).

Figure 3. Growing incidence of environmental accidents as reported to the Ministry of Environmental Protection (MEP) of the People's Republic of China (2002-2009)



Note: Generated based on data contained in two presentations by Professor Zhao Jinsong, Department of Chemical Engineering, Tsinghua University Research Center of Accident Prevention and Emergency in Chemical Process i) "Analysis on Hazard and Operability", UNEP SCP APELL Workshop 26-27 April, 2010, Zhangjiagang. The Office of Emergency Command Leading Group at the Ministry of Environmental Protection compiled the underlying data in 2008 and 2009. The percentages relate to data for 2008 that was used as the baseline for all years; and ii) "Process Safety and HAZOP" UNEP's Global APELL 25th Anniversary Forum held in Beijing, China on 14-18 November 2011.

Three examples of the cost of industrial accidents in the EU and US

- Pasadena, Texas October 1989. A series of explosions at the Phillips Houston Chemical Complex (HCC) killed 23 and injured 314 others. It cost an estimated US\$1,5 million in 1996 US dollar terms. A large portion of these costs are attributed to additional business disruption.
- Toulouse, France 21 September 2001. An explosion of ammonium nitrate causing 30 fatalities and an estimated 10,000 injuries. Estimated damage costs of approximately €1.5 billion (US\$1.8 billion in 2011 terms).
- Buncefield, United Kingdom December 2005. The Buncefield oil storage depot incident was the biggest explosion and fire in peace-time Europe. 200 people required immediate medical attention and 3,408 litigants subsequently demanding damages. The total cost of the incident was estimated at £1 billion (US\$1.5 billion in 2011 dollar terms). A four month trial concluded in July 2010, with five companies being found guilty and ordered to pay a total of £9.5 million (US\$14.6 million) in fines and costs.

Note: Fewtrell and Hirst (1998)

Note: <http://www.grida.no/publications/et/ep3/page/2607.aspx>

Note: British Government website on the Buncefield disaster: <http://www.buncefieldinvestigation.gov.uk/index.htm>; Hiles (2010)

- b) Disastrous incidents make the headlines, but the true costs of chemical mismanagement are dispersed and hidden throughout the population and over time. Such costs are typically carried by a nation's social welfare system and individuals.
- c) The chemical intensification of developing country economies has the potential to make this situation worse. The supply chain is now longer and therefore harder to manage; products are more likely to fail to meet standards, and recourse from those parties originally responsible for failure is more difficult to obtain, thus necessitating remediation from those who are 'downstream', or from public bodies in the end-markets. Producers or importers/exporters may be held legally liable for harm caused by poor quality products and services, but in many cases it is their reputation value amongst consumers and investors that is at stake.
- d) The insurance sector has been working with the public sector to develop 'safety nets' in the sphere of financial support for large segments of society, through innovative products and services for health care, income replacement, and death-related compensations, but so far these are not seen as part of the solution for handling externalities due to chemical mismanagement. In terms of direct risk transfer, insurers are cautious about involvement with ill-defined risks with potential for major costs. However, shares in chemical companies are a significant element of global stock markets, and therefore movements in their value are of major concern to institutional investors. Further, it is becoming clear that chemical risks affect a much broader range of companies than simply the chemical sector. In recent years, there have been approaches by socially responsible investments (SRI) actors in alliance with NGOs, to policymakers seeking to create a more comprehensive regulatory framework for chemicals of high concern.

COSTS OF ACCIDENTS

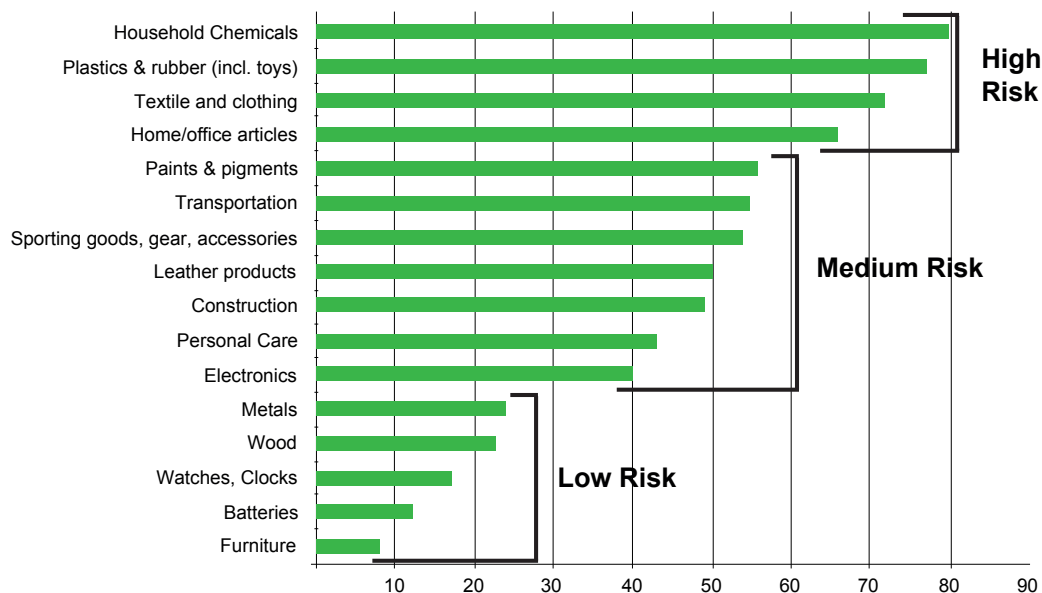
US\$ 19 million reported profit made by Trafigura for the 2006 ship leased "Probo Koala" with a shipment of coker gasoline. Total costs paid out by Trafigura to date for waste dumping incident equal approximately **US\$ 250 million.**

US\$ 600 million to date: treatment of contaminated sludge from the Minamata mercury pollution incident; Over **47,600** people likely to be compensated in the legal process.



Figure 4. Substances of Very High Concern (SVHC) risk profiles for quoted companies

of potential SVHCs in each product category



Source: MSCI ESG Research, ChemSec's SIN List 2.0 (May 2011)

Insurance and environmental liability benefits of improved environmental management

The steadily rising cost and impact of environmental risk liability are related to several factors, including past operational activities, current operational activities, business transactions, and financial and reporting obligations. Many private companies and public agencies have found that a sound environmental/chemical management system, such as ISO 14000, is an effective tool for managing their environmental liabilities. Although the primary purpose for the adoption of environmental/chemical management systems is improving environmental performance, insurance companies such as Swiss Re note that such practices can result in substantial economic benefits in terms of insurance. These insurance benefits include the securing of insurability (ability to acquire insurance coverage), lower deductibles, higher limits insured, broader coverage, and more favorable premium rates. For example, following the development and implementation of a pilot environmental management system program, the Port of Houston Authority benefited from a 20% reduction in insurance cost.

Source: Swiss Re. (1998). Environmental management systems and environmental impairment liability insurance. http://www.swissre.com/resources/c63dd180455c7cfeb76cbf80a45d76a0-environmental_eng.Paras.0006.File.pdf; Kruse, C.J. (2005). Environmental management systems at ports – a new initiative. In Proceedings of the 14th Biennial Coastal Zone Conference. New Orleans, Louisiana, USA, Jul 17-21, 2005.

External implications and cost of inaction for human health and environment: large with heavy burden on individual and public budgets

The UNEP *Cost of Inaction* Report (2012) gathered and examined available primary data containing relevant monetized or quantified external cost information related to chemical mismanagement. The vast majority of human health costs linked to chemical production, consumption and disposal are not borne by chemical producers, or shared down the value-chain.

- a) Poor management of chemicals across their lifecycles comes with a price paid for by individuals, important economic sectors and public budgets, including through poor health and degraded ecosystem health and productivity. For example, one study suggests that the major economic and environmental losses due to the use of pesticides in the United States amounted to USD \$1.5 billion in pesticides resistance and USD \$1.4 billion in crop losses, and USD \$2.2 billion in bird losses, amongst other costs. Another study in China cites the effect of acute water pollution incidents on commercial fisheries which has been estimated at approximately USD \$634 million (4 billion Yuan) for one year.

US\$2.1 billion: Disability-Adjusted Life Years (DALYs) costs of children's exposures to lead in Africa, Latin America and South East Asia;

US\$108 billion: IQ-based lost economic productivity due to childhood lead exposures in the same regions.

US\$ 236.3 billion: global environmental external costs from 'global human activity' producing VOCs;

US\$ 22 billion: global environmental external costs from mercury emissions.

- b) Health care in many low- and middle-income countries is hospital-centered and focused on patients who have reached the point of acute stress or have long-term complications. Given the rising chemical intensity in these countries and the epidemic of chronic diseases, especially

Uncompensated harm to human health and the environment are market failures that need correction. The study indicates that these 'spillover' costs of inaction on chemicals policies are large and draws the following conclusions:

US\$ 90 billion:

Projected total costs of illness and injury for pesticides users in the sub-Saharan African region from 2015 to 2020.

in children, that emerged contemporaneously with increasing use of chemicals in the developed countries, this is liable to be an increasingly expensive approach to public health administration in the future. New evidence on health costs from pesticides in sub-Saharan Africa gives an indication of just how large. UNEP *Cost of Inaction* Report (2012) used available data to make a conservative estimate for pesticide users on smallholdings in sub-Saharan Africa. It reveals that the costs of injury (lost work days, outpatient medical treatment, and inpatient hospitalization) from pesticide poisonings, in this region alone, amounted to USD \$4.4 billion in 2005. This is an underestimate as it does not include the costs of lost livelihoods and lives, environmental health effects, and effects of other chemicals. In 2009, Overseas Development Assistance (ODA) to health in sub-Saharan Africa amounted to USD \$10.3 billion. Excluding HIV/AIDS, total assistance to basic health services approximated USD \$4.8 billion.

A conservative projection of the 2005 estimate to 2009 shows costs of injury due to pesticide poisoning in sub-Saharan Africa to be **USD \$6.2 billion**. This suggests that the total ODA to general healthcare is exceeded by costs of inaction related to current pesticide use alone.



- c) The costs of public environmental management are set to rise in the developing and emerging economies experiencing the most rapid increase in chemical intensification. For example, the Africa Stockpiles Programme calculates that to clean up the 50,000 tonnes of obsolete pesticides in Africa will cost around US \$150-170 million. At the same time, production underpinned by ecosystem services – typically key in these types of economies – is likely to be undermined if the transition to increased chemical production, transport, importation, exportation, consumption and disposal is not well managed.

The benefits of action: above cost savings, sound management of chemicals policies for national development paves the way for a thriving green economy

This 'costs of inaction' data demonstrates a broad pattern of costs that can be avoided through improved chemical management efforts. In addition, sound management of chemicals will benefit countries and regions beyond cost savings alone. *UNEP's Green Economy Report (2011)*, makes the economic and social case for investing just 2% of global Gross Domestic Product (GDP), or around USD \$1.3 trillion, in greening ten central economic sectors resulting in "improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities".

The production, transport, import, export, consumption and disposal of chemicals are important factors in six of the ten central economic sectors - agriculture, water, energy (efficiency and supply), fisheries, waste, and industry. The chemical sector contributes to economic development mainly through the value of products and products containing chemicals (technological contribution) and direct employment. Sound management principles and action help to maximize this contribution, paving the way for a green economy to emerge.

Examining the potential effect of sound management of chemicals on national development the UNEP *Cost of Inaction Report (2012)* concludes that investment in improved management of chemical production, import, export, use and disposal, equates to investment in industrial development, health, education and

other priority areas while poor management detracts from making progress on these fronts and more. The following tangible and potential economic benefits have been reported:

- a) Sound chemicals management approaches and strategies can enable greater resource productivity through chemical recycling, recovery of valuable materials from the waste stream, energy supply and other innovations gains. Chemical leasing is an innovative service-oriented approach to reduce ineffective use and overconsumption of chemicals and helps companies to enhance their economic performance. It includes value-oriented, instead of volume-oriented, pricing and decouples the payment from the consumption of chemicals. This results in better chemicals management and encourages innovation. UNIDO has launched a global programme and promotes the application of chemical leasing in industry in 10 developing countries and countries with economies in transition in close cooperation with the respective Cleaner Production Centres.



Increased potato yields from integrated pest management in Ecuador

Pesticides were introduced in the northern highlands of Ecuador in the 1940s, boosting yields and incomes. However, subsequently the region suffers from one of the highest pesticide poisoning rates in the world.

Farmers use highly hazardous pesticides such as carbofuran and methamidophos. Implementation of integrated pest management (IPM) techniques reduced the number of pesticide applications from 12 (in conventional plots) to 7 (in plots that used IPM techniques). The IPM fields yielded as many or more potatoes, but production costs decreased from USD\$104 to USD\$80.

Researchers attribute the success of the project to capacity building of an expanded repertoire of farming techniques as well as a decrease in neurological effects among farmers which illustrated the link between health and agricultural productivity.

Note: Full version of this case study is available at: http://web.idrc.ca/en/ev-29128-201-1-DO_TOPIC.html.

Note: Further information of economic impacts of integrated pest management in developing countries are available at: http://scholar.lib.vt.edu/theses/available/etd-05252009-231519/unrestricted/Hristovska_Masters_Thesis.pdf

b) The global chemical industry supports some types of regulation and voluntary measures that seek to stabilize markets and set harmonized standards. The ICCA Global Product Strategy (GPS) (2011) commits global companies to promote the safe use of chemical products and enhance product stewardship throughout the value chain – and is particularly aimed at Small and Medium

Sized Enterprises (SMEs) in developing countries. The strengthening of environmental regulations has been shown to stimulate innovation in firms. Green chemistry, recognized as an important approach to achieving sustainability in the design of chemical compounds and processes, encompasses the principle of substitution in sound management of chemicals.



UNIDO Chemicals Leasing and Solvents in Egypt

The Egypt National Cleaner Production Centre (ENCPC), coordinates chemical leasing activities in Egypt under the Technology Transfer and Innovation Council (TTICs) of the Ministry of Industry and Foreign Trade. The ENCPC aims to enhance competitiveness and productivity of Egypt's industry through Cleaner Production. Egypt's industrial sector accounts for 35% of national GDP and employs approximately 25% of the national workforce. There are eight main industrial sectors: food, chemical, textile, metal, engineering, wood, pharmaceutical and non-metallic minerals. About 270,000 companies (95%) are classified as small and medium sized enterprises.

The hydrocarbon solvent supplier supervises the application of the solvent in the process of cleaning equipment at General Motors Egypt and receives payment per vehicle produced instead of solvents sold. When the cleaning process is completed, the supplier takes back the solvent waste for recycling at its plant. This model has achieved cost reductions of 15% related to reduction of solvent consumption from 1.5 L per vehicle to 0.85 L per vehicle. Part of this reduction was achieved from preventing using the hydrocarbon solvent for purposes other than that of cleaning of equipment (e.g., washing worker hands, cloths). Other aspects of cost savings include avoided costs for solvent waste disposal. Other economic benefits cited by partners include sharing liability and benefits and the creation of a long term business relationship.

Source: UNIDO case studies available at <http://www.chemicalleasing.com/index.htm>.

US\$120,000: initial capital investment in mercury-free gold processing in Mongolia.

• **US\$14,070:** current price value for 250g of gold produced on a daily basis

• **US\$35:** potential return to miners per day.

c) Sound management of chemicals is not a 'no-cost' proposition; but outlays are likely to be far less than the benefits of progressing on chemical management. Benefits from eliminating lead in gasoline on a global scale have been estimated to range from USD \$1 to \$6 trillion per

year with a best estimate of USD \$2.45 trillion per year, or 4% of global GDP. With such large social benefits, the removal of lead from gasoline is a highly cost-effective measure. In the United States alone, the benefits of phasing out lead were estimated to outweigh the costs more than ten times.

implemented and enforced (Figure 5). However, the economies of all countries are becoming more chemically intensive and all would benefit from improved chemical management.

Demonstrating the economic benefits of sound chemicals management proves that this is as valid an area for investment as education, transport infrastructure, direct health care services and other essential public services and could foster the creation of many green, decent and healthy jobs and livelihoods for developed and developing countries. Effective long-term management of chemicals and wastes lays the foundations for a thriving Green Economy and a fairer distribution of development benefits across societies.

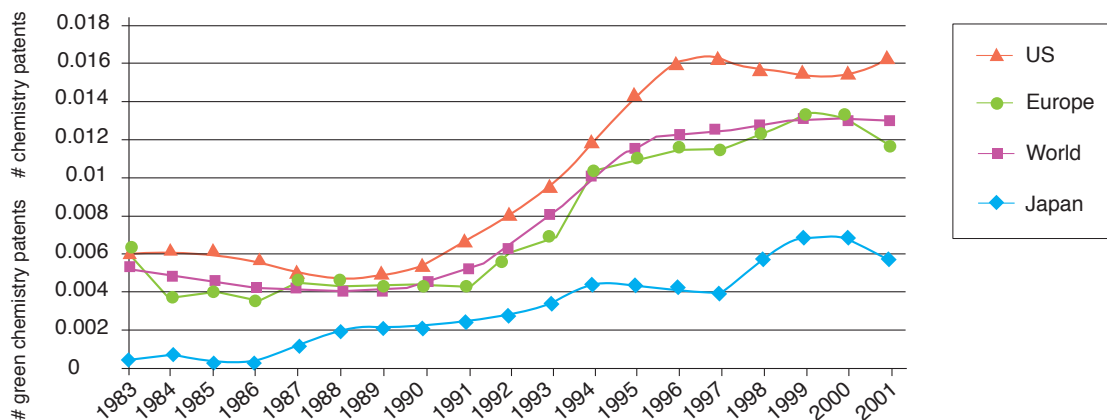
US\$100 billion: estimated value of the global green chemistry market in 2020

45%: increase in revenue per unit from recycling desktop computers achieved using best practice recycling technologies in Ghana.



The economic benefits from sound management of chemicals will vary from country to country depending upon volume of production and import, the level of economic development, the character of chemical use and exposure, and how well chemical policies are

Figure 5. A regional analysis of green chemistry patents



Source: Nameroff et al., (2004) cited in Oltra et al., (2008)





III - INSTRUMENTS AND APPROACHES FOR THE SOUND MANAGEMENT OF CHEMICALS: A CALL FOR A COMPREHENSIVE, MULTI-STAKEHOLDER AND PREVENTIVE STRATEGY

Many nations throughout the world have created legal structures and competent authorities for managing chemicals in their different forms as commodities, constituents of products, environmental pollutants, occupational and public health hazards and wastes. Many businesses and NGOs have developed new methods and tools to further strengthen these efforts. The Strategic Approach to International Chemicals Management (SAICM) and the chemicals related multilateral agreements now provide voluntary and legally binding frameworks for promoting the sound management of chemicals and many industrialized countries have adopted a range of legal, economic, technical and voluntary instruments and approaches for managing chemicals. Significant progress has been made, particularly over the past forty years, in developing international, national, and local capacities for managing chemicals safely and soundly (Table 4).

A broad survey of government, business and civil society initiatives demonstrates the wide range of instruments and approaches as well as methods and tools that are now available for promoting sound chemicals management. Developing countries and countries in economic transition, faced limited resources while confronting a steady increase of chemical intensity of their national

Table 4: National instruments and Programs for the Sound Management of Chemicals

Goal of instrument	Timeframe	Legal	Technical	Voluntary
Controlling Chemical Pollution Air quality and emission control Ambient water protection and waste water control Drinking water protection	1970s+	X X X		
Remediating Contaminated Sites and Managing Waste Chemicals Emergency response and spill management programs Hazardous waste site remediation Hazardous and municipal waste management Legacy chemicals and stockpile management	1970s+	X X X X		
Controlling Dangerous Chemicals Food and drug safety Pesticide regulation and management Workplace health and safety Chemical regulation and restriction	1970s+	X X X X		
Preventing Chemical Pollution Pollution prevention and waste reduction Cleaner production programs Chemical accident prevention programs Sustainable agriculture and Integrated Pest/Vector Management	1980s+	X X X X	X X X X	X X X X
Managing Chemical Information Chemical testing programs Hazard communication and Right-to-Know Product ingredient disclosure/Product declaration Pollutant Release and Transfer Inventories (PRTIs) National Chemical Profiles Globally Harmonized System for Classification and Labeling	1980s+	X X X X X	X X X X X	X X X X
Managing Chemicals in Products Eco-labeling programs Eco-design programs Product safety (Cosmetics, Biocide, Toys) directives Product Stewardship/Extended Producer Responsibility (EPR) Programmes Environmentally Preferred Purchasing Programmes	1990s+	X X X X	X X	X X X X
Generating Safer Chemicals and encouraging resource efficiency Green and sustainable chemistry programs Green engineering programs Chemicals Leasing	2000s+		X X X	X X X

Source: *Global Chemicals Outlook: Towards Sound Chemicals Management*. Chapter III: Instruments and Approaches for the Sound Management of Chemicals. Ken Geiser and Sally Edwards, UNEP. 2012



economies have to be strategically discerning and clear on goals and objectives in selecting appropriate instruments and approaches.

Despite the progress made, more work must be done by

governments, corporations and civil society to develop comprehensive, multi-stakeholder and preventive policies that address chemical management across chemicals and through the product life cycle.

Comprehensive chemical policies need to be closely linked with national, social and economic policies and programmes

A comprehensive chemical strategy addresses all chemicals across their lifecycle and must not focus solely on chemicals. Because chemicals are fundamental to national economies there is a strong relationship between safe chemical management and sustainable social and economic development. A comprehensive strategy assumes that the most effective means of reducing the risks of dangerous chemicals is to design an economy that promotes the value of safer chemicals while reducing the risks and inappropriate uses of harmful chemicals.

Countries with emerging or transitional economies have an opportunity to leapfrog the fragmented sector-by-sector chemical management approaches (in workplaces, emissions, wastes, products, etc.) that have characterized conventional chemical policies in developed countries. Adopting a more comprehensive strategy allows governments to integrate and coordinate legal regimes and institutional structures so as to address chemicals more holistically.

Multi-stakeholder approaches to coordinate government policies and instruments with corporate and civil society's skills and resources

The limited attention to chemical safety in national planning derives in part from the lack of coherent risk reduction strategies among the various government authorities responsible for chemicals and wastes. To develop more coherent risk management strategies, cross sector coordination is needed on chemical management among these agencies. In addition, it is important to ensure clear roles for both government and the private sector. In many countries corporations have good information on chemicals and wastes management and the technical capacity to launch effective strategies. Many global corporations actively propagate effective chemical strategies and techniques along their value chain and within related industries. By making chemicals and product manufacturers and importers the first line of sound chemicals management, the responsibility and costs for social and economic development are more effectively shared between private and public sectors (Table 5).

Table 5: Responsibilities of National Governments and Enterprises in Promoting the Sound Management of Chemicals

Responsibilities of Enterprises

- assessing the hazards, potential exposures and risks of chemicals to be marketed and used
- providing chemical information and safe practices to customers, governments and the public
- assuring safe use, storage, and transport and appropriate disposal of chemicals

Responsibilities of Governments

- enacting laws, policies and regulations on the sound management of chemicals
- collecting and verifying information and setting standards and priorities
- negotiating permits, licenses and agreements on chemical management
- monitoring and inspecting enterprises to assure compliance

Source: *Global Chemicals Outlook: Towards Sound Chemicals Management*. Chapter III: Instruments and Approaches for the Sound Management of Chemicals. Ken Geiser and Sally Edwards, UNEP, 2012

An integrated and multi-stakeholder spectrum approach to chemicals management is inherently inclusive, knitting together and coordinating government policies and instruments with industry and its stakeholders (from investors to retailers) skills and resources and linking in the participation of civil society and non-governmental organizations.

Preventive, proactive policies which anticipate risk, and promote safer alternatives

The governments of developing countries and countries with economies in transition can develop proactive and preventive policies anticipating risks, promoting safer alternatives and adopting measures to prevent accidents and unintended outcomes. These policies can be designed first to prevent, rather than control or remediate risks. Therein lies the critical opportunity for demonstrating how joint actions on environment and health within the broader development context can promote economic and social benefits. Thus, laws regulating chemicals use can be paired with programmes for clean technology

transfer, programmes to reduce industrial chemical exposure can be aligned with programs for preventing workplace injury and disease, and programmes for managing pesticides can be partnered with supports for sustainable agriculture. Cleaner production programmes can be integrated into industrial development strategies and tailored to meet the needs of industrial parks and economic development zones. Systems for providing public information on chemical releases and transfers can be aligned with requirements for product labeling and public information and education.

National capacity building: Strengthening the economic arguments

In many countries a full range of government institutions has not been established, important legal instruments have not been adopted, and sufficient financial resources have not been allocated. Capacity development needs to be seen in the context of national economic development goals and must have regard to the stability of government institutions, the rule of law, an effective judicial system, the promotion of a culture of transparency and accountability, the development of trained and qualified professionals, the cooperation of the business community, the encouragement of civil society organizations, and the development of stable and sufficient financial resources.

National budgets provide the most conventional sources of funding for national authorities. However, countries may augment these resources with the use of economic instruments. A clear allocation of responsibilities between public and private actors is also essential for the division of the costs. Economic instruments can be used to internalize the costs of chemicals management and create financial incentives to improve chemical safety. If these instruments are well crafted they may reduce the public cost and also generate public revenues needed to fund agency programmes (Table 6).

Governments in developing countries and countries with economies in transition have a range of opportunities for cost recovery and revenue generation in managing chemicals. However, for many countries the use of economic instruments alone will not provide the necessary revenues to cover the costs. Financial assistance from developed countries and international agencies and donors will still be needed to fully seize the opportunity to generate tangible and long term results.

Governments in developing countries and countries with economies in transition need to promote innovation and the use of safer chemicals in order to attract and retain private investments. A comprehensive chemical strategy linking chemical innovation to economic development can attract the private capital that generates employment opportunities and reduces worker injury and lost productivity. Chemical leasing and chemical management services offer innovative avenues for assuring commercial and technical accountability for chemical use. Chemical innovation can support the development of new enterprises and new "greener" export oriented products and services.



Case Study: Mainstreaming in Uganda

With funding from the Quick Start Programme (QSP) and support from the UNDP/UNEP Partnership Initiative, the National Environmental Management Agency of Uganda brought together the Ministries of Environment, Health and Planning and Finance with industry and civil society organizations to integrate chemical management priorities into the new Five Year National Development Plan (NDP). Recognizing that Uganda's Poverty Eradication Action Plan (PEAP) provided the basis for the NDP, the participants broke into two efforts—one fast track team to integrate short-term chemical priorities into the PEAP, and the other team to identify needs and gaps in the current chemical management infrastructure that could be staged into the longer term NDP plans and programs.

Table 6. Economic Instruments for the Sound Management of Chemicals

Category	Instruments
Price Instruments	Fees, taxes and user charges on production inputs, emissions, outputs or consumption User-charges on natural resource inputs, i.e. water charges Removal/reduction of perverse subsidies Subsidies or environmental funds for environmentally preferable activities Tax adjustments/breaks Chemical leasing, deposit-refund systems, tax-subsidy, refunded emissions fees
Liability Instruments	Environmental fines Liability systems Extended producer responsibility (EPR)
Procurement Instruments	In-house environmentally preferable procurement (EPP) Guidelines for market preferences
Information Instruments	Labeling for market creation and product differentiation Certification for market creation and product differentiation Environmental reporting Information disclosure Eco-design and green chemistry awards

Source: *Global Chemicals Outlook: Towards Sound Chemicals Management*. Chapter III: Instruments and Approaches for the Sound Management of Chemicals. Ken Geiser and Sally Edwards, UNEP, 2012

Corporate and civil society organization responses

Governments are not alone in developing new instruments and approaches for the sound management of chemicals. Many enterprises and business associations incorporate sound management of chemicals in their corporate policies and practices (Table 7).

Table 7: Methods and Tools developed by Corporations for Chemical Hazard Assessment and Identification of Preferred Chemicals and Products

Name of method/tool	Developed by	Purpose
Restricted substance lists (RSLs)	Many corporations	Screen out chemicals of concern in supply chains and products
Life Cycle Assessment	Formalized by ISO 14040	Identify environmental impacts of a chemical or material across its life cycle
Greenlist™	S.C. Johnson	Screen out hazardous chemical ingredients and compare alternatives
Green WERCST™	The WERCS	Evaluate the human health and environmental hazards of chemical ingredients in products
SciVera Lens™	SciVera	Evaluate the human health and environmental hazards of chemical ingredients in products
3E GPA™	3E company	Evaluate the human health and environmental hazards of chemical ingredients in products
iSustain™	iSustain Alliance	Assessment tool for scientists in the research and development phase of a product life cycle - generates a sustainability score for chemical products and processes based on 12 Principles of Green Chemistry
Sustainability Product Assessment Tool	Boots UK	Assess product sustainability during the development process by evaluating 20 attributes across 5 life cycle stages – raw materials/sourcing, production, distribution/retail, use, end of life
Responsible Care/ Global Product Stewardship	Canadian Chemical Producers Association	Global initiative to drive continuous improvement in the chemical industry in the areas of health, safety and the environment
International Council of Chemical Associations (ICCA)	Global initiative to drive continuous improvement in the chemical industry in the areas of health, safety and the environment	Compare sustainability of products and processes - evaluates raw materials consumption, energy consumption, land use, air and water emissions and solid waste, toxicity potential, and risk potential from misuse
Eco-Efficiency Analysis Tool	BASF	Compare sustainability of products and processes - evaluates raw materials consumption, energy consumption, land use, air and water emissions and solid waste, toxicity potential, and risk potential from misuse
BASTA	Swedish building companies, NCC, Skanska, JM and Peab, in association with the Swedish Construction Federation	Help contractors and designers select building products that do not contain chemicals of concern. Suppliers determine chemical constituents of products, ensure that they meet BASTA criteria, and register products
Eco-Check	Bayer Technology Services	Holistic assessment of products and processes, considering economy, health, environment, life cycle, technology and public value
Environmental Product Declaration (EPD)	Numerous corporations	An EPD is a standardized (ISO 14025/TR) and Life Cycle Assessment based tool used to communicate the environmental performance of a product or system
Apparel Index	Sustainable Apparel Coalition	Tool to assess the environmental performance and human health and safety for textile (clothing) products

Source: *Global Chemicals Outlook: Towards Sound Chemicals Management. Chapter III: Instruments and Approaches for the Sound Management of Chemicals.* Ken Geiser and Sally Edwards, UNEP. 2012



Similarly, many civil society organizations have developed methods and tools to assist government, enterprises and the public in chemical management (Table 8). A broad survey of these initiatives demonstrates the enormous range of instruments and approaches as well as methods and tools that are now available for promoting sound chemicals management. However, the range is so broad and diverse that it diminishes the potential

for cross-enterprise learning or assessment and makes it difficult for government policy-makers to integrate them into a broader strategy. In this regard, it would be useful to develop assessments of the efficacy and value of these measures that compares them in terms of potential goals and identifies strategies where some or a combination of these might be most effective.

Table 8: Methods and Tools developed by CSOs and NGOs for Chemical Hazard Assessment and Chemical and Product Prioritization

Name of method/tool	Developed by	Purpose
RISCTOX	Spanish Trade Union (ISTAS)	Provide information about risks to human health and environment from chemicals in the workplace
Trade Union Priority List	European Trade Union Confederation (ETUC)	Contribute to REACH implementation by proposing substances of very high concern (SVHC) which, from a trade union perspective, should have priority for inclusion in the candidate list and potentially in the authorization list.
Black List of Chemicals	Spanish Trade Union (ISTAS)	Identify chemicals of high concern to be avoided or strictly controlled
SIN List	ChemSec	Identify chemicals that meet the REACH criteria for SVHC and therefore may be subject to restriction currently or in the future
Green Screen	Clean Production Action	Compare chemical alternatives and identify preferred chemicals
P2OASys	Massachusetts Toxics Use Reduction Institute	Help companies conduct systematic environmental and worker health and safety analyses of pollution prevention and toxics use reduction options
Ecolabels and Certifications	Many organizations	Provide voluntary certification for a range of product groups
Pharos	Healthy Building Network	Help commercial buyers evaluate product content, certifications and other relevant data about building materials against key health, environmental and social impact benchmarks
Skin Deep cosmetics database	Environmental Working Group	Help consumers assess the chemical hazards of personal care products
GoodGuide	GoodGuide	Help consumers evaluate products for their health, safety, environmental and social impacts
CleanGredients	GreenBlue	Encourage the design of cleaning products that are safer for human health and the environment. Provide information on physical and chemical properties of ingredients

Source: *Global Chemicals Outlook: Towards Sound Chemicals Management. Chapter III: Instruments and Approaches for the Sound Management of Chemicals.* Ken Geiser and Sally Edwards, UNEP, 2012



International response: defining the integrated and mutually reinforcing approaches

The commitment to a comprehensive, multi-stakeholder and preventive strategy for chemical management does not apply only on the national level. As international trade and the globalization of markets drive the increasing chemical intensification of all

economies, achieving sound chemicals management requires a well-coordinated international response. National governments cannot assure the sound management of chemicals alone.

Case Study: African Stockpiles Program (ASP) as Regional Partnership

The ability to address the estimated 50,000 tons of obsolete and unwanted pesticides stored across Africa is beyond the capacities of many nations. Beginning in 2005 a regional, multi-stakeholder partnership was created uniting the African Union, World Bank, FAO, Croplife and the Pesticide Action Network. With commitments for a 15 year program the ASP is working country by country to develop plans, build capacity and implement collection, treatment and disposal projects. The ASP has focused on raising community and government awareness of pesticide risks and the construction and improvement of long term storage facilities for unwanted pesticides. Recognizing that managing obsolete pesticide stockpiles would not succeed unless better pesticide management practices were developed, the ASP has helped to draft new pesticide legislation and encourage Integrated Pest Management training programs for current farmers.

The laudable efforts to better coordinate the activities and functions of the United Nations agencies responsible for chemicals needs to be further strengthened in integrating sound chemicals management into the international organizations charged with social and economic development. While several global agreements and other comprehensive programmes have been established, their implementation remains challenging. Strengthening international environment governance specifically in the field of chemicals and wastes is therefore essential. Recently, efforts have taken place among the Parties to the Basel, Rotterdam and Stockholm Conventions to pursue the advantages associated with synergies among different MEAs in this area and

to bring coherence to international environmental governance. A comprehensive approach to the sound management of chemicals does not require a single strategy, but it does require that agency approaches be integrated and mutually reinforcing. The success of an international comprehensive approach will be defined by its capacity to convince international organizations, agencies for national development, multilateral aid programmes and financial partners that funding sound management of chemicals is critical to economic development and is cost effective.



CONCLUSION

Achieving the Johannesburg Plan of Implementation goal that, by 2020, chemicals will be produced and used in ways that minimize significant adverse impacts on the environment and human health will require a more concerted effort by international agencies, national and local governments, business and civil society organizations. Corporations will need to assume more responsibility for safe chemical production and sound management all along the value chain. Governments will need to adopt and more effectively implement instruments and approaches, define responsibilities and improve administrative and strategic coordination. This also requires providing developing countries and countries with economies in transition with technical assistance, technology transfer, institutional capacity building and training on the new methods and tools that are being used today by developed countries, private sector and civil society.

The absence of effective chemical management by governments, corporations and international bodies leads to market uncertainties in developing countries and countries with economies in transition. It inhibits risk aware financial institutions in the investment and banking sectors from making investment that support strong economic development. Additional financing for chemical management may come from economic instruments for cost integration and recovery within countries. Such funding has to be triggered and complemented by international financing from national and international development assistance programmes. To be effective and sufficiently funded and sustainably maintained, sound chemicals management must be comprehensively mainstreamed into national, social and economic planning and be coordinated internationally.

Sound chemicals management is a vital element that underpins each aspect of a Green Economy and should be integrated not only by investments in natural capital in the realm of agriculture, fisheries, forest and water, but also in the investment in energy and resource efficiency, manufacturing, waste management, building and urban design, tourism and transportation. Sound chemicals management must become a national and international environmental, public health and economic and business development priority.



RECOMMENDATIONS

The following recommendations are made with a view to raise the awareness and attention of policy-makers and key stakeholders in order to strengthen the implementation of SAICM and of the chemicals related conventions and accelerate the achievement of the Johannesburg Plan of Implementation goal that, by 2020, chemicals will be produced and used in ways that minimize significant adverse impacts on the environment and human health.

Two sets of recommendations emanate from the key findings and conclusions of the report. The first set provides general recommendations on institutional, economic and development policy related issues. The second set focuses on more specific, technical and managerial types of recommendations to address the main challenges raised in this report related to trends and indicators, economic implications and instruments and approaches.

General recommendations

1. Develop and implement comprehensive, multi-stakeholder and prevention-oriented chemical management strategies tailored to the economic and development needs of the developing countries and countries with economies in transition.
2. Mainstream sound chemicals management into national public health, labour, social and economic development programmes.
3. Regulate and reduce the use of chemicals of highest concern and substitute with safer alternatives.
4. Integrate and coordinate regional, international and intergovernmental chemical management programmes to promote synergies and increase effectiveness.
5. Develop and implement national, regional and international approaches to financing adequate capacity and resources to support sound chemicals management.

Specific recommendations on responses to address identified challenges include:

Trends and indicators

1. Develop coherent approaches for monitoring of chemical exposures and environmental and health effects that allow spatial assessments and establishment of time trends.
2. Include as baseline information on chemicals not only data on chemical exposure and health and environment effects but also on chemicals throughout their lifecycle.
3. Develop and strengthen global, regional and national integrated health and environment monitoring and surveillance system for chemicals to make timely and evidence-based decisions for effective information management of environmental risks to human health.

Economic implications

4. Further analyse the economic cost of chemical effects.
5. Increase the capacities of health and environment agencies to use economic analysis in the development of sound chemicals management policies.
6. Integrate sound chemicals management in social and economic development processes through greater use of decision-making economic tools and methodologies.

Instruments and approaches

a) National and regional level

7. Build capacity at national level for mainstreaming sound chemicals management into national development plans and processes.
8. Adopt and implement legal instruments that define the responsibilities of the public and private sector for chemical control and improve administrative coordination for compliance and enforcement.
9. Adopt a full policy chain of instruments and approaches that stretch across the lifecycle from the entry of chemicals onto the market to the management of chemicals at their disposal.
10. Use regional approaches to increase the efficient use of resources for risk assessment and management of chemicals and to prevent illegal trafficking.

11. Strengthen national capacity to facilitate the appropriate use of economic instruments to internalize the cost of chemical management and create financial incentives to improve chemical management strategies and promote safer alternatives.

12. Strengthen or develop a single national coordinating chemical management entity.

b) Corporate level and civil society

13. Foster the incorporation of sound management of chemicals in corporate policies and practices.
14. Involve small and medium-sized enterprises (SMEs) in the sound management of chemicals and encourage industry to cooperate with governments to fairly share the responsibility and costs for social and economic development.
15. Industry should generate and make public an appropriate baseline set of health and environmental effects for chemicals in commerce.
16. Further develop and improve chemical management programmes throughout the value chain including communication about chemical hazards and risks, both for chemicals as such and chemicals in articles.
17. Encourage industry to provide the public with all health and safety information and all but the most business sensitive chemical information to effectively reduce the related risks.
18. The financial sector should evaluate more thoroughly the chemical risks inherent in the activities and corporations which it finances, and work with other stakeholders to reduce them.
19. Encourage civil society organizations to participate in government policymaking and to develop activities to access, assess and widely communicate chemical information on chemical safety to the public.
20. Civil society organizations should participate actively and meaningfully in decision-making processes on chemical safety at all levels.
21. Civil society organizations should actively participate in the implementation, and monitoring, of chemicals and wastes regulatory policies including national, regional, and global agreements and facilitate their enforcement.

c) International level

22. Further promote synergies among Multilateral Environmental Agreements (MEAs) in terms of administrative, logistical and programmes integration.
23. Strengthen international and national chemical control activities including legislation to address gaps in current chemicals related MEAs.
24. Mainstream sound chemicals management into multilateral and bilateral economic assistance programmes.
25. Facilitate the assessment of the efficacy and value of corporate and civil society organizations' methods and tools, compare them in terms of potential goals and identify strategies where some or a combination of these might be most effective.
26. Foster public private partnerships to promote the implementation of sound chemical management policies and strategies as a contribution to economic development plans and processes.



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The Global Chemicals Outlook assesses the status of health, environmental, economic and institutional factors related to the production, use, and disposal of chemicals, with a focus on issues relevant to developing countries and countries with economies in transition. Alerting Ministers and decision-makers on the most pressing challenges related to the changes and trends in the production and use of chemicals, the Global Chemicals Outlook makes a convincing economic case for investing in sound chemicals management.

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**Implementation of the Strategic Approach to
International Chemicals Management:
Financial and technical resources for
implementation**

**Status of projects funded under the Quick Start Programme
Trust Fund**

Note by the secretariat

1. The Executive Board of the Quick Start Programme, at its seventh meeting held on 7-8 May 2012 in Geneva, in fulfilling its functions to review progress on the implementation of the Quick Start Programme, considered the secretariat report on the status of projects funded under the Quick Start Programme Trust Fund.
2. The Quick Start Programme Trust Fund Implementation Committee also examined the document on their thirteenth meeting held on 9 May 2012 in Geneva and provided further guidance on projects facing serious issues. Updates to the document presented to the Executive Board and the Implementation Committee have been made to reflect the decision of the Committee in the annex to the present note for the information of the Conference.

* SAICM/ICCM.3/1

Report on the status of projects funded under the Quick Start Programme

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I. Background

1. The Quick Start Programme (QSP) Trust Fund Implementation Committee has approved 154 projects over twelve rounds of applications between May 2006 and May 2012, for a total funding of USD 32,281,403. Following the suspension of eight projects, the QSP portfolio includes 146 projects with the total funding of USD 31,237,454¹. The projects are being implemented by 102 Governments and 16 civil society organizations and involve activities in 105 countries, including 54 least developed countries and/or small island developing states.

2. Approved projects and activities financed by the QSP Trust Fund are to be implemented in accordance with the project management arrangements approved by the Implementation Committee. The Committee agreed, in principle, that in order to simplify the administration of projects, project management arrangements should be consistent with the administration and Trust Fund management requirements and procedures of the United Nations Environment Programme (UNEP). Project activities are undertaken by Governments or civil society organizations in collaboration with project executing agencies, if any, such as intergovernmental organizations and convention secretariats, and with partners such as governmental institutions, civil society organizations and universities.

II. Overview

3. The present report provides an overview of the current status of projects approved by the Implementation Committee over the eleven rounds of applications. The annexes to the present report provide tables organized according to project status, which summarize activities carried out by the projects from 31 January 2011 to 15 March 2012. For previous information about the status of projects, please refer to documents SAICM/TF.12/5, SAICM/TF.11/5 and SAICM/TF.11/5/Add.1 of the twelfth and eleventh QSP Implementation Committee meetings. In addition, the narrative progress reports submitted for projects financed by the QSP Trust Fund have been posted on the SAICM website at www.saicm.org.

4. Projects approved in the first ten rounds are progressing, some with delays as compared to the initially agreed work plans, and 44 from the first to the sixth round have completed their activities. Extensions concerning 65 projects have been requested (details provided in Annex I). To date, extensions for 45 projects have been granted while extension requests for another 20 projects are either in the process of approval or preparation of relevant documents by partners. An extension was not granted for one project approved in the first round². Eight projects approved in rounds one to seven were suspended, four of which were recommended for resubmission. Of the suspended projects, one was resubmitted in the eighth round and approved, and another one was submitted in the eleventh round and received deferred conditional approval. All projects approved up to the ninth round have initiated activities. Forty projects approved between the ninth to the eleventh round are either in the initial stages of project implementation or yet to initiate their activities since either legal arrangements have been made recently or agreements are still to be signed. Agreements have been concluded and signed for 33 projects and preliminary arrangements for their implementation have begun, seven agreements remain to be concluded, three are awaiting inputs from partners, while four others are ready for signature.

5. In 2008, delays in project implementation were mostly related to the development of a new legal template³. According to the new arrangements (August 2008), each intergovernmental organization acting as executing agency signs a letter of agreement with UNEP, which provides a general cooperation framework and also signs specific implementation agreements for approved projects. In 2009 such templates for bilateral implementation agreements were settled with the United Nations Development Programme (UNDP), the United Nations Institute for Training and Research (UNITAR), and the World Health Organization (WHO).

¹ The total \$31,237,454 consists of \$1,796,662 in the first round, \$1,779,591 in the second round, \$1,982,155 in the third round, \$3,764,095 in the fourth round, \$3,922,089 in the fifth round, \$1,979,845 in the sixth round, \$2,226,478 in the seventh round, \$1,766,896 in the eighth round, \$4,507,347 in the ninth round, \$5,394,607 in the tenth round, \$1,461,795 in the eleventh round and \$655,894 in the twelfth round.

² Project I.08.C.TPAWU was not granted extension due to the failure of the partner to demonstrate progress in the implementation. The remaining balance of US\$169,600 was returned to the Trust Fund.

³ During 2008, UNEP's Quality Assurance Section, in consultation with the SAICM secretariat, developed new legal templates for letters of agreements and implementation agreements for projects with an intergovernmental organization acting as a project executing agency. Small scale funding agreements were also developed for government and civil society projects without an executing agency, and internal cooperation agreements were developed for projects in which a UNEP Multilateral Environmental Agreement (MEA) secretariat would serve as the executing agency.

6. As of 31 July 2012, the status of legal arrangements for 150 projects approved in the first eleven application rounds is as follows:
 - a) Agreements for 141⁴ projects have been concluded.
 - b) Agreements for 7 projects from the tenth and eleventh rounds are yet to be concluded, 4 of which are ready for signature and 3 are awaiting inputs from the partner countries.
 - c) Agreements for 2 suspended projects in the second and seventh rounds were not signed.
7. Annex I provides a summary of approved projects per round.
8. The table in Annex II provides detailed information on the signature of agreements, dates and amount of disbursements, the implementation status and the strategic priority of projects for the first ten rounds.

I. Reporting and independent monitoring and evaluation

9. The terms of reference for the QSP Trust Fund set out in resolution I/4 of the International Conference on Chemicals Management provide that “independent monitoring and evaluation (M & E) and reporting on project implementation to the QSP Trust Fund Implementation Committee will be the responsibility of project proponents”. The project implementers are therefore required to designate an entity responsible for monitoring and evaluation and ensure that a mid-term report after 12 months of project activities and a final report at the end of the project are prepared and submitted by the respective organization/individuals. For projects of less than 12 months, only one final report is required.
10. UNEP project administrative requirements include the provision of bi-annual narrative progress reports for the duration of the project, as well as one final project report at the end of project. The secretariat monitors the timely submission of these reports accordingly.

a. Narrative progress and final reports

11. During the reporting period of 31 July 2011 to 31 January 2012, 69 reports should have been received. The Secretariat received 56 reports⁵, approximately 80% (48 half yearly and eight final reports). The Secretariat regularly follows up with project implementers to obtain the missing reports or determine the cause of the delay. Further details are available from the individual reports posted under the SAICM website.
12. Narrative reports for the reporting period were submitted by Governments of Belarus, Burundi, Cambodia, Costa Rica, Mali, Nigeria, Philippines, Rwanda, Senegal, Tajikistan, Tanzania, Thailand and by executing agencies such as the Basel Convention Regional Coordinating Centre (BCRC), the Basel Convention on the control of Transboundary Movements of Hazardous Wastes and their Disposal, the Caribbean Environmental Health Institute (CEHI), the International Panel on Chemical Pollution (IPCP), UNEP, UNDP, UNITAR, WHO, Chulabhorn Research Institute and the Civil Society Organizations such as the Pesticide Action Network (PAN Africa), Research and Education Centre for Development (CREPD), Sustainlabour and Women in Europe for a Common Future (WECF).
13. The following implementers and executing agencies have yet to submit the reports: Government of Samoa, the Blacksmith Institute, the Sahel Institute of the Permanent Interstate Committee for the Drought Control in the Sahel (CILSS), the Basel Convention on the control of Transboundary Movements of Hazardous Wastes and their Disposal for a project in Cote d’Ivoire, UNDP for a project in Ecuador, UNITAR for projects in Nepal and Liberia, UNIDO for projects in Peru, Sudan and Colombia and WHO for projects in Madagascar, Kenya and Gabon. The status of project reports in the first ten rounds can be seen in Annex VI.

b. Monitoring and Evaluation (M&E) reports

⁴ Agreement for the project in Eritrea with UNITAR as the executing agency was signed twice as it was suspended in the 2nd round and re-approved in the 8th round, however it has been counted only once.

⁵ Until 15 March 2012

14. For the reporting period from 31 July to 31 January 2012, 25 M&E reports were due for submission and 13 reports were received. Additionally, five more M&E reports which were due in the previous reporting period were received. The Secretariat regularly follows up with project implementers to obtain the missing M&E reports or determine the cause of the delay. Further details may be obtained from the individual reports found on the SAICM website at www.saicm.org.
15. The secretariat brought to the attention of the QSP Executive Board in May 2012 that the reporting situation had slightly improved. For instance, between January 2011 to July 2011, 69% of the narrative reports were received, however in July 2011 to January 2012, the percentage of reports received went up to 80%. Close follow up from the secretariat, as well as measures such as the requirement to submit all pending reports to the secretariat in order for countries to be eligible for additional projects proved to be effective. In the case of Monitoring and Evaluation reports the situation remains the same. The Secretariat makes regular efforts to liaise with project implementers in order to obtain reports that are not submitted in their due date. The status of M&E reports in the first ten rounds can be seen in Annex VI.

IV. Status of QSP Portfolio Projects

16. This section provides an update on project implementation of the QSP portfolio covering the first ten rounds of the QSP funding. Projects are classified in four main groups according to their status: completed, projects under way, projects in early stages of implementation and suspended projects.

a. Completed Projects

As of 15 March⁶, 2012, 44 projects from rounds one to six had completed their activities. Of these 32 are considered “duly completed”, since they have submitted all the required deliverables. The remaining 12 are in the process of submitting their final reports. For most of the completed projects, activities and main key outcomes were aimed at:

- (a) Developing national chemicals profiles;
- (b) Developing national capacity assessments;
- (c) Setting priorities for activities for the implementation of the Strategic Approach;
- (d) Developing risk assessment methodologies;
- (i) Mainstreaming issues pertaining to the sound management of chemicals into the national development plans of the participating countries;
- (e) Improving cohesion and implementation of existing international agreements;
- (f) Developing national awareness-raising campaigns on sound chemicals management.

Annex II, table A.1 lists the completed projects that have provided their final reports with relevant information on the dates of the agreement, funding and the status of the project, while table A.2 provides information about projects that have completed their activities but have not yet submitted final reports.

b. Projects Underway

There are 61 projects from the first to the ninth rounds which are implementing project activities. A total of 19 projects from rounds two to nine are demonstrating progress according to their workplans, a further 21 projects are progressing, but facing delays and proponents have therefore either requested project extensions or intend to do so. The remaining 21 projects have had serious issues such as failure to submit reports or to complete activities within 36 months after the signing of the agreement. These projects were brought to the attention of the Quick Start Programme Trust Fund Implementation Committee for a decision on suspension or extension. The Committee recommended extending eighteen of these projects and suspending three. Annex III contains a list of projects underway in tables B.1, B.2 and B.3, with some relevant comments relating to the dates of the agreement, funding and status of the project.

⁶ As of 31 July 2012, three more projects have completed their activities and are in the process of submitting their reports.

c. Projects to initiate implementation

There are 40 projects from the ninth to eleventh rounds that are either in the initial stages of project implementation or completion of legal agreement to enable implementation. While agreements have been concluded and signed for 33 projects and preliminary arrangements for the implementation have begun, 7 agreements remain to be concluded. Annex IV, Table C contains a summary of projects to initiate implementation.

d. Suspended Projects⁷

Eight projects from application rounds one to seven have been suspended for reasons described in Annex V, Table D. One out of the eight was resubmitted and approved in the eighth round while another one was resubmitted and received deferred conditional approval in the eleventh round.

⁷ Project in Eritrea was suspended in the 2nd round and re-approved in the 8th round and project in Belarus was submitted in the eleventh round and received deferred conditional approval. Three projects suspended during the thirteenth QSP Trust Fund Implementation Committee meeting are also counted in projects having serious issues.

Annex I – Summary table of status of projects approved in twelve rounds

Application rounds	Approved projects	Projects requested extension	Projects completed	Agreements				Reporting	
				Agreements signed	Agreements ready for signature by UNEP	Agreements under consultation	Agreements under development	Half-yearly progress reports (31 July 2011 –15 Mar 2012)	Monitoring and evaluation reports (31 July 2011 –15 Mar 2012)
First round	8	7	6	8	N/A	N/A	N/A	3	0
Second round	21 ⁸	11	19	20	N/A	N/A	N/A	2	1
Third round	11 ⁹	6	6	11	N/A	N/A	N/A	1	0
Fourth round	17	18	7	17 ¹⁰	N/A	N/A	N/A	9	5
Fifth round	17	14	4	17	N/A	N/A	N/A	10	2
Sixth round	8	6	1	8	N/A	N/A	N/A	7	2
Seventh round	10 ¹¹	2	N/A	9	N/A	N/A	N/A	7	3
Eighth round	9 ¹²	N/A	N/A	9	N/A	N/A	N/A	9	4
Ninth round	19	N/A	N/A	19	N/A	N/A	-	7	1
Tenth round	23 ¹³	N/A	N/A	19	3	1 ¹⁴	-	1	N/A
Eleventh round	7	N/A	N/A	4	1	2	-	N/A	N/A
Twelfth round	4	N/A	N/A	-	-	1	3	N/A	N/A
Total	154⁸	65	44¹⁵	141	4	4	3	56	18

⁸ The project in Palestine and Eritrea with UNITAR as executing agency has been suspended and recommended for resubmission due to delays in concluding an agreement with partners.

⁹ The project in Belarus was suspended by the QSP TF IC on April 2011 at its eleventh meeting.

¹⁰ For three projects approved in the fourth application round and one in the fifth round with UNEP's Chemicals Branch as the executing agency only internal project and administrative arrangements are required. They are therefore included in this category.

¹¹ The project in Lao PDR was suspended for resubmission following the failure to meet conditional requirements.

¹² The project in Eritrea (approved and suspended in the second round) was re-approved in the eighth round.

¹³ Seventeen conditionally approved projects received confirmation approval and the respective agreements are either signed or awaiting signature.

¹⁴ Project in Jamaica is awaiting banking information details from the counterpart.

¹⁵ Out of 44 projects which have completed their activities, 11 are in the process of submitting their final reports.

Annex II - Status of Completed Projects

A.1 Completed Projects (32 projects)

Round	Project No.	Recipients	Project title	Executing Agency (ies)	Strategic priorities	Date of Agreement	End date	Disbursement received	Funding granted
1st	QSPTF/06/1/GOV/25 I.01.M	Burkina Faso, Djibouti, Madagascar, Rwanda and Sao Tome & Principe	Updating National Chemicals Management Profile of a national SAICM capacity assessment and holding a national SAICM priority setting workshop in five least developed countries	UNITAR	A	24 Apr 2007	Mar 2009	1st: May 2007 2nd: Feb 2010	\$249,731
1st	QSPTF/06/1/GOV/26 I.02.M	Côte d'Ivoire, Haiti, Mongolia, Republic of Congo and Syria	Updating National Chemicals Management Profile, development of a National SAICM Capacity Assessment and holding a national SAICM priority setting workshop in one LDC and four developing countries	UNITAR	A	24 Apr 2007	Mar 2009	1st: May 2007 2nd: Feb 2010	\$248,296
1st	QSPTF/06/1/GOV/27 I.03.M	Armenia, Chile, Costa Rica, Georgia and Serbia	Updating National Chemicals Management Profile, development of a National SAICM Capacity Assessment and holding a national SAICM priority setting workshop in two least developing countries and three countries in transition	UNITAR	A	24 Apr 2007	Mar 2009	1st: May 2007 2nd: Feb 2010	\$248,035
2nd	QSPTF/07/2/GOV/22 II.01.G.BRG	Barbados	Updating a national chemicals management profile, developing a national SAICM capacity assessment, and holding a national SAICM priority setting workshop in Barbados	UNITAR	A	30 Oct 2007	Oct 2009	1st: Nov 2007	\$55,450

Round	Project No.	Recipients	Project title	Executing Agency (ies)	Strategic priorities	Date of Agreement	End date	Disbursement received	Funding granted
2nd	QSPTF/07/2/GOV/16 II.02.G.BOL	Bolivia	Strengthening national governance for SAICM implementation: updating the national chemicals management profile, developing a national SAICM capacity assessment, and holding a national SAICM forum in Bolivia	UNITAR	A	21 Dec 2007	Dec 2009	1st: Jan 2008	\$69,550
2nd	QSPTF/07/2/GOV/23 II.03.G.BDI	Burundi	Updating the National Chemicals Management Profile and developing a national chemicals database in Burundi	UNITAR	A	10 Jan 2008	Dec 2008	1st: Feb 2008	\$99,250
2nd	QSPTF/07/2/GOV/11 II.04.G.KHM	Cambodia	Updating the national chemicals management profile, development of a national SAICM capacity assessment and holding a national SAICM priority setting workshop in Cambodia	UNITAR	A	21 Dec 2007	Dec 2009	1st: Jan 2008	\$50,570
2nd	QSPTF/07/2/GOV/15 II.05.G.TCD	Chad	Strengthening integrated chemicals management for effective SAICM implementation in Chad	UNITAR	A, B	Jan 2008	Dec 2009	1st: Feb 2008 2nd: 30 Aug 2010	\$119,900

Round	Project No.	Recipients	Project title	Executing Agency (ies)	Strategic priorities	Date of Agreement	End date	Disbursement received	Funding granted
2nd	QSPTF/07/2/GOV/07 II.06.G.COM	Comoros	Developing a national SAICM capacity assessment, holding a national SAICM priority setting workshop and updating a National Chemicals Management Profile in Comoros	UNITAR	A	23 Oct 2007	Oct 2009	1st: Nov 2007	\$52,900
2nd	QSPTF/07/2/GOV/18 II.08.G.GHA	Ghana	Updating the national chemicals management profile, developing a national SAICM capacity assessment, and holding of a national SAICM priority setting workshop in Ghana	UNITAR	A	Jan 2008	Dec 2009	1st: Feb 2008 2nd: 24 Aug 2010	\$50,750
2nd	QSPTF/07/2/GOV/21 II.09.G.GTM	Guatemala	Strengthening national governance for SAICM implementation: updating the national chemicals management profile, developing a national SAICM capacity assessment, and holding a national SAICM forum in Guatemala	UNITAR	A	Jan 2008	Dec 2009	1st: Feb 2008 2nd: 24 Aug 2010	\$85,750

Round	Project No.	Recipients	Project title	Executing Agency (ies)	Strategic priorities	Date of Agreement	End date	Disbursement received	Funding granted
2nd	QSPTF/ 07/2/GOV/17 II.10.G.HND	Honduras	Strengthening national governance for SAICM implementation: updating the national chemicals management profile, developing a national SAICM capacity assessment, and holding a national SAICM forum in Honduras	UNITAR	A	21 Dec 2007	Dec 2009	1st: Jan 2008 2nd: Feb 2010	\$85,000
2nd	QSPTF/ 07/2/GOV/20 II.11.G.KAZ	Kazakhstan	Updating the national chemicals management profile, development of a national SAICM capacity assessment and holding a national SAICM priority setting workshop in Kazakhstan	UNITAR	A	10 Jan 2008	Dec 2009	1st: Feb 2008 2nd: Feb 2010	\$50,300
2nd	QSPTF/ 07/2/GOV/25 II.12.G.KIR	Kiribati	Updating the national chemicals management profile, development of a national SAICM capacity assessment and holding a national SAICM priority setting workshop in Kiribati	UNITAR	A	23 Oct 2007	Oct 2008	1st: Nov 2007 2nd: Feb 2010	\$64,800

Round	Project No.	Recipients	Project title	Executing Agency (ies)	Strategic priorities	Date of Agreement	End date	Disbursement received	Funding granted
2nd	QSPTF/07/2/GOV/14 II.13.G.KGZ	Kyrgyzstan	Updating the national chemicals management profile, development of a national SAICM capacity assessment and holding a national SAICM priority setting workshop in Kyrgyzstan	UNITAR	A	10 Jan 2008	Dec 2009	1st: Feb 2008 2nd: Feb 2010	\$50,950
2nd	QSPTF/07/2/GOV/08 II.14.G.LSO	Lesotho	Updating the national chemicals management profile, developing a national SAICM capacity assessment, and holding of a national SAICM priority setting workshop in Lesotho	UNITAR	A	Oct 2007	Oct 2009	1st: Nov 2007	\$54,950
2nd	QSPTF/07/2/GOV/06 II.15.G.MWI	Malawi	Updating the national chemicals management profile, developing a national SAICM capacity assessment, and holding of a national SAICM priority setting workshop in Malawi	UNITAR	A	10 Dec 2007	Dec 2009	1st: Jan 2008	\$50,576
2nd	QSPTF/07/2/GOV/09 II.16.G.MDA	Moldova	Moldova and UNEP partnership on capacity building for improving the environmentally sound management of chemicals in the Republic of Moldova and the implementation of SAICM	none	A, B	16 Jan 2008	Dec 2009	1st: Feb 2008 2nd: Oct 2008 3rd: Jul 2009	\$249,950

Round	Project No.	Recipients	Project title	Executing Agency (ies)	Strategic priorities	Date of Agreement	End date	Disbursement received	Funding granted
2nd	QSPTF/07/2/GOV/30 II.18.G.NIC	Nicaragua	Strengthening national governance for SAICM implementation: updating the national chemicals management profile, developing a national SAICM capacity assessment, and holding a national SAICM forum in Nicaragua	UNITAR	A	Jan 2008	Dec 2009	1st: 18 Nov 2008 2nd: 22 Apr 2009 3rd: 17 Aug 2010	\$70,500
2nd	QSPTF/07/2/GOV/13 II.20.G.TTO	Trinidad and Tobago	Strengthening the legislative, regulatory and enforcement capacity of SIDS in the Caribbean	Basel Convention Secretariat	B	Nov 2008	Apr 2010	Dec 2008	\$178,794
2nd	QSPTF/07/2/NGO/05 II.21.C.DHIDR	Day Hospital Institute for Development and Rehabilitation of Egypt	National awareness campaign for all stakeholders on the safe use and management of pesticides according to the International Code of Conduct on the Distribution and Use of Pesticides	none	B	19 Dec 2007	Dec 2009	1st: Feb 2008 2nd: Nov 2008 3rd: Jun 2009	\$199,000
3rd	QSPTF/07/3/GOV/14 III.06.G.MLI	Mali	Updating the national chemicals management profile, developing a national SAICM capacity assessment, and holding a national SAICM priority setting workshop in Mali	UNITAR	A	23 Apr 2008	Apr 2010	1st: May 2008	\$58,400
3rd	QSPTF/07/3/GOV/07 III.01.G.ARM	Armenia	Armenia and UNEP Partnership Initiative for Sound Management of Chemicals and Implementation of SAICM in Armenia	none	B,C	31 Oct 2008	30 Sept 2010	1st: Jan 2009 2nd: Feb 2010	\$245,680

Round	Project No.	Recipients	Project title	Executing Agency (ies)	Strategic priorities	Date of Agreement	End date	Disbursement received	Funding granted
3rd	QSPTF/07/3/NGO/01 III.10.C.AAMMA A	Argentine Society of Doctors for the Environment (AAMMA) - Argentina, Bolivia, Chile, Paraguay, Peru and Uruguay	Integrated regional campaign on minimization of mercury domestic sources with actions of intervention in the community to protect children and women's health	none	B	Jun 2008	May 2010	1st: Sep 2008 2nd: Sep 2009 3rd: Aug 2009 4th: Jan 2010	\$240,625
3rd	QSPTF/07/3/NGO/03 III.11.C.SLAB	Sustainlabour - Brazil, Chile and Uruguay	Enabling workers and workplaces for SAICM implementation	none	B	13 Oct 2008	Sept 2010	1st: Nov 2008 2nd: Jul 2009 3rd: Jan 2009	\$227,224
3rd	QSPTF/07/3/GOV/05 III.09.G.YEM	Yemen	Integrated national program for the sound management of chemicals and implementation of the Strategic Approach in Yemen	UNITAR	A,B	April 2008	Apr 2010	1st: May 2008 2nd: 30 Aug 2010 3rd: Mar 2011	\$249,500
4th	QSPTF/08/4/GOV/21 IV.02.M	Cambodia & Philippines	Protecting human health and the environment from mercury in artisanal and small scale gold mining (ASGM) in Asia	UNEP	B	N/A (project started in June 09)	Nov 2010	-	\$250,000
4th	QSPTF/08/4/NGO/06 IV.17.C.SETAC	Society of Environmental Toxicology and Chemistry (SETAC)	Scientific Capacity Building in Support of SAICM in Africa	none	B	Oct 2008	Oct 2009	1st: Nov 2008	\$250,000
4 th	QSPTF/08/4/GOV/12 IV.09.G.GUY	Guyana	Developing an Integrated National Programme for the Sound Management of Chemicals and SAICM Implementation in Guyana	UNITAR	A, B	Jan 2009	Dec 2010 extension until 15 Dec 2011	Jan 2009	\$90,000

Round	Project No.	Recipients	Project title	Executing Agency (ies)	Strategic priorities	Date of Agreement	End date	Disbursement received	Funding granted
4 th	QSPTF/ 08/4/GOV/16 IV.08.G.GEO	Georgia	Strengthening Capacities for Developing a National Pollutant and Release Transfer Register and Supporting SAICM Implementation in Georgia	UNITAR	B	Mar 2009	Apr 2011	Mar 2009	\$170,500
5 th	QSPTF/ 08/5/GOV/02 V.03.G.PRK	DPR Korea	Strengthening Capacities for National SAICM Implementation in the Democratic People's Republic of Korea	UNITAR	A, B	Apr 2009	Apr 2011	May 2009	\$244,750
5 th	QSPTF/ 08/5/GOV/09 V.09.G.MAR	Morocco	Strengthening national capacity for the safe management of public health pesticides in Morocco	WHO	A, B	06 Nov 2009 (Extended till 4 Nov 2011)	Nov 2010	05 Jan 2010	\$175,000

A.2 Projects pending submission of final reports (12 projects)

Round	Project No.	Recipients	Project title	Executing Agency (ies)	Strategic priorities	Date of Agreement	End date	Disbursement received	Funding granted	Status as of 15 th March 2012
1 st	QSPTF/06/1/GO V/28 I.04.EC U	Ecuador	Ecuador, UNEP and UNDP Partnership initiative for the implementation of SAICM	UNDP & UNEP	B, C	Feb 2008	June 2009	1st: Mar 2008	\$250,000	The proponent is expected to submit the final progress and expenditure reports for the conclusion of the project, following which the project will be classified as a "partly implemented project". At the eleventh meeting, the Implementation Committee recommended the closure of this project as the agreement between UNEP and UNDP expired on 6 June 2009 and extension was not requested until April 2011.
1 st	QSPTF/06/1/GO V/13 I.07.G.U GA	Uganda	Uganda, UNEP and UNDP Partnership Initiative for the implementation of SAICM	UNDP & UNEP	B, C	Sept 2007	Jan 2010	1st: Oct 2007 2nd: 30 Aug 2010	\$250,000	The project has completed all its activities. An action plan on the sound management of chemicals and a report on Economic Valuation of Strengthening Governance of Chemicals Management in the Agriculture sector were developed. There have been some delays due to challenges in conducting sector-driven framework planning and in convincing policy makers to give priority to chemicals management, which is a relatively new issue.
1 st	QSPTF/06/1/GO V/17I.05 .G.FYM	The Former Yugoslav Republic (FYR) of Macedonia	Development and mainstreaming of the National Plan on SAICM implementation for the Former Yugoslav Republic of Macedonia	UNDP	B, C	Oct 2007	Feb 2010	1st: Dec 2007	\$248,400	An extension was granted for eight months and the project was successfully completed, with a cost-benefit analysis finalized and National Action Plans developed. Final reports have been submitted, one overall expenditure report remains pending (a provisional report has been submitted) and a Monitoring and Evaluation report is due.

Round	Project No.	Recipients	Project title	Executing Agency (ies)	Strategic priorities	Date of Agreement	End date	Disbursement received	Funding granted	Status as of 15 th March 2012
2 nd	QSPTF/07/2/GO V/05 II.17.G. NPL	Nepal	Developing a national chemicals management profile, developing a national SAICM capacity assessment, and holding a national SAICM priority setting workshop in Nepal	UNITAR	A	Dec 2007	Dec 2009	1st: Jan 2008	\$70,501	The project has completed all its activities however the submission of final reports is still pending. The national profile and SAICM capacity assessment were developed through the project. Delays were experienced due to the political situation in the country, data gap as well as the inability to get the required data from some agencies.
3 rd	QSPTF/07/3/GO V/13 III.05.G. LBR	Liberia	Developing a National Chemicals Management Profile, developing a national SAICM capacity assessment and holding a national SAICM priority setting workshop in Liberia	UNITAR	A	Oct 2008	Oct 2010 extension until 31 Oct 2011	Oct 2008	\$71,050	The project extension has permitted the project to complete all its activities. The first draft of the national profile and national SAICM assessment were finalized. Frequent changes of officials within the Environmental Protection Agency (which is the lead agency) delayed the project. Final reports for the project are due.
3 rd	QSPTF/07/3/GO V/11 III.04.G. KEN	Kenya	Strengthening Capacities in Kenya for National SAICM Implementation	UNITAR	A	Jan 2009	Oct 2010 extension until 31 Oct 2011	Jan 2009	\$249,900	The project has successfully completed all activities, however submission of final Monitoring and Evaluation report is still pending.

Round	Project No.	Recipients	Project title	Executing Agency (ies)	Strategic priorities	Date of Agreement	End date	Disbursement received	Funding granted	Status as of 15 th March 2012
4th	QSPTF/08/4/GO V/27 IV.05.G. BLZ	Belize	Mainstreaming into Developing Plans the Sound Management of Chemicals (SMC) Priorities for Key Development Sectors in Belize and Associated SMC Governance	UNDP & UNEP	B, C	1 Oct 2009	Feb 2011	05 Oct 2009	\$250,000	The project has successfully completed activities. Submission of the certified expenditure report is pending. The deliverables so far have been: a report on the economic valuation of safe handling and the use of chemicals with an emphasis on pesticides, and a roadmap for mainstreaming the priority issues into development plans. Initial delays occurred due in part to a lack of support within Ministries and a long-drawn recruitment process.
4 th	QSPTF/08/4/GO V/15 IV.06.G. CIV	Côte d'Ivoire	Strengthening the capacity of Côte d'Ivoire to control the transboundary movements of hazardous wastes and chemicals in the context of the Basel Convention, the International Health Regulations (WHO, 2005) and other relevant MEAs as necessary, and ensure their environmentally sound management	Basel Convention Secretariat	B	Oct 2008	Oct 2010 extension until 16 Oct 2011	Nov 2008	\$249,930	The one year extension has allowed the project to complete its activities. A national report on the legislative gaps and needs was prepared. Eight legislative texts addressing gaps and needs aimed at strengthening the regulatory framework and legislative measures were drafted. The capacity of Government officials to address legislative gaps (in particular the legal professionals, port authorities, security, enforcement agencies and the private sector) was enhanced through workshops organized throughout the project. The final narrative and expenditure reports of the project are pending.
4 th	QSPTF/08/4/GO V/08 IV.13.G. WSM	Samoa	Establishing an Institutional Framework and strengthening National Capacity within an integrated national programme for the sound management of chemicals and implementation of the Strategic Approach in Samoa	none	A, B	Nov 2008	Nov 2010 extension until 5 Nov 2011	1st. Feb 2009	\$250,000	The project extension was granted in January for a period of 11 months. The project has completed all its activities and the National Chemical Profile, Chemical Capacity Assessment and the initiation of the Chemical Tracking System have been finalized. The Chemical Tracking System, which is an additional activity, was also adopted. Deliverables have been received, however final narrative and expenditure reports are pending.
5th	QSPTF/08/5/GO V/19 V.11.G. SEN	Senegal	Strengthening National Capacities in Senegal for SAICM Implementation	UNITAR	A, B	26 Jan 2010	25 Jan 2012	26 Jan 2010	\$250,000	The project has completed all its activities. Deliverables such as the National Profile, National Capacity Assessment, National Chemical Management Database, National SAICM Implementation Plan, and National Feasibility Study to develop a ULAB storage

Round	Project No.	Recipients	Project title	Executing Agency (ies)	Strategic priorities	Date of Agreement	End date	Disbursement received	Funding granted	Status as of 15 th March 2012
										scheme are being finalized. The project has completed all of its activities however submission of final narrative and expenditure reports is pending. According to the final M&E, the project has developed tools for the sound management of chemicals however sustainability will only be assured if there is continued participation of key stakeholders (including industry) which generates significant inputs in the chemical sector. Hence, continued awareness raising and consultation with all sectors is vital for the sustainability of project.
5 th	QSPTF/08/5/GO V/17 V.07.G. MDG	Madagascar	Recycling/disposal of Insecticide-Treated Nets, exploratory project	WHO	A, B, C	06 Nov 2009	Jan 2011 (Extension granted till Nov 2011)	05 Jan 2010	\$250,000	The project has completed its activities, however final report submission is pending. The project developed and tested the logistics strategies for collection of used ITNs/LLINs. Various end-of-life options such as reutilization, recycling, elimination and disposal were considered and analyzed. The results of the analysis will be used for developing a large scale project proposal.
6 th	QSPTF/09/6/GO V/02 VI.04.M	Kenya & Gabon	Country support for the Implementation of the Libreville Declaration on Health and Environment in Africa: development of guidelines and capacity building for Situation Analysis and Needs Assessment in view of developing country plans for joint action	UNEP & WHO	B	26 Nov 2009	25 Nov 2010 (duration 12 months)	11 Jan 2010	\$248,400	Activities are all completed. Once final reports are submitted the project will be officially closed.

Annex III - Summary table of projects underway

B. Projects Under way (61)

B.1 Projects Demonstrating Progress according to work plan (19)

Round	Project No.	Recipients	Project title	Executing Agency (ies)	Strategic priorities	Date of Agreement	End date	Disbursement received	Funding granted	Status as of 15 th March 2012
7th	QSPTF/09/7/GO V/03 VII.03.G .BRG	Barbados	Strengthening capacities for SAICM implementation and supporting capacity-building for the Globally Harmonized System for Classification and Labeling of Chemicals (GHS) in Barbados	UNITAR	A, B	19 Aug 2010	18 Aug 2012	1st: 27 Sep 2010	\$250,000	The GHS situation analysis report was completed and submitted to UNITAR for comments. In addition, a comprehensibility testing study was conducted among the main stakeholders to assess the level of understanding of the GHS communication tools. Furthermore, Barbados has completed a legal analysis study that identified the gaps of the existing legislative framework. Barbados is also working on the development of awareness raising materials and the preparation of supporting activities that will include GHS trainings for civil society and industry.
7th	QSPTF/09/7/GO V/13 VII.13.G .SWAZ	Swaziland	Developing an integrated national programme for the sound management of chemicals and SAICM implementation in Swaziland	UNITAR	A, B	30 July 2010	29 July 2012	1st : 30 Aug 2010	\$250,000	The first draft of the National Profile was submitted to UNITAR for comments and suggestions. Additionally, comprehensive studies have been carried out amongst the main stakeholders on the following topics: "Nanomaterials in Swaziland", "Back yard chemicals mixing", "Lead in Paint", and "Mercury, Cadmium and existence of the nine new POPs in Swaziland", which were incorporated into the draft National Chemical Profile. Furthermore, scheduling of the National Forum on Governance and Priority Setting for SAICM Implementation is under discussion.

Round	Project No.	Recipients	Project title	Executing Agency (ies)	Strategic priorities	Date of Agreement	End date	Disbursement received	Funding granted	Status as of 15 th March 2012
7th	QSPTF/09/7/GO V/16 VII.16.G .GUIN	Republic of Guinea	Developing an integrated national programme for the sound management of chemicals and SAICM implementation in the Republic of Guinea	UNIT AR	A, B	30 July 10	29 July 2012	1st : 20 Aug 2010	\$250,000	Final drafts of the National Profile and Capacity Assessment reports were submitted to UNITAR in December 2011. They will be further discussed during the National Profile and Capacity Assessment Review meeting scheduled for 25 th and 26 th January 2012.
7th	QSPTF/09/7/GO V/07 VII.07.G .M	Burundi & Rwanda	Institutional capacity building for implementing of the Stockholm Convention on POPs and awareness raising on POPs issues	none	B	30 Nov 2010	30 May 2012 (duration 18 months)	-	\$249,900	The review of the legal framework has been completed and gaps have been identified following which drafting of new legislation is underway in both Burundi and Rwanda. The awareness raising campaign has been ongoing in both the countries. Four awareness days on POPs for Journalists, decision makers, women and trade unions have been organized so far in Burundi.
8th	QSPTF/10/8/GO V/01 VIII.01. G.CMB	Cambodia	Cambodia/UNEP partnership on development of a coherent legal and institutional framework in Cambodia for the sound management of chemicals	none	B	2 Aug 2010	1 Aug 2012	1st: 24 Aug 2010	\$250,000	Drafting of the law on sound management of chemicals and translation into local language is completed. Having a law on Sound Management of Chemicals (SMC) has helped the country to improve its capacities of chemicals management by developing an efficient and holistic legal and institutional framework on SMC. According to the first monitoring and evaluation report, the project has so far performed well and the main activities are implemented with good outcomes.
8th	QSPTF/10/8/NG O/02 VIII.02. C.GRG	Women in Europe for a Common Future (WECF) (Georgia)	Reducing the use of hazardous chemicals in developing countries: potential of implementing safer chemicals including non-chemical alternatives - tools for Georgia and the EECCA region	none	B, C	27 July 2010	26 July 2012	1st: 30 Aug 2010	\$172,710	Assessment of past and current practices of intended and unintended releases of chemicals, and information needs has been conducted through a survey involving all relevant stakeholders. Training modules on construction materials and on safe substitutes to pesticides and biocides have been developed and national trainings on pesticides and alternative biopesticides and construction materials have taken place. Two communities have been selected as demonstration sites for alternatives

Round	Project No.	Recipients	Project title	Executing Agency (ies)	Strategic priorities	Date of Agreement	End date	Disbursement received	Funding granted	Status as of 15 th March 2012
										to harmful pesticides. Building materials and a demonstration plot was established and various hands on experiments conducted for alternatives to pesticides. Inventory of products in Georgia has been carried out and a report on the findings related to the legal situation, legal and illegal import of pesticides and asbestos, local available insulation and natural building materials, and the use of pesticides is drafted.
8th	QSPTF/10/8/GO V/07 VIII.07. G.NGR	Niger	Enabling Activities for the Development of a SAICM Implementation Plan within an Integrated National Programme for the Sound Management of Chemicals in the Republic of Niger	UNIT AR	A, B	28 Oct 2010	Oct 2012	1st : 26 Nov 2010	\$215,000	The Partner is currently developing the National Profile based on the revised guidance document developed by UNITAR in cooperation with the IOMC. It is expected that the final draft of the National Profile will be submitted to UNITAR in the first quarter of 2012 and the National forum is scheduled for the end of first quarter – beginning of second quarter of 2012.
8th	QSPTF/10/8/GO V/08 VIII.08. G.GBN	Gabon	Strengthening Capacities for National SAICM Implementation in Gabon	UNIT AR	A, B	14 Dec 10	13 Dec 2012	1st: 27 Dec 2010	\$250,000	The Planning and Inception Workshop was held in July 2011. Draft terms of reference of the National Project Coordinating Committee were presented and provisionally endorsed at the workshop. The draft National Profile and draft situation analysis for the national chemicals management database are expected in the first quarter of 2012.
8th	QSPTF/10/8/GO V/03 VIII.03. G.M	Cambodia, China, Lao PDR, Pakistan, and Sri Lanka	Capacity Strengthening and Information Exchange on PCBs Management in Selected Asia Countries	BCR C China	B	21 Dec 2010	20 Dec 2012	1st: 3 Feb 2011	\$248,900	During the reporting period, national experts meetings related to PCBs management were held. Materials related to PCBs are collected and desk studies and field visits to potential PCBs contaminated sites have been conducted. In addition NIPs in each country are being reviewed. Additionally contents of regional information exchange platforms were discussed during a national experts meeting. According to

Round	Project No.	Recipients	Project title	Executing Agency (ies)	Strategic priorities	Date of Agreement	End date	Disbursement received	Funding granted	Status as of 15 th March 2012
										the first M&E, activities are implemented smoothly and in accordance to the workplan. The lesson learnt has been that for a regional project, coordination and harmonization of all the activities in different countries is crucial for the success of the project, which has been difficult in this case. The recommendation of the evaluator is for the experts of the participating countries to monitor the activities all the time and have face to face meetings to discuss the project.
8 th	QSPTF/10/8/GO V/04 VIII.04. CNG	The Republic of Congo	Strengthening Capacities for SAICM Implementation and Supporting Globally Harmonized System of Classification and Labelling of Chemicals (GHS) Capacity Building in the Republic of Congo	UNITAR		20 Sept 2010	19 Sept 2012		\$248,296	The project inception meeting was held in 17 October 2011 in Brazzaville. An awareness raising workshop was organized on 21 st December 2011 in Pointe Noire and partners are now preparing their GHS National Implementation Strategy.
8 th	QSPTF/10/8/GO V/05 VIII.05. G.ERI	Eritrea	Developing a national chemicals management profile, developing a national SAICM capacity assessment, and holding of a national SAICM priority setting workshop in Eritrea	UNITAR	A	7 July 2011	6 July 2013	1st: Feb 2008	\$70,150	This project was suspended in the second round due to the failure to conclude the legal agreement between the country and the executing agency. However, it was resubmitted and reapproved in the 8th round. After the re-approval, the agreement between UNEP and UNITAR was signed on the 7 th July 2011 and subsequently held National Planning and Inception Meeting in July 2011. The Partner is currently organizing a task force to prepare the National Chemicals Management Profile which will be based on the revised guidance document developed by UNITAR in collaboration with IOMC.

Round	Project No.	Recipients	Project title	Executing Agency (ies)	Strategic priorities	Date of Agreement	End date	Disbursement received	Funding granted	Status as of 15 th March 2012
8th	QSPTF/10/8/GO V/6 VIII.06. G.DMC	Dominican Republic	Enabling Activities for the Development of a SAICM Implementation Plan within an Integrated National Programme for the Sound Management of Chemicals in the Dominican Republic	UNITAR	A, B	27 Oct 2010	26 Oct 2012	1st: 12 Nov 2010	\$215,000	The Planning and Inception workshop was held in October 2011. Draft terms of reference of the National Project Coordinating Committee were presented and provisionally endorsed at the workshop. Partners are now drafting the National Profile based on the outcomes of the Inception Workshop. A draft National Profile is expected in March 2012.
9th	QSPTF/10/9/GO V/02 IX.02.G. M	Republic of Belarus and Tajikistan	Enhancing Capacity Building for the Development of the National Registers of Pollutant Release and Transfer in Two Countries in Transition: Republic of Belarus and Republic of Tajikistan under the Aarhus Convention on Access to the Information, Public Participation in Decision-making and Access to Justice in Environment Matters	-	A, B, C	21st Mar 2011	20 Mar 2013	11 April 2011	\$250,000	During the reporting period a sub-regional workshop on PRTR was held and three reports covering the release of air, water and land including conclusions and recommendations for the creation of the national PRTR were drafted. Training of PRTR expert in the International Training Programme on Environmental Governance with EU-focus in Stockholm has been completed. A preliminary list of enterprises in accordance to the Annex I of the PRTR Protocol and a list of pollutants according to the Annex II of the protocol have been prepared. A subregional workshop on PRTR for Eastern Europe, Caucasus and Central Asian countries was organized in cooperation with the Secretariat of Aarhus Convention. The review of legal and technical possibilities for the development and maintenance of the National PRTR and the creation of computerized database of the PRTR are underway.
9th	QSPTF/10/9/GO V/23 IX.23.G. IDS	Indonesia	Multi-Sectoral Group Action Plan for Integrated Hazardous Waste Management – Case: Lead Waste Recycling and Chemical Management	The Blacksmith Institution	C	5 Feb 2011	4 Feb 2013	17 May 2011	\$250,000	The legal agreement between UNEP and UNITAR was signed on 2 May 2011 and first tranche of funds disbursed on 17 May 2011. Initial preparatory activities are underway. Reports were not received for the reporting period of July 2011 to January 2012.

Round	Project No.	Recipients	Project title	Executing Agency (ies)	Strategic priorities	Date of Agreement	End date	Disbursement received	Funding granted	Status as of 15 th March 2012
9th	QSPTF/10/9/GO V/08 IX.08.G. TGO	Togo	Enabling Activities for the Development of a SAICM Implementation Plan within an Integrated National Programme for the Sound Management of Chemicals and Supporting GHS Capacity Building in the Togolese Republic	UNITAR	B	27 May 2011	26 May 2013	30 June 2011	\$250,000	The National Project Inception Workshop was held in November 2011 and the project is in its initial stages. The implementing partner is currently developing the National Profile based on the revised guidance document developed by UNITAR in cooperation with the IOMC. The final draft of the National Profile will be submitted to UNITAR during the third quarter of 2012 and the National Forum is scheduled for the end of third quarter of 2012 or beginning of the fourth quarter of 2012.
9th	QSPTF/10/9/GO V/11 IX.11.G. MDA	Moldova	Evaluating and Strengthening National and Regional Capacities for Implementing the Globally Harmonized System of Classification and Labeling of Chemicals (GHS) and Supporting SAICM Implementation in Central and Eastern Europe	UNITAR	A, B	19 May 2011	18 Aug 2012	17 June 2011	\$187,695	The bilateral agreement between UNITAR and the Country was signed on 15 September 2011 and registration of the project at the national level was completed in early December. So far the terms of reference for the selection of the Regional Consultant in charge of the preparation of the Regional GHS Assessment is underway.
9th	QSPTF/10/9/NG O/06 IX.06.C. PAN	Mali and Senegal	Strengthening the capacities of civil society organizations and communities to monitor the pesticides health impacts in West African cotton growing systems	Pesticide Action Network (PAN) Africa	B & C	20 May 2011	19 May 2013	1 st : 17 June 2011	\$235,600	Project inception meeting was held in Dakar (Senegal) and Bamako (Mali) on 14 and 19 July 2011 respectively. A regional training session of facilitators from both countries on community-based monitoring of pesticides impacts on health and environment took place in Somone (Senegal) from 25th to 30th September 2011. Twenty-two field guides from the local communities of Pakour and Bonkonto were trained in Paillote (Senegal) from 17th to 19th October 2011. Similarly 24 local facilitators were trained in Mali. An awareness raising session on dangers of improperly disposed empty pesticide containers was organized in both the countries.
9th	QSPTF/10/9/NG O/07	Pro-biodiversity Conservationis	Chemical safety for children at work in Agriculture	UNDP	B & C	16 June 2011	15 June 2013	26 July 2011	\$250,000	During the reporting period, a stakeholders meeting was organized and the partners harmonized and approved the workplans for the

Round	Project No.	Recipients	Project title	Executing Agency (ies)	Strategic priorities	Date of Agreement	End date	Disbursement received	Funding granted	Status as of 15 th March 2012
	IX.07.C. PBU	ts in Uganda (PROBICOU)								implementation of the project activities. A national meeting to launch the project was organized on 14 th December 2011 and a total of 230 participants were present. Two meetings were organized to train 52 Trade Union leaders on pesticides management and safety issues. Additionally 26 government extension workers and labour officers from 20 selected districts were trained. Awareness raising materials such as posters and fliers were distributed and a one-hour non-interrupted radio talk show on pesticide issues was been held on National radio on 21 st November 2011.
10 th	QSPTF/11/10/N GO/07	Sustainlabour (El Salvador, Dominican Republic and Nicaragua)	Promoting sound chemical management through strengthening workers capacities	–		29 July 2011	28 July 2013		\$217,370	During this reporting period preliminary activities such as the elaboration of the guidelines for national survey and review of results have been completed. Based on the research and information gathered during the survey, elaboration of the national report for each of the participating countries (namely El Salvador, Dominican Republic and Nicaragua) is underway. Furthermore, establishment of trade unions' working groups to look into the area of chemical management at the national level is also ongoing.

B. 2. Projects Facing Delays (21 projects)

Round	Project No.	Recipients	Project title	Executing Agency (ies)	Strategic priorities	Date of Agreement	End date	Disbursement received	Funding granted	Status as of 15 th March 2012
3rd	QSPTF/07/3/GOV/04 III.07.G.P ER	Peru	Safe chemicals	UNIDO	A,B	July 2009	Apr 2011	1st: Jul 2009	\$249,004	Out of the nine activities outlined in the project proposal, three have been completed and progress has been reported for four more. The national chemical profile was completed. Activities on strengthening of the Intergovernmental Committee, on training toolkit and on the national strategy are also progressing well. Activity eight - which is the establishment of a web-site where monthly news, events and materials such as the tool kit, hazardous waste norms, etc would be uploaded - has been completed. Reports were not received for the reporting period of July 2011 to January 2012.
4 th	QSPTF/08/4/GOV/04 IV.12.G.P HL	Philippines	Development of an effective national chemical safety program towards chemical poisoning prevention and control	none	A, B	Apr 2009	Apr 2011 (Extension for one year is in process)	1st: May 2009	\$250,000	The project has updated the national profile of the country and drafted a National Chemical Safety Management Programme. Renovation of the Rizal Medical poison centre and upgrading the facilities with various laboratory and IT equipment have been completed. The training programme on clinical toxicology and chemical safety has been completed. The 9 th scientific congress of Asia Pacific Association of Medical Toxicology was attended by three professionals from Philippines. Establishment of the decontamination area is underway. Delays have occurred due to data inaccessibility. Extension for one year was granted.

4 th	QSPTF/ 08/4/NGO/ 08 IV.16.C.C EEAP NGOs	Network for Protection of Public Environment al Interests in the Kyrgyz Republic, Green Partnership & Local Self- Government Developmen t Centre (CEEAP NGOs)	Strengthening Capacities of Civil Society Organizations for National and Regional SAICM Implementation in the Eastern Europe, Caucuses and Central Asia region	UNITAR	B	Apr 2009	Apr 11	May 2009	\$160,000	The project is near completion despite delays. The draft SAICM Implementation Strategy with NGO involvement in Belarus, Kazakhstan and Kyrgyzstan have been completed and posted on the websites www.eco-expertise.org and www.caresd.net . Extension for the project is in progress. According to the final M&E report from Kyrgyzstan, additional donor resources were acquired for carrying out communication and publication activities. Some of the recommendations are as follows: continue the work on information dissemination on chemical safety; translate information materials to Kyrgyz and Uzbek languages; attract more resources for engaging stakeholders in SAICM implementation.
4 th	QSPTF/ 08/4/GOV/ 26 IV.11.G.P RY	Paraguay	Developing an Integrated National Programme for the Sound Management of Chemicals and SAICM Implementation in Paraguay	UNITAR	A, B	26 Jan 2010	Jan 2012	17 Feb 2010	\$250,000	Extension for the project has been granted for one year until January 2013. Paraguay is in the process of updating the National Profile. The project was unable to access funds due to national procedures. The executing agency has been in constant contact with the project team to sort out issues.
4 th	QSPTF/ 08/4/GOV/ 10 IV.03.M	Indonesia & Thailand	Technical Support to Strengthening National Capacities for Sound Management of Priority Industrial Carcinogens in Indonesia and Thailand	WHO	B	7 Dec 2009	Dec 2011 (Extensi on for one year is under process)	1st: Jan 2009	\$219,456	A national inventory of industrial carcinogens has been prepared in Thailand. WHO methodology for estimating burden of diseases from industrial carcinogens was adapted and data on exposed population and levels of exposure were collected and conclusions and recommendations were presented to policy makers in a multi-stakeholder workshop. The first draft of NPSMIC has been prepared with WHO's assistance. Review of international agreements, recommendations and best practices in preventing occupational exposure to chemical carcinogens is ongoing whereas in Indonesia data estimation of the burden of disease and level of exposure is ongoing. National workshop, preparation of information materials and draft strategy for occupational cancer patients are yet to be completed. Delays occurred for Indonesia due to late finalization of agreement between WHO and

										the Ministry of Health. A one-year extension is under process.
4th	QSPTF/ 08/4/GOV/ 28 IV.15.G.U RY	Uruguay	Sound Management for Mercury Products	UNIDO	B	1 Feb 2010	Feb 2012 (Extensi on granted till 31 Aug 2012)	1st: Feb 2010	\$249,800	The mercury product inventory using UNEP Mercury Toolkit Level 2, national profile on mercury lamps, life cycle assessment of mercury lamps and technical description of possible management procedures of end of life for spent mercury lamps have been completed. Three pilot projects for lamp collection and recycling were elaborated and national management plan and good practice guidance for mercury lamps is ongoing. Public awareness, information dissemination and regional survey in LAC have been going on since October 2010. Extension for the project has been granted for six months until 31 August 2012 to complete the National Management plan and Good Practice Guidance for Mercury Lamps.
5 th	QSPTF/ 08/5/GOV/ 22 V.02.G.C OL	Colombia	Strengthening National Governance for SAICM Implementation in Colombia	UNIDO	A, B	28 May 2010	27 May 2012	21 June 2010	\$249,800	Delays occurred because the coordinator and the technical expert had to be recruited twice. The work plan has been adjusted. The project steering committee has already been established and collection and analysis of data for the database has been completed. Updating of the national chemical profile is completed. The project has not submitted reports for the reporting period of July 2011 to January 2012.
5 th	QSPTF/ 08/5/GOV/ 01 V.04.G.E GY	Egypt	Assessment and Capacity Building in Chemicals and Chemicals Waste Management in Egypt	UNIDO	B	June 2009	June 2011	June 2009	\$250,000	UNEP's Promoting Resource Efficiency in Small & Medium Sized Enterprises (PRE-SME) toolkit and Responsible Production (RP) toolkit were used for training and awareness raising workshop and 18 companies were trained. Mapping of risks of chemicals in three pilot companies and assessment of seven selected companies on the status of chemicals and chemical waste management has been completed. Project extension for one year (until June 2012) has been granted to complete the activities.

5 th	QSPTF/ 08/5/GOV/ 21 V.05.G.H ND	Honduras	Honduras, UNDP, and UNEP Partnership Initiative for the Integration of Sound Management of Chemicals Considerations into Development Plans and Processes	UNDP & UNEP	B, C	22 July 2011	21 July 2013	none	\$250,000	During the eleventh meeting, the QSP Trust Fund Implementation Committee decided to grant three months more to finalize the legal agreement between UNEP and UNDP so that the project could be officially initiated. The agreement was signed on 22 July 2011 and initial implementation arrangements have started. The project has not submitted reports for the reporting period of July 2011 to January 2012.
5th	QSPTF/ 08/5/GOV/ 24 V.10.G.PA N	Panama	Strengthening Capacities for Developing a National Pollutant and Release Transfer Register and Supporting SAICM Implementation in Panama	UNITAR	B	26 Jan 2010	25 Jan 2012 (one year extensio n has been requeste d)	17 Feb 2010	\$170,000	Draft infrastructure evaluation report and draft key features documents were submitted to UNITAR. A technical meeting was held in August 2011. The implementing agency is currently discussing the possibility of linking the existing database created by the National Authority on Environment to link to the National PRTR that is being designed. A one-year extension for the project is under process. The project has not submitted reports for the reporting period of July 2011 to January 2012.
5th	QSPTF/ 08/5/GOV/ 20 V.12.G.SY C	Seychelles	Developing an Integrated National Programme for the Sound Management of Chemicals and SAICM Implementation in Seychelles	UNITAR	A, B	26 Jan 2010	25 Jan 2012 (one year extensio n has been granted)	17 Feb 2010	\$250,000	The National Chemical Profile has been developed, capacity assessment and national priority setting involving relevant stakeholders have been undertaken and awareness raising activities are ongoing. The National Forum on Governance and Priority Setting and the Action Plan Skills Building Workshop have been completed. During the reporting period, Seychelles prepared two Action Plans - on GHS implementation and on hazardous waste treatment - which will be finalized in January 2012 based on the inputs from national stakeholders and UNITAR. A final review workshop will be held in the second quarter of 2012. A one-year extension has been granted to the project.
5th	QSPTF/ 08/5/GOV/ 23 V.14.G.TH A	Thailand	Capacity Building and Awareness Raising Programmes on the Implementation of the Rotterdam Convention in Thailand	-		27 Aug 2010	26 Aug 2012	1st: 7 Sept 2010	\$250,000	The recruitment and the training of the task team have been finalized. Development of campaign materials on the Rotterdam Convention and others are ongoing. National rules pertaining to budget management have been impeding the timely progress of the project and it is expected that the project will not be completed in time.
5th	QSPTF/	Uzbekistan	Developing an	UNITAR	A, B	26	Jan	17 Feb	\$250,000	The first draft of the National Profile has been

	08/5/GOV/08 V.15.G.UZ B		Integrated National Programme for the Sound Management of Chemicals and SAICM Implementation in Uzbekistan			Jan 2010	2012	2010		reviewed by UNITAR and comments are being incorporated. Capacity Assessment is currently underway. The National Profile and Capacity Assessment Review Meeting is scheduled to be held in February 2012.
5th	QSPTF/08/5/GOV/14 V.16.G.Z MB	Zambia	Strengthening Capacities for SAICM Implementation and Supporting GHS Capacity Building in Zambia	UNITAR	A, B	26 Jan 2010	25 Jan 2012 (extension granted till 25 Jan 2013)	17 Feb 2010	\$250,000	Extension has been granted to the project for one year, until 25 January 2013. The project has initiated the development of the sectoral implementation reports, which will serve as the basis for the development of its National GHS Implementation Strategy. The national standard on the transport of dangerous goods has been updated to align with the 17 th revised edition of the United Nations' recommendations on the Transport of Dangerous Goods. Awareness raising activities and training has been ongoing and is being mainstreamed in various institutions and training programmes. Several training sessions have been conducted for decision-makers and technical experts involved in chemicals management.
6th	QSPTF/09/6/GOV/03 VI.01.G.A LB	Albania	Strengthening Capacities for SAICM Implementation in Albania	UNITAR	A,B	26 Jan 2010	25 Jan 2012 (extension granted till 25 Jan 2013)	17 Feb 2010	\$250,000	The second draft of the national profile update has been completed and it will be disseminated for final comments. National profile to assess infrastructural and capacity needs for chemicals management has been prepared and is being translated into English. A national chemicals management database planning meeting is scheduled for mid-February and the review of enforcement texts is underway. An extension of one year has been granted to finalize the project activities.
6th	QSPTF/09/6/GOV/05 VI.05.G.G AM	Gambia	Strengthening Capacities for SAICM Implementation and supporting Globally Harmonized System of Classification and Labeling of Chemicals (GHS) Capacity Building in the Gambia	UNITAR	A,B	26 Jan 2010	25 Jan 2012 (extension granted till 25 Jan 2013)	17 Feb 2010	\$250,000	Formulation of the National GHS Implementation Strategy has been completed and training on GHS has been provided to 192 participants from different regions involving representations from different sectors. An extension of one year has been granted to finalize the project activities.

6 th	QSPTF/09/6/GOV/03 VI.02.G.C OS	Costa Rica	Design and implementation of National Information System for the Integral Management of Chemical Substances in Costa Rica	none	A, B & C	18 Feb 2010	17 Feb 2012 (Extension granted for one year)	1st: 9 March 2010	\$250,000	The establishment of a technical advisory committee is underway. Awareness raising brochure about the project has been developed. A vision document elaborating the key characteristics of the system was finalized. The design and implementation of the national information system for an integral chemical management system has been ongoing. Extension for the project has been granted for one year to complete activities. According to the M&E report, one of the key recommendations for the project to be successful is to strengthen communications between the various ministries involved, have a technical unit for System Information Management and create an inter-institutional commission.
7 th	QSPTF/09/7/GOV/09 VII.09.G.M	Burkina Faso, Chad, Gambia, Mauritania and Niger	Strengthening pesticide management in the Sahel Institute of the Permanent Interstate Committee for the Drought Control in the Sahel (CILSS) member States	CILSS	B,C	23 Aug 2010	22 Aug 2012	1st : 1 Oct 2010	\$247,066	The project progress so far include: Establishment of contact and coordination activities with relevant stakeholders (including FAO and the five countries involved in the project); Completion of the FAO Inspection and Control Manual; Organization of the Regional workshop on toxicology/ecotoxicology held from 25th to 29th July 2011; Organization of the regional workshop on inspection and control for the end of 2011; Organization of Workshop on physico-chemistry rescheduled for the end of 2011. Although there is progress, the project is facing delays due to problems related to the transfer of the first installment of funds. Moreover, the preliminary activities, such as coordination between CILSS and governments of participating countries, took longer than expected. The project has not submitted reports for the reporting period of July 2011 to January 2012.
8 th	QSPTF/10/8/NGO/01 VIII.01.C. CMN	Research and Education Centre for Development (CREPD)	Evaluation of lead concentrations in domestic and imported paints, and the development and distribution of educational materials on lead hazards for SAICM implementation	none	B	7 Sept 2010	6 March 2012 (Extension granted till 5 March 2013)	1st: 1 Oct 2010	\$166,990	The project has been delayed and so far the electronic database for the inventory and summary of key product information on paints has been established. 1361 different types of paint from 125 shops were inventoried in seven main cities of Cameroon. Eighty-two new paint samples and 25 wall and dust samples were collected and analyzed for lead concentration. Review of the existing regulations and policies for

			in Cameroon							chemicals in products with a focus on lead in paint was carried out and literature review is being carried out currently to propose relevant recommendations. Information materials such as posters and brochures have been produced. Delays have occurred due to issues related to access of database on imported paints and transfer of funds because of problems associated with the banking details of CREPD.
9th	QSPTF/10/9/GOV/04 IX.04.G.E TP	Ethiopia	Strengthening the capacity of Ethiopia to monitor and control the transboundary movements of chemicals and hazardous wastes and ensure their environmentally sound management	BCRC	B	24 June 2011	23 June 2013		\$249,982	The bilateral agreement between the executing agency, the Basel Convention Regional centre in South Africa, and the Government of Ethiopia is being finalized in January/February 2012 instead of September 2011. The project is already facing delays. Support to develop the gaps and needs analysis report, development of draft legislation with regulatory and enforcement measures and training seminar for relevant government officials are underway.
9th	QSPTF/10/9/GOV/05 IX.05.G.M ZQ	Mozambique	Strengthening the capacity of Mozambique to monitor and control the transboundary movements of chemicals and hazardous wastes and ensure their environmentally sound management	BCRC	B	24 June 2011	23 June 2013		\$249,930	The bilateral agreement between the executing agency, the Basel Convention Regional Centre in South Africa, and the Government of Mozambique is being finalized. Delays have been due to the changes of the personnel nominated to deal with the project. Therefore, the executing agency is in constant conversation with government delegates to nominate project personnel to undertake the project. Support by the executing agency to develop the gaps and needs analysis has been ongoing.

B.3. Projects facing serious issues¹⁶ (21 projects)¹⁷

Round	Project No.	Recipients	Project title	Executing Agency (ies)	Strategic priorities	Date of Agreement	End date	Disbursement received	Funding granted	Status as of 31 st July 2012 (Updates have been made to include the decision of the thirteenth QSP Trust Fund Implementation Committee meeting)
1 st	QSPTF/06/1/GO V/29 I.06.G.N GA	Nigeria	Establishing and institutional framework and strengthening national capacity within and integrated national programme for the sound management of chemicals and implementation of the Strategic Approach in Nigeria	none	B	Dec 07	Sept 2009	1st: Mar 2008 2nd: 9 Aug 2010	\$230,000	Project had completed 31 months but one activity was still pending while one is ongoing by the time the project was brought to the attention of the Committee. Project implementer has partnered with UNEP Chemicals for the completion of the last project activity and the conditions are favorable for a successful completion of the project. Ongoing changes in Government impeded finalization of project on time. Extension was requested by the Government of Nigeria for this project for the second time to allow them to complete the activities. The QSP Trust Fund Implementation Committee decided to grant approval for extension of the project.
3rd	QSPTF/07/3/GO V/03 III.03.G. SLV	El Salvador	Life cycle Analysis of Chemical Substances	UNIDO	B,C	3 April 2009	Apr 2011	3 April 2009	\$246,700	The progress was not as per the work plan. However, progress has been demonstrated in three out of the five remaining activities. The fifth activity, pertaining to elaboration of voluntary measures for the achievement of sound management of the three chemicals, has been completed. Delays have occurred because of the lack of information required to define the life cycle of chemical substances and change in project personnel. The English version of the agreement signed by UNEP was not signed by UNIDO and El Salvador due to the unavailability of the Spanish version. The QSP Trust Fund Implementation Committee

¹⁶ Those projects that were not completed within 36 months or those that failed to submit reports since their initiation and those that had not completed 2/3rd of their workplan at the time of requesting extension fell in this category and required decision from the QSP Trust Fund Implementation Committee.

¹⁷ Three projects (IV.14.G.TZA, V.01.M & VI.03.G.DJI) that were recommended for suspension during the thirteenth meeting of the QSP Trust Fund Implementation Committee are described in Annex V, table D.

										decided to grant approval for extension of the project to complete the remaining activities.
3rd	QSPTF/ 07/3/GO V/01 III.08.G. SDN	Sudan	Development of a Sustainable Integrated National Programme for Sound Management of Chemicals	UNIDO	A,B	April 2009	Apr 2011	1st: Apr 2009	\$144,072	Though the project had been demonstrating progress, status of late was not known as reports for the reporting period of July 2011 to January 2012 were not received and secretariat's efforts to contact the project manager was futile. The Committee decided to grant an extension for the project to complete remaining activities.
4th	QSPTF/ 08/4/GO V/7 IV.04.G. BHR	Bahrain	Capacity Building for Integrated and Sustainable Chemicals and Hazardous Waste Management	UNITAR	A, B	15 May 2009	May 2011	1st: Jun 2009	\$250,000	Due to the political situation in the Kingdom of Bahrain and the Arab spring, finalization of the National Profile was delayed. An extension of six months have been requested for the completion of project activities. The QSP Trust Fund Implementation Committee decided to grant approval for extension of the project.
4th	QSPTF/ 08/4/GO V/25 IV.01.M	Bahamas, Barbados & Haiti	Capacity building for POPs analysis to support the Global Monitoring Plan of POPs for effectiveness evaluation of the Stockholm Convention	UNEP	B	N/A (project started on 1 Dec 08)	Apr 2010	-	\$250,000	The project could not completed some of the activities after 36 months of implementation and further extension was sought. Results so far include the integration of the three countries into the larger GEF MSP project on POPs analysis in the GRULAC region, analysis of mothers' milk from Barbados and Haiti and first ambient air data and soil samples from three countries. Due to the earthquake in Haiti and inability to collect samples in Bahamas due to national ethics clearance not all components of the project could be implemented. The QSP Trust Fund Implementation Committee decided to grant approval for extension of the project.
4th	QSPTF/ 08/4/GO V/22 IV.07.G. CUB	Cuba	Capacity building for POPs laboratories in Cuba under multilateral environmental agreements	UNEP	B	N/A (project started on 1 Oct 08)	Apr 2010	-	\$250,000	The project was not able to complete some of the activities after 36 months of implementation and further extension had been sought to organize final workshop and the M&E. The QSP TF IC recommended extending the project by five months to allow completion of all the activities.

4 th	QSPTF/ 08/4/GO V/14 IV.10.G. PLW	Palau	Establishing an institutional framework and strengthening national capacity for the sound chemicals management and implementation of the Strategic Approach in the Republic of Palau	none	A, B	Dec 2008	Nov 2011	1 st . Feb 09	\$250,000	The project was not able to complete all its activities despite 36 months of implementation due to delays in the release of funds because of the receipt of incorrect expenditure report. The National Chemical Policy of Palau, National Chemical profile and National Strategic Approach Implementation plan had been finalized. The QSP TF IC has recommended extending the project for six more months to allow completion of remaining activities.
5 th	QSPTF/ 08/5/GO V/16 V.06.G.L BR	Liberia	Liberia, UNDP, and UNEP Partnership Initiative for the Integration of Sound Management of Chemicals Considerations into Development Plans and Processes	UNDP- UNEP		27 Jan 2010	27 July 2011	17 Feb 2010	\$250,000	The project was severely delayed as only initial arrangements such as the recruitment of consultants and an inception workshop have been completed after 18 months of implementation by the time extension was sought. The issue was put forward to the QSP TF IC and it was decided that extension would be provided for six more months to complete the activities.
5 th	QSPTF/ 08/5/GO V/10 V.08.G. MRT	Mauritania	Mauritania, UNDP and UNEP Partnership Initiative for the Integration of Sound Management of Chemicals Considerations into Development Plans and Processes	UNDP- UNEP	A, B, C	7 Oct 2009	Apr 2011	19 Oct 2009	\$250,000	The status of the project was not known as reports were not received since its implementation in October 2009 until February 2012. The executing agency requested for an extension beyond 36 months, which was put forward to the QSP TF IC. The progress reports were in the meantime received in March 2012. The QSP Trust Fund Implementation Committee examined the issue during their thirteenth meeting and decided to provide an extension to the project for completing the activities.
5 th	QSPTF/ 08/5/GO V/11 V.13.G.L KA	Sri Lanka	Strengthening National Capacities for Sound Management of Priority Industrial Carcinogens and Updating National Chemicals Profile in Sri Lanka	WHO	A, B	7 Dec 09	6 Dec 2011	11 Jan 2010	\$232,539	Progress has been demonstrated in the second component of the project in developing a national inventory of industrial carcinogens and carrying out national estimates of the burden of diseases from industrial carcinogens adopting WHO methodology. By the time extension was requested, only half of the approved funds were utilized and the 2/3 rd of the work plan was not completed. The issue was put forward to the QSP TF IC and it was decided that a one year extension could be

										granted to complete the activities.
5 th	QSPTF/ 08/5/NG O/04 V.17.C.E AF NGO	AGENDA, iLima-Kenya & NAPE	SAICM implementation is East Africa: Law reform and capacity building for sound chemicals management in Kenya, Tanzania and Uganda	none	B	20 Mar 2009	19 Mar 2011	May 2009	\$250,000	The project was delayed and extension request which would go beyond 36 months was put forward to the Committee for decision. Activities have been progressing, common needs and legal gaps have been identified in the three countries and incorporated in the regional synthesis report. Strategic plan for capacity development has been developed for the three countries as well as a communication plan for Kenya. A national survey on SAICM implementation has been conducted. Awareness on the regional report to media, NGOs and decision makers has been an ongoing process. Delays occurred due to extended consultations for inputs with stakeholders and also due to general elections. The QSP TF IC decided that extension for the project could be granted to complete the activities.
6 th	QSPTF/ 09/6/GO V/06VI.0 6.G.KYR	Kyrgyz Republic	Kyrgyzstan, UNDP and UNEP Partnership Initiative for the Integration of Sound Management of Chemicals Considerations into Development Plans and Processes	UNEP & UNDP	B, C	20 July 10	19 July 2012	28 July 2010	\$250,000	The project has been severely delayed due to political events in the country and subsequent changes in the Government structures. The project had accomplished 6 out of 13 activities as per the work plan by the time extension was requested. The project's request for a one year extension was put forward to the QSP Trust Fund Implementation Committee and the Committee decided to grant an extension to the project.

6th	QSPTF/ 09/6/GO V/07 VI.07.M	Mali & Senegal	Chemical Accident Prevention Programme for West Africa (CAPP-WA)	none	B	1 July 2010	31 Dec 2011	1st: 19 July 2010	\$250,000	The project was delayed due to difficulties related to data collection as data were either unavailable or scattered in various structures. During the time the extension was requested, 2/3 rd of the milestone with regards to the workplan was not achieved. The deterioration of the political situation in the Mali further added to the delay. The issue was put forward to the QSP Trust Fund Implementation Committee during their thirteenth meeting and the Committee decided to grant an extension to the project.
7 th	QSPTF/ 09/7/GO V/05 VII.05.G. MAU	Mauritius	Mauritius, UNDP and UNEP partnership initiative for SAICM implementation	UNDP	A,C	28 July 10	27 Nov 2011 (duration 16 months)	1st: 20 Aug 2010	\$249,519	Even after 16 months of signing of the agreement, the project was still in its initial stages due to the long negotiation process between the country and the executing agency. There were changes in the key personnel and instability in the responsible Ministry, however a keen desire to continue the project was expressed by the Ministry. The issue was put forward to the QSP TF IC and the Committee during their thirteenth meeting decided to extend the project.
6th	QSPTF/ 09/6/NG O/02 VI.08.C	Chulabhorn Research Institute (CRI)	Development of course materials and a distance learning tool for the assessment of risk from the use of chemicals support SAICM's capacity building efforts in developing countries	CRI	B	6 May 2010	5 May 2012	1st: 25 May 2010	\$249,804	The training materials on risk assessment had been finalized and pilot tested. The conversion of training materials to eDLT (e Distant Learning Tool) took more time than expected. Less than 2/3 rd of funds were spent by the time extension was requested. The issue was put forward to the QSP TF IC and the Committee during their thirteenth meeting decided to extend the project.

7th	QSPTF/ 09/7/GO V/11 VII.11.G. M	Cook Islands, Kiribati, Samoa, Solomon Islands, and Tonga	Poison information network for the Pacific	WHO	B	1 July 2010	30 June 2012	1st: 12 July 2010	\$249,994	The project has been delayed though significant outcomes such as the establishment of poison profile for each of the country, a joint training workshop for each of the participating countries and an evaluation of the current IT infrastructure has been undertaken. By the time the extension was requested, approximately only 35% of the funds had been spent though a total of 5 activities were completed out of 8. Hence it was put up to the QSP TF IC and the Committee during their thirteenth meeting decided to extend the project.
7 th	QSPTF/ 09/7/GO V/19 VII.19.G. SVG	Saint Vincent and the Grenadines	Establishing an institutional framework and strengthening national capacity within an integrated process for the sound management of chemicals and the implementation of the Strategic Approach in Saint Vincent and the Grenadines	Caribbean Environmen tal Health Institute (CEHI)	A,C	7 June 2010	06 June 2012	1st: 14 June 2010	\$229,999	The project has been significantly delayed due to administrative issues, compounded by the issue of fire gutting down the offices within Ministry of Finance comprising the Government Tender Board. By the time extension was requested, the project had completed only 6 out of 15 activities and only about 20% of the funds were utilized. The issue was put forward to the QSP TF IC and the Committee during their thirteenth meeting decided to extend the project.
7th	QSPTF/ 09/7/GO V/24 VII.24.G. M	International Panel on Chemical Pollution (IPCP) (Armenia, Chile, Ghana)	Training on risk assessment of chemicals at national level at a global context	IPCP	B	3 May 2010	2 Oct 2011	1st: 4 June 2010	\$250,000	Delays were experienced in implementation of the national case studies as identification of relevant stakeholders and suitable topics took more time than anticipated in Armenia and Ghana, whereas in Chile the reorganization of staff in the responsible government institution implementing the project caused delays. According to the M&E report from Ghana, the challenge they have been facing is the inadequate internet capacity for downloading materials and using models and other relevant knowledge. By the time extension was requested only 40% of the funds were utilized, and progress was slow pertaining to difficulties in the countries. The issue was put forward to the QSP TF IC and the Committee during their thirteenth meeting decided to extend the project.

Annex IV - Summary table of projects to initiate implementation

C. Projects to initiate implementation (40)

Round	Project No.	Recipients	Project title	Executing Agency (ies)	Strategic priorities	Date of Agreement	End date	Disbursement received	Funding granted	Status as of 15 th March 2012
9th	QSPTF/10/9/GO V/17 IX.17.G. CLE	Chile	Strengthening Capacities for SAICM Implementation and Supporting GHS Capacity Building	UNITAR	A, B	21 Oct 2011	20 Oct 2013	27 Dec 2011	\$250,000	This project was conditionally approved in the ninth QSP applications round. The legal agreement between UNEP and UNITAR was signed on 21 st October 2011 and initial implem,entation arrangements have started.
9th	QSPTF/10/9/GO V/29 IX.29.G. CAM	Cameroon	Enabling Activities for the Development of a SAICM Implementation Plan within an Integrated National Programme for the Sound Management of Chemicals and Supporting GHS Capacity Building in Cameroon	UNITAR	A, B	25 Oct 2011	25 Oct 2013	27 Dec 2011	\$250,000	This project was conditionally approved and the legal agreement between UNEP and UNITAR was signed on 25 th October 2011 and initial implem,entation arrangements have started.
9th	QSPTF/10/9/GO V/06 IX.06.G. CHN	People's Republic of China	Enabling Activities for the Development of a SAICM Implementation Plan as a Key Contribution towards an Integrated Programme for the Sound Management of Chemicals in the People's Republic of China	UNITAR	A, B	21 Oct 2011	20 Oct 2013	27 Dec 2011	\$250,000	This project was conditionally approved in the ninth round and upon fulfillment of conditions was approved in March 2011. The legal agreement between UNEP and UNITAR was signed on 21 st October 2011 and initial implem,entation arrangements have started.

9th	QSPTF/ 10/9/GO V/07 IX.07.G. ETP	Ethiopia	Bio-pesticides Registration System Development	none	B	21 Oct 2011 by UNEP	30 Nov 2013	-	\$249,982	This project was conditionally approved in the ninth round. Upon fulfillment of conditions, it was approved and the legal agreement was signed by UNEP on 21 st October 2011. However the signatory in the Government of Ethiopia changed and a new agreement is under signature.
9th	QSPTF/ 10/9/GO V/25 IX.25.G. KRI	Kiribati	Strengthening Capacities in Kiribati for National SAICM Implementation and Supporting GHS Capacity Building	UNITAR	A, B	25 Oct 2011	25 Oct 2013	27 Dec 2011	\$250,000	This project was conditionally approved and has now been approved. The legal agreement between UNEP and UNITAR was signed on 25 th October 2011 and initial implementation arrangements have started.
9th	QSPTF/ 10/9/GO V/16 IX.16.G. MLI	Mali	Reducing mercury risks from artisanal and small scale gold mining (ASGM) in Mali	UNIDO	A, B, C	4 July 2011	3 July 2013	11 August 2011	\$237,600	This project was conditionally approved and has now been approved. The legal agreement between UNEP, UNIDO and the Government of Mali was signed on the 4 th July 2011 and project is progressing.
9th	QSPTF/ 10/9/GO V/21 IX.21.G. SLC	Saint Lucia	Effective Chemicals Management in Saint Lucia	none	A, B, C	17 Aug 2011	16 Aug 2012	28 Oct 2011	\$157,500	This project was conditionally approved and has now been approved. The legal agreement between UNEP and the Government of Saint Lucia was signed on 17 th August 2011. The Government of Saint Lucia has not been able to make significant progress due to the long recruitment process and problems related to indoor air pollution in the responsible office.

9 th	QSPTF/ 10/9/GO V/10 IX.10.G. MDG	Madagascar	Strengthening Capacities in the Republic of Madagascar for National SAICM Implementation and Supporting GHS Capacity Building	UNITAR	A, B	21 Feb 2012	30 Nov 2013		\$250,000	The project was conditionally approved in the ninth round and has since been approved. Legal agreement for the project was signed on 21 February 2012. Preliminary activities for the implementation of the project have started.
9 th	QSPTF/ 10/9/GO V/10 IX.10.G. MDG	Haiti	Strengthening Capacities in the Republic of Haiti for National SAICM Implementation and Supporting GHS Capacity Building	UNITAR	A,B	25 Feb 2012	30 Nov 2013	Processed on 27 Feb 2012	\$250,000	The project was conditionally approved in the ninth round and has since been approved. Legal agreement for the project was signed on 21 February 2012. Preliminary activities for the implementation of the project have started.
9 th	QSPTF/ 10/9/GO V/13 IX.13.G. MZQ	Mozambique	Reducing Risks of Highly Hazardous Pesticides (HHPs) in Mozambique	FAO	B	6 Dec 2011	30 Nov 2013	23 Dec 2011	\$248,500	The project was conditionally approved in the ninth round and has since been approved. Legal agreement for the project was signed on 6 December 2011. Preliminary activities for the implementation of the project have started.
9 th	QSPTF/ 10/9/GO V/20 IX.20.G. VNM	Vietnam	Vietnam/UNDP/UNEP Partnership Initiative for the Integration of Sound Management of Chemicals into Development Planning and Processes	UNDP	A, B, C	5 Dec 2011	4 June 2013	23 Dec 2011	\$250,000	The project was conditionally approved in the ninth round and has since been approved. Legal agreement for the project was signed on 5 December 2011. Preliminary activities for the implementation of the project have started.

Round	Project No.	Recipients	Project title	Executing Agency (ies)	Strategic priorities	Date of Agreement	End date	Disbursement received	Funding granted	Status as of 31 st July 2012 (Updates have been made to include the latest status of agreement signature)
10 th	QSPTF/11/10/G OV/09 X.19.G. BHU	Bhutan	Strengthening National Capacities for Sound Management of Priority Carcinogenic Chemicals in Bhutan	WHO	A, B & C	29 Feb 2012	30 Nov 2013	-	\$247,140	This project was approved in the tenth QSP application round. The legal agreement between UNEP and WHO was signed in February 2012 as some modifications were introduced to the template agreement and the approval process took longer. Funds have been disbursed. The work plan has been adjusted and initial arrangements have begun.
10 th	QSPTF/11/10/G OV/31 X.04.G. ZMB	Zambia	Feasibility Study for a Sub-Regional Poison Centre in the East Africa Sub-Region	WHO	A, B & C	6 Dec 2011	5 Dec 2012	23 Dec 2011	\$234,621	The project was approved in the tenth QSP application round. The legal agreement between UNEP and WHO was signed on 6 December 2011 and the project has been progressing well.
10 th	QSPTF/11/10/G OV/18 X.02.G. JAM	Jamaica	Strengthening the National Capacity under the framework of the Integrated National Programme for the sound management of chemicals in support of the implementation of the Strategic Approach in Jamaica	-	A & B	-	30 Nov 2013	-	\$250,000	This project was approved in the tenth QSP application round. The legal agreement between UNEP and the Government of Jamaica is ready. Jamaica is yet to submit their bank details to the secretariat for processing the agreement further.

10 th	QSPTF/ 11/10/G OV/29 X.03.G. BEN	Benin	Development of an Integrated National Programme for the Sound Management of Chemicals and Supporting GHS Capacity Building in the Republic of Benin	UNITAR	A & B	-	24 mts	-	\$250,000	This project was approved in the tenth QSP application round. The legal agreement between UNEP and UNITAR is ready for signature by UNEP. Once the agreement is signed, the arrangements to initiate implementation will begin.
10 th	QSPTF/ 11/10/N GO/03 X.05.C. UAP	Republican Union of Agricultural Producers' Associations "UniAgroProtect" (Moldova)	Civil Society Capacity building in support of SAICM implementation in Moldova	-	B & C	29 June 2012	18 mts	-	\$162,600	This project was approved in the tenth QSP application round. The legal agreement between UNEP and UAP has been signed on 29 June 2012 and arrangements to initiate implementation have begun.
10 th	QSPTF/ 11/10/G OV/03 X.07.G. KGZ	Kyrgyz Republic	Supporting SAICM and GHS Implementation in Kyrgyz Republic	UNITAR	A & B	-	30 Nov 2013	-	\$250,000	This project was conditionally approved in the tenth QSP application round. The legal agreement between UNEP and UNITAR is ready for signature by UNEP. Once the agreement is signed, the arrangements to initiate implementation will begin.
10 th	QSPTF/ 11/10/G OV/04 X.08.G. TJK	Tajikistan	Supporting SAICM and GHS Implementation in the Republic of Tajikistan	UNITAR	A & B	-	30 Nov 2013	-	\$250,000	This project was conditionally approved in the tenth QSP application round. The legal agreement between UNEP and UNITAR is ready for signature by UNEP. Once the agreement is signed, the arrangements to initiate implementation will begin.
10 th	QSPTF/ 11/10/G OV/06 X.09.G. BOL	Bolivia	Supporting SAICM and GHS Implementation in Bolivia	UNITAR	A & B	19 March 2012	30 Nov 2013	-	\$250,000	This project was conditionally approved in the tenth QSP application round. The legal agreement between UNEP and UNITAR is signed by UNEP has been signed and arrangements to initiate implementation have begun.
10 th	QSPTF/ 11/10/G OV/08 X.10.G. GTM	Guatemala	Supporting SAICM and GHS Implementation in Guatemala	UNITAR	A & B	5 July 2012	30 Nov 2013	-	\$250,000	This project was conditionally approved in the tenth QSP application round. The legal agreement between UNEP and UNITAR has been signed and arrangements to initiate implementation have begun.

10 th	QSPTF/ 11/10/G OV/11 X.11.G. COL	Colombia	Supporting SAICM and GHS Implementation in Colombia	UNITAR	A & B	21 June 2012-	30 Nov 2013	-	\$227,650	This project was conditionally approved in the tenth QSP application round. The legal agreement between UNEP and UNITAR has been signed and arrangements to initiate implementation have begun.
10 th	QSPTF/ 11/10/G OV/12 X.12.G. LKA	Sri Lanka	Chemical Accident Prevention and Preparedness Programme for Sri Lanka (CAPP Programme-SL)	UNEP	B & C	20 July 2012	30 Nov 2013	-	\$224,834	This project was conditionally approved in the tenth QSP application round. The legal agreement between UNEP and the Country has been signed and arrangements to initiate implementation have begun.
10 th	QSPTF/ 11/10/G OV/21 X.13.G. MEX	Mexico	Supporting SAICM and GHS Implementation in Mexico	UNITAR	A & B	26 June 2012	30 Nov 2013	-	\$250,000	This project was conditionally approved in the tenth QSP application round. The legal agreement between UNEP and UNITAR has been signed and arrangements to initiate implementation have begun.
10 th	QSPTF/ 11/10/G OV/22 X.14.G. MLI	Mali	Strengthening Capacities for National SAICM Implementation and Supporting GHS Capacity Building in the Republic of Mali	UNITAR	A & B	5 July 2012	30 Nov 2013	-	\$245,896	This project was conditionally approved in the tenth QSP application round. The legal agreement between UNEP and UNITAR has been signed and arrangements to initiate implementation have begun.
10 th	QSPTF/ 11/10/G OV/23 X.15.G. AZR	Azerbaijan	Strengthening Capacities for Implementation of a National Pollutant and Release Transfer Register and Supporting SAICM Implementation in Azerbaijan	UNITAR	A & B	7 Mar 2012	30 Nov 2013	-	\$210,000	This project was conditionally approved in the tenth QSP application round. The legal agreement between UNEP and UNITAR has been signed and arrangements to initiate implementation have begun.
10 th	QSPTF/ 11/10/G OV/24 X.16.G. DRC	Democratic Republic of the Congo	Supporting SAICM and GHS Implementation in the Democratic Republic of the Congo	UNITAR	A & B	25 Feb 2012	30 Nov 2013	-	\$250,000	This project was conditionally approved in the tenth QSP application round. The legal agreement between UNEP and UNITAR has been signed and arrangements to initiate implementation have begun.

10 th	QSPTF/ 11/10/G OV/25 X.17.G. BEL	Belize	Belize/UNEP partnership on development of a coherent legal and institutional framework in Belize for the sound management of chemicals	UNEP	B	14 April 2012	30 Nov 2013	-	\$249,718	This project was conditionally approved in the tenth QSP application round. The legal agreement between UNEP and Belize has been signed and implementation arrangements have begun.
10 th	QSPTF/ 11/10/G OV/27 X.18.G. JAM	Jamaica	Evaluating and Strengthening National and Regional Capacities for Implementing the Globally Harmonized system of Classification and Labelling of Chemicals (GHS) and Supporting SAICM Implementation in the Caribbean	UNITAR	A & B	5 July 2012	16 mts	-	\$177,800	This project was conditionally approved in the tenth QSP application round. The legal agreement between UNEP and UNITAR has been signed and arrangements to initiate implementation have begun.
10 th	QSPTF/ 11/10/G OV/28 X.1.G.C OM	Comoros	Strengthening Capacities for National SAICM Implementation in the Union of the Comoros	UNITAR	A & B	signed by UNEP on 14 Mar 2012	30 Nov 2013	-	\$250,000	This project was conditionally approved in the tenth QSP application round. The legal agreement between UNEP and UNITAR had to be reprocessed due to revision in budget and timeline.
10 th	QSPTF/ 11/10/G OV/30 X.20.G. SUR	Suriname	Suriname/UNDP/UNEP Partnership Initiative for the Integration of Sound Management of Chemicals into Development Planning and Processes	UNDP	A, B & C	12 June 2012	16 mts	-	\$249,718	This project was conditionally approved in the tenth QSP application round. The legal agreement between UNEP and UNDP has been signed and arrangements to initiate implementation have begun.
10 th	QSPTF/ 11/10/G OV/32 X.21.G. BKF	Burkina Faso	Strengthening Capacities in Burkina Faso for National SAICM Implementation and Promotion of Synergies among the Stockholm, Basel and Rotterdam Conventions	UNITAR	A & B	5 July 2012	30 Nov 2013	-	\$250,000	This project was conditionally approved in the tenth QSP application round. The legal agreement between UNEP and UNITAR has been signed and arrangements to initiate implementation have begun.

10 th	QSPTF/ 11/10/G OV/33 X.22.G. VNM	Vietnam	Project for improvement of state management of public health and household insecticide and disinfectants, in stage of 2011-2012	-	A & B	28 June 2012	30 Nov 2013	-	\$248,000	This project was conditionally approved in the tenth QSP application round. The legal agreement between UNEP and the country has been signed and implementation arrangements have begun.
10 th	QSPTF/ 11/10/N GO/05 X.23.G. LED	Legal and Environmental Analysis and Development Research (LEADERS)	Documentation of Lead concentration in domestic and imported paints, determination of Lead exposure in paint industries and at homes and recommendation of comprehensive policy to manage Lead in paint in Nepal	-	B	4 Mar 2012	30 Nov 2013	Processed on 6 March 2012	\$199,260	This project was conditionally approved in the tenth QSP application round. The legal agreement between UNEP and the NGO has been signed and funds disbursed. Project implementation arrangements have begun.
11 th	QSPTF/ 12/11/G OV/06 XI.01.G. MVD	Maldives	Strengthening Capacities for National SAICM Implementation in Maldives	UNITAR	A & B	5 July 2012	30 Nov 2013	-	\$233,744	The project was approved in the eleventh round and the legal agreement has been signed and implementation arrangements have begun.
11 th	QSPTF/ 12/11/G OV/09 XI.02.G. KAZ	Kazakhstan	Kazakhstan/UNEP/UNDP Partnership Initiative for the Integration of Sound Management of Chemicals (SMC) considerations into Development Plans and Processes	UNDP	A, B & C	2 July 2012	30 Nov 2013	Processed on 17 July 2012	\$246,543	The project was approved in the eleventh round and the legal agreement has been signed and implementation arrangements have begun.
11 th	QSPTF/ 12/11/N GO/06 XI.03.C. HCWC	Health Care Without Harm (HCWH)	Chemicals Substitution and Management in the Health Care Sector: A Four-Hospital, Multi-Country Project in the Philippines and Argentina	-	B	18 June 2012	30 Nov 2013	10 July 2012	\$150,000	The project was approved in the eleventh round and the legal agreement has been signed and implementation arrangements have begun.
11 th	QSPTF/ 12/11/G OV/07 XI.07.G. M	Cook Islands, Kiribati and Samoa	Capacity Building and Institutional Strengthening of Pacific Islands' Management and Disposal of E-Waste	Secretariat of the Pacific Regional Environment Prog (SPREP)	A, B & C	-	30 Nov 2013	-	\$187,425	The project was conditionally approved in the eleventh round. Documents required for fulfilling the conditions have been submitted and approval has been granted by the Secretariat and the legal agreement is in the process of getting signed.

11 th	QSPTF/ 12/11/G OV/08 XI.06.G. TZA	Tanzania	Chemical Accident Prevention and Preparedness Programme for Tanzania (CAPP Programme-TZ)	UNEP	A, B & C	-	30 Nov 2013	-	\$249,983	The project was conditionally approved in the eleventh round, the applicant has submitted documents for fulfilling conditions and approval has been granted. The legal agreement is under consultation.
11 th	QSPTF/ 12/11/G OV/11 XI.04.G. CIV	Côte d'Ivoire	Reducing Mercury Risks from Artisanal and Small Scale Gold Mining in Côte d'Ivoire"	UNIDO	A, B & C	signed by UNID O on 1 Aug 2012	30 Nov 2013	-	\$206,600	The project was conditionally approved in the eleventh round. The conditions have been met and the legal agreement has been signed by UNEP and UNIDO and is under signature by the country.
11 th	QSPTF/ 12/11/G OV/12 XI.05.G. MLY	Malaysia	Preparation of a National Action Plan (NAP) for the Implementation of the Rotterdam Convention in Malaysia	-	B	-	30 Nov 2013	-	\$250,000	The project was conditionally approved in the eleventh round, the applicant submitted documents for fulfilling the conditions and the secretariat granted approval after examining the conditions. The legal agreement is under consultation and initial arrangements for implementation will start once the agreement is signed.

Annex V - Summary table of Suspended Projects

D. Suspended projects (8¹⁸ projects)

Round	Project No.	Recipients	Project title	Executing Agency (ies)	Strategic priorities	Date of Agreement	End date	Disbursement received	Funding granted	Status as of 31 st July 2012 (Updates have been made to include the decision of the thirteenth QSP Trust Fund Implementation Committee meeting)
1 st	QSPTF/06/1/NGO/03 I.08.C.T PAWU	Tanzania Plantation and Agricultural workers Union (TPAWU)	Establishing an Institutional framework and strengthening National Capacity within an integrated national programme for the sound management of chemicals and implementation of the Strategic Approach in Nigeria	none	B, C	Dec 07	Sept 2009	1st: Jan 2007	\$241'800	Extension was not granted due to the partner's failure to demonstrate progress in implementation. The project was suspended in April 2010 and the remaining balance amount equal to 169,600 USD was returned to the Trust Fund.
2 nd	QSPTF/07/2/GO V/04 II.19.G.P LE	Palestine	Development of a national chemicals management profile and a national chemicals management database in Palestine	UNITAR	A	none	Suspended	none	\$82'250	Legal arrangement between UNEP and UNITAR was not signed following a request by the Palestinian authorities to suspend the project due to the political situation in the country. By the time an option was suggested, the 12 months period within which the agreement was expected to be signed was over.
3 rd	QSPTF/07/3/GO V/08 III.02.G. BLR	Belarus	Belarus, UNDP and UNEP Partnership Initiative for the Integration of Sound Management of Chemicals Considerations into Development Plans and Processes	UNDP & UNEP	B, C	27 Jan 2010	May 2011	27 Jan 2010	\$250'000	The project was suspended in the eleventh meeting on the grounds that the internal legal agreement between the executing agency and the country was not finalized within one year of the legal agreement finalization between UNEP and the executing agency. The project was resubmitted round and received an approval on the twelfth round.
7 th	QSPTF/09/7/GO V/12 VII.12.G.	Lao People's Democratic Republic	Laos, UNDP, and UNEP partnership initiative for the integration of sound management of chemicals considerations into development plans and	UNDP	B, C	suspended	Suspended for re-submission	none	\$250'000	Suspended for resubmission following the failure to meet conditional requirements.

¹⁸ Project in Eritrea was suspended in the 2nd round and re-approved in the 8th round. 3 projects (IV.14.G.TZA, V.01.M & VI.03.G.DJI) were suspended during the thirteenth meeting of the QSP Trust Fund Implementation Committee.

			processes							
4 th	QSPTF/ 08/4/GO V/09 IV.14.G. TZA	Tanzania	Capacity Enhancement for the Implementation of the Stockholm Convention in the United Republic of Tanzania	none	B	15 Apr 09	Apr 2011	1st: Jun 2009	\$248,819	The status of the project was not known since its implementation in April 2009 until February 2012 when the secretariat received the reports. Project extension was requested by the country. The issue was put forward to the QSP Trust Fund Implementation Committee and during their thirteenth meeting the Committee decided to suspend the project.
5 th	QSPTF/ 08/5/GO V/25 V.01.M	Bolivia & Peru	Artisanal and Small Scale Gold Mining Regional Project in South America	UNEP	B	N/A (proje ct starte d in June 2009)	Dec 10		\$249,400	The request for the extension of the project was approved by the Secretariat. UNEP as the executing agency of the project provided the bilateral agreement to Bolivia and Peru for extension. However, the agreements were not signed till April 2012 and the executing agency is to report to the secretariat on the current situation of this project. The issue was put forward to the QSP Trust Fund Implementation Committee during their thirteenth meeting decided to suspend the project.
6 th	QSPTF/ 09/6/GO V/09 VI.03.G. DJI	Djibouti	Strengthening the capacity of Djibouti to control the transboundary movements of hazardous wastes and chemicals in the context of the Basel Convention, the International Health Regulations (WHO, 2005) and other relevant MEAs as per necessary, and ensure their environmentally sound management	Basel Conven tion Region al Centre (BCRC) Senega l	B, C	17 April 2010	16 April 2012 (Indicat ed a need for extensio n)	1st: 26 April 2010	\$249,930	The first draft of the gaps and needs analysis report has been completed. However, the report could not be finalized until February 2012 as comments from the country were not received. The project personnel had to be recruited for the second time. The Executing Agency noted difficulties in collaboration with the country. The issue was put forward to the QSP Trust Fund Implementation Committee during their thirteenth meeting decided to suspend the project.

Annex VI - Status of project reports in the first ten rounds

Round	Project No.	Country/Implementer	Executing agency	1 st PR	2 nd PR	3 rd PR	4 th PR	1 st M&E	2 nd M&E	Type of report due	Observation
1 st	I.04.GU	Ecuador	UNDP	√	√	X	X	X	X	Final narrative, expenditure and M & E reports due	Project closed as partially implemented
	I.05.G.FYM	The Former Yugoslav Republic (FYR) of Macedonia	UNDP	√	√	√	√	√	X	Final expenditure report and final M&E due	Project activities completed
	I.07.G.UGA	Uganda	UNDP	√	√	√	√	√	X	Final narrative, expenditure and M & E reports due	Project activities completed
	I.06.G.NGA	Government of Nigeria		√	√	√	√	√	X	Final narrative, expenditure and M & E reports due	Project has not completed activities and has requested for extension
2 nd	II.17.G.NPL	Nepal	UNITAR	√	√	√	√	√	X	Final narrative and M & E reports due	Final expenditure report has been received
3 rd	III.05.G.LBR	Liberia	UNITAR	X	√	√	X	X	X	Final narrative and M & E reports due	Project activities completed
	III.04.G.KEN	Kenya	UNITAR	√	√	√	√	√	X	Final M & E report due	Project activities completed
	III.07.G.PER	Peru	UNIDO	√	√	√	X	X	X	Final narrative, expenditure and M & E reports due	
	III.08.G.SDN	Sudan	UNIDO	√	√	√	X	√	X	Final narrative, expenditure and M & E reports due	
4 th	IV.01.M	Bahamas, Barbados, Haiti	UNEP	√	√	√	√	X	X	Final narrative, expenditure and M & E reports due	Additionally 5 th report was submitted and updates for the project was provided in Nov 2011 and Jan 2012
	IV.03.M	Indonesia & Thailand	WHO	√	√	√	X	√	X	-	Project extension in process
	IV.04.G.BHR	Bahrain	UNITAR	X	√	√	√	X	X	-	Project extension in process
	IV.07.G.CUB	Cuba	UNEP	X	√	√	√	X	X	Final narrative, expenditure and M & E reports due	Additionally updates were provided in November 2011 and January 2012
	IV.06.G.CIV	Cote d'Ivoire	SBC	√	√	√	√	√	√	Final narrative and expenditure reports due	Project activities completed

	IV.08.G.GEO	Georgia	UNITAR	√	√	√	√	√	√	-	Final reports received
	IV.09.G.GUY	Guyana	UNITAR	√	√	√	√	√	√	-	Final reports received
	IV.10.G.PLW	Government of Palau	-	√	√	√	√	√	√	-	Extension in process
	IV.11.G.PRY	Paraguay	UNITAR	√	√	√	√	X	X	-	Extension granted
	IV.12.G.PHL	Government of Philippines	-	√	√	√	√	√	X	-	Extension in process
	IV.13.G.WSM	Government of Samoa	-	√	√	√	X	√	√	Final narrative and expenditure reports due	Project is in the process of submitting final reports
	IV.14.G.TZA	Government of Tanzania	-	X	X	X	X	X	X	The QSP TFIC will review the case and make a decision during its thirteenth meeting	Reports covering April 2009 to Feb 2011 were received in Feb 2012
	IV.15.G.URY	Uruguay	UNIDO	√	X	√	NA	X	NA	-	Extension granted*
	IV.16.C.CEEAP. NGOs	CEEAP NGOs	UNITAR	√	√	√	√	√	X	Final narrative, expenditure, M&E reports from Kazakhstan and Belarus	Final M&E received from Kyrgyz Republic
5th	V.02.G.COL	Colombia	UNIDO	X	√	X	X	X	X	Final narrative, expenditure and M & E reports due	
	V.03.G.PRK	DPR Korea	UNITAR	√	√	√	√	√	√	-	Final reports received
	V.06.G.LBR	Liberia	UNDP	X	√	X	√	X	X	-	Extension in process
	V.07.G.MDG	Madagascar	WHO	X	√	√	X	√	X	Final narrative, expenditure and M & E reports due	2 nd and 3 rd report was merged into one
	V.08.G.MRT	Mauritania	UNDP	X	X	X	X	X	X	Final narrative, expenditure and M & E reports due	Reports were received in March 2012
	V.09.G.MAR	Morocco	WHO	√	√	√	√	NA	√	-	Final reports received
	V.11.G.SEN	Senegal	UNITAR	√	√	√	√	√	√	-	Final reports received
	V.12.G.SYC	Seychelles	UNITAR	√	√	√	√	√	NA	-	Extension granted to the project*
	V.13.G.LKA	Sri Lanka	WHO	√	√	√	√	X	NA	-	Extension in process
	V.14.G.THA	Government of Thailand	-	√	√	√	NA	√	NA	-	Extension has been indicated in the report
	V.15.G.UZB	Uzbekistan	UNITAR	√	√	√	√	√	NA	-	Extension granted*
	V.16.G.ZMB	Zambia	UNITAR	√	√	√	√	X	NA	-	Extension granted*
6 th	VI.01.G.ALB	Albania	UNITAR	√	√	√	NA	√	NA	-	Extension granted*
	VI.03.G.COS	Government of Costa Rica	-	√	√	√	√	√	NA	-	Extension granted*
	VI.03.G.DJI	Djibouti	BCRC	√	√	√	√	X	NA	1 st M&E report due	Extension requested
	VI.04.M	Kenya & Gabon	WHO	√	X	NA	NA	NA	X	Final narrative, expenditure and M & E reports due	Project is in the process of submitting final reports
	VI.05.G.GAM	Gambia	UNITAR	√	√	√	NA	√	NA	-	Extension granted*
	VI.06.G.KYR	Kyrgyz Republic	UNDP	√	√	√	NA	X	NA	-	Extension requested
	VI.07.M	Mali & Senegal	- (technical	√	√	NA	NA	√	NA	-	Extension in process

			support by UNEP)								
	VI.08.C	Chulabhorn Research Institute		√	√	√	NA	√	NA	-	Extension requested
7 th	VII.24.G.M	Armenia, Chile, Ghana	IPCP	√	√	√	NA	√	NA	-	Extension in process
	VII.03.G.BRG	Barbados	UNITAR	updates	√	√	NA	√	NA	-	
	VII.09.G.M	Burundi and Rwanda	-	√	√	√	NA	√	NA	1 st M&E due from Rwanda	-
	VII.11.G.M	Cook Island, Kiribati, Samoa, Solomon Islands and Tonga	WHO	√	X	√	NA	X	NA	1 st M&E due	The second report was received late. The project is delayed due to change in officials in the executing agency and extension has been requested.
	VII.13.G.SWAZ	Swaziland	UNITAR	updates	√	√	NA	X	NA	1 st M&E due	-
	VII.16.G.GUIN	Republic of Guinea	UNITAR	√	√	√	NA	√	NA	-	-
	VII.19.G.SVG	Saint Vincent and the Grenadines	CEHI	√	√	√	NA	X	NA	1 st M&E due	-
	VII.09.G.M	Burkina Faso, Chad, Gambia, Mauritania and Niger	CILSS	√	√	X	NA	X	NA	3 rd narrative, expenditure and 1 st M&E reports due	-
8 th	VIII.01.G.CMB	Cambodia	- (technical support by UNEP)	√	√	√	NA	√	NA	-	-
	VIII.05.G.ERI	Eritrea	UNITAR	√	NA	NA	NA	NA	NA	-	-
	VIII.07.G.NGR	Niger	UNITAR	updates	√	NA	NA	√	NA	-	-
	VIII.03.G.M	Cambodia, China, Lao PDR, Pakistan	BCRC China	√	√	√	NA	√	NA	-	-
	VIII.04.G.CNG	Republic of Congo	UNITAR	updates	√	NA	NA	X	NA	1 st M&E due	-
	VIII.06.G.DMC	Dominican Republic	UNITAR	updates	√	NA	NA	X	NA	1 st M&E due	Project started late, hence 1 st M&E is delayed
	VIII.08.G.GBN	Gabon	UNITAR	updates	√	NA	NA	X	NA	1 st M&E due	-
	VIII.01.C.CMN	CREPD, Cameroon	-	√	X	√	NA	√	NA	-	Extension granted*
	VIII.02.C.GBN	Women in Europe for a Common Future, Georgia	-	√	√	√	NA	X	NA	-	-
9 th	IX.08.G.TGO	Togo	UNITAR	√	NA	NA	NA	NA	NA	-	-
	IX.11.G.MDA	Moldova	UNITAR	√	NA	NA	NA	NA	NA	-	-

	IX.06.C.PAN	Mali & Senegal	PAN	√	NA	NA	NA	NA	NA	-	-
	IX.07.C.PBU	PROBICOU (Uganda)	UNDP	√	NA	NA	NA	NA	NA	-	-
	IX.04.G.ETP	Ethiopia	BCRC	√	NA	NA	NA	NA	NA	-	-
	IX.05.G.MZQ	Mozambique	BCRC	√	NA	NA	NA	NA	NA	-	-
	IX.02.G.M	Belarus and Tajikistan	-	√	√	NA	NA	√	NA	-	-
	IX.23.G.IDS	Indonesia	The Blacksmith Institute	X	NA	NA	NA	NA	NA	-	-
10 th	X.02.G.M	El Salvador, Dominican Republic & Nicaragua	Sustainlabour	√	NA	NA	NA	NA	NA	-	-

IPCP – International Panel on Chemical Pollution

CEHI – Caribbean Environmental Health Institute

CILSS – The Sahel Institute of the Permanent Interstate Committee for the Drought Control in the Sahel

CREPD - Research and Education Center for Development

PAN – Pesticide Action Network

PROBICOU – Pro-biodiversity Conservationists in Uganda

* For projects that have received extension, dates for submission of 2nd M&E have changed.

**International Conference on Chemicals Management
Third session**

Nairobi, 17–21 September 2012

Item 4 (d) of the provisional agenda*

**Implementation of the Strategic Approach to
International Chemicals Management: Financial
and technical resources for implementation**

Report of the Mid-term Review of the Quick Start Programme

Note by the secretariat

1. In its resolution II/3 on financial and technical resources for implementation of the Strategic Approach to International Chemicals Management, the International Conference on Chemicals Management requested the Quick Start Programme Executive Board to evaluate the Programme, report on its effectiveness and the efficiency of its implementation and make recommendations in the light of its findings for the consideration of the Conference at its third session. In the same decision, it called upon the Conference at its third session to review and evaluate the above-mentioned report and to consider the adequacy of financial and technical arrangements for Strategic Approach implementation for action as appropriate.

2. At its fifth meeting, held in Geneva on 19 and 20 April 2010, the Executive Board approved the terms of reference for a midterm review of the Quick Start Programme, and the secretariat engaged two international experts to conduct the review in May 2011. The Executive Board considered the findings of the midterm review at its sixth meeting, held in Geneva on 13 and 14 September 2011, and decided that additional input from stakeholders was required to enable the Executive Board to make recommendations to the Conference based on the review's findings. The report was revised to incorporate additional input from stakeholders, and the revised draft report was considered by the Board at its seventh meeting, held in Geneva on 7 and 8 May 2012.

3. Having considered the report, the Executive Board decided that it contained sufficient evidence upon which to base its evaluation of the Programme and recommendations to the Conference. The note by the secretariat conveying the conclusions and recommendations of the Board's midterm evaluation of the Quick Start Programme is set out in document SAICM/ICCM.3/8.

4. The secretariat has the honour to transmit to the Conference for its consideration the Report of the Mid-term Review of the Quick Start Programme (see annex). The executive summary of the Report of the Mid-term review of the Quick Start Programme is available in languages in document SAICM/ICCM.3/9.

* SAICM/ICCM.3/1

Annex

Strategic Approach to International Chemicals Management

Report of the Mid-term Review of the Quick Start Programme

August 20th, 2012

List of Acronyms

Acronym	Description
AAMMA	Argentinean Society of Doctors for the Environment
DHIDRE	Day Hospital Institute of Development and Rehabilitation of Egypt
EB	Executive Board
FAO	Food and Agriculture Organization of the United Nations
GEF	Global Environmental Facility
ICCA	International Council of Chemicals Associations
ICCM	International Conference on Chemicals Management
ILO	International Labour Organization
IOMC	Inter-Organization Programme for the Sound Management of Chemicals
NIP	National Implementation Plans – often associated with the Stockholm Convention
M&E	Monitoring and Evaluation
LDCs	Least Developed Countries
OECD	Organization for Economic Cooperation and Development
OPS	Overarching Policy Strategy
QSP	Quick Start Programme
QSP TF	Quick Start Programme Trust Fund
SAICM	Strategic Approach to International Chemicals Management
SETAC	Society of Environmental Toxicology and Chemistry
SIDS	Small Islands Developing States
TOR	Terms of Reference
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNIDO	United Nations Industrial Development Organization
UNITAR	United Nations Institute for Training and Research
WHO	World Health Organization

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1. EXECUTIVE SUMMARY

Introduction and Background

The Quick Start Programme (QSP) and its trust fund is a funding mechanism under the Strategic Approach to International Chemicals Management. Established in 2006, the Programme was developed to support initial enabling capacity-building and implementation activities in developing countries, least developed countries, small island developing states and countries with economies in transition. With more than 100,000 chemicals in use worldwide¹, and many new chemicals being introduced to market each year, there is increasing urgency in advancing chemicals management capacity and governance.

Under resolution II/3 on financial and technical resources for implementation of the SAICM, the International Conference on Chemicals Management requested the QSP Executive Board to undertake a mid-term evaluation of the Programme, including an assessment of its overall effectiveness, the efficiency of its implementation and key recommendations. Using criteria developed to assess overall outcomes of the QSP, this report summarizes the findings of the Mid-Term Review of the Programme, including QSP Trust Fund operations, the impacts of lessons learned from the projects financed through the Trust Fund, and the overall governance of the Programme.

The QSP has achieved widespread recognition among stakeholders as being accessible, flexible and practical. Since its inception in 2006, the QSP programme has approved 145 projects in 104 countries, demonstrating its success in supporting a range of countries in the initiation of sound chemicals management activities.

Mid-Term Review Scope, Objective and Methods

The Mid-Term Review period includes information available from December 31, 2006 to December 31, 2011. Information available as of February 29, 2012 was also used as supporting evidence, according to the approved scope and timeline for the completion of the evaluation.

The scope of the review is set out in the terms of reference approved by the QSP Executive Board, and includes an analysis of information in the following categories:

- a) Overall Outcomes of the QSP
- b) Institutional and Administrative Arrangements of the QSP
- c) Project Performance and Impact
- d) Conclusions on the main findings

The review was based on a multiple method approach to gathering data. This included:

- A “desk study” review of documentation relevant to the QSP, its operation and project portfolio;

¹ Practices in the sound management of chemicals (UNDESA, UNEP, Stockholm Convention, 2010)

- Key informant interviews with stakeholders such as implementers, members of the Executive Board and the QSP Implementation Committee, and officials from UNEP Chemicals;
- An email survey of 46 stakeholders that focused on project outcomes and achievements, including capacity building, awareness raising, mainstreaming, planned activities, cost effectiveness, catalytic role, relevance to QSP strategic priorities, country ownership and stakeholder involvement;
- A review of QSP project documentation, including final narrative and monitoring and evaluation reports;
- Site visits to countries in the African (4) and Latin American (3) regions, aimed at collecting additional information related to project impacts and achievements.

Overall QSP Performance

Since its inception, the QSP has achieved considerable success in supporting projects aimed at initial capacity building in a range of countries. As of December 31st 2011, 145 projects had been approved with a total funding of US\$30.9 million. At the time of the review, 37 projects had completed all activities – 30 of these projects had submitted the required final reports and the remaining seven projects were in the process of preparing their final reports for submission to the secretariat.

Contributions from project implementers represent approximately 20% of the financial contributions provided by donors, suggesting a strong commitment to the sound management of chemicals from developing countries. This is particularly compelling considering their resource limitations. The Programme has also been highly successful in mobilizing, leveraging and dispersing funds on a priority basis:

- The QSP has mobilized a total of US\$40.8 million, including contributions to the Trust Fund and additional cash and in-kind contributions from project implementers and executing agencies;
- The QSP has been successful in leveraging US\$25.2 million from the Global Environment Facility (GEF) to support projects in Africa and Asia-Pacific regions;
- The QSP Trust Fund has demonstrated success in prioritizing the provision of assistance to least developed countries and small island developing states, which constitute 70% of the portfolio of funded projects.

Strategic Priorities of the QSP

The QSP Trust Fund was established with three strategic funding priorities, as outlined in the strategic objectives of Section IV of the SAICM Overarching Policy Strategy (OPS):

- A) Development or updating of national chemical profiles and the identification of capacity needs for sound chemicals management;
- B) Development and strengthening of national chemicals management institutions, plans, programmes and activities to implement the Strategic Approach, building upon work conducted to implement international chemicals-related agreements and initiatives;
- C) Undertaking analysis, inter-agency coordination, and public participation activities directed at enabling the implementation of the Strategic Approach by integrating – i.e., mainstreaming – the sound management of chemicals in national strategies, and thereby informing development assistance cooperation priorities.

Based on the findings of the Mid-Term Review, the projects to date have focused primarily on Strategic Priorities A) and B).

This can be considered a rational initial approach as these activities will facilitate a better understanding of the chemicals management situation of the respective countries through the development of basic infrastructure. This has been particularly relevant for countries where chemicals management is not a priority or where there is significant lack of information about chemicals issues in general. It would be reasonable to expect that countries that have already addressed Strategic Priorities A and B as an initial approach may decide to follow up with capacity strengthening for specific areas of work that are considered as priority at the national level (e.g. those identified through enabling activities) and continue efforts towards SAICM implementation.

The QSP Funding Guidelines emphasize a multi-stakeholder and multi-sectoral framework. As such, the Programme is widely recognized by stakeholders from all sectors and several channels have been used to share information about the Programme. These include national, regional and international meetings in the field of chemicals and waste management; publication and dissemination of materials distributed by the SAICM strategies; and information sharing mechanisms available through intergovernmental organizations, executing agencies, etc.

Although a requirement for multi-stakeholder endorsement is embedded in the application and reporting processes, stakeholder engagement remains an ongoing issue. Data obtained from stakeholder consultations indicates that stakeholder involvement is generally challenging. It is noted that attendance at workshops is modest, and that there is low awareness about chemical management issues. Chemicals, therefore, are a low priority in the development agenda and projects are not focused on mainstreaming (Priority C). Further analysis of this feature should be carried out in future evaluations of the Programme to better assess its important contribution in facilitating broad stakeholder involvement in the sound management of chemicals.

In addition, while most projects describe a multi-sectoral approach in their proposals, the majority of projects are led by the environment sector. It will be essential to continue actively encouraging other sectors to participate in project proposals and implementation since they play an important role in different stages of the chemicals management life cycle.

Institutional and Administrative Arrangements

The Governance of the QSP comprises the International Conference on Chemicals Management as the most senior body, followed by the QSP Executive Board and the QSP Implementation Committee. The Executive Board sets operational rules in line with ICCM negotiated parameters of the QSP, reviews progress and directs administrative changes as might be required or desirable.

A similar conduct of business is followed by the QSP Trust Fund Implementation Committee. A review of meeting reports from the annual Executive Board Meetings and the twice-annual Implementation Committee meetings indicates that the respective functions of these groups have been carried out with a high degree of professional integrity.

The Executive Board and the Implementation Committee also ensure that the QSP continues to operate dynamically. This is reflected in the strong positive response that has been obtained from donors and their contributions to the Trust Fund; from governments and other implementers that have submitted proposals; and from Executing Agencies that continue their active involvement by providing technical assistance and methodological support for project implementation.

The review of the available information, including meeting reports and the outcomes of face-to-face interviews, shows that the Executive Board performs its functions efficiently and effectively, and has followed the conduct of business that is to be expected from a governance body.

The contribution of the QSP Implementation Committee to the governance of the QSP follows standard procedures for the appraisal of proposals and monitoring of projects. It should be noted, however, that while the screening and approval process adheres to a set of guidelines established for each round of application, the process for monitoring the progress of funded projects could be improved by establishing standards and indicators for project evaluation to assist the Committee and the Secretariat in assessing progress. Such tools would facilitate the monitoring and evaluation functions of the governing bodies of the QSP and the secretariat.

The QSP Implementation Committee is responsible for ensuring all available funds paid into the Trust Fund account are disbursed at each round of application. This is subject to the availability of complete and eligible project proposals and the need to maintain an overall geographical and sectoral balance in the long run. As well, this provides assistance as a matter of priority to Least Developed Countries (LDCs) and Small Islands Developing States (SIDS)². The review also found:

- The process of project application is transparent, but improved clarity and guidance may be required for implementers to better design proposals.
- The current provisions allowing disbursement of funds until November 30th 2013 may impact new projects from rounds 12 to 14 as well as ongoing projects in their ability to complete all activities by the set date.

² QSP Business Plan April 2007

- The administrative structure under the SAICM secretariat has become insufficient given the two-fold increase in projects funded under the Trust Fund from 2009 to 2012.
- Since 2009, the number of projects under the QSP portfolio has more than doubled from 71 to the current 145 projects. This steady increase in the workload has affected the secretariat's capacity to service all aspects of the Quick Start Programme in a timely manner.

An important limitation of the secretariat is the increasing workload which currently falls under the responsibility of two staff members. Given the increased demands of an expanding Programme, it is challenging to provide adequate follow up to the operation and execution of all QSP projects. To improve the overall efficiency and delivery of all administrative and management aspects of the Programme, the secretariat would benefit from an increase in human resources to support the following tasks:

- Facilitating and expediting the institutional and administrative procedures of the QSP projects, such as the development of agreements between UNEP and the Executing/Implementing Agencies.
- Development of project indicators and identifying means of verification, as well as conducting a rigorous follow-up of projects through their complete life cycle. This additional support would assist the secretariat in providing a better rate of response and continuous feedback to implementers on the progress made during the execution of the project.

Project Performance and Impact

A review of the outcomes achieved by the 30 completed projects for which all final documentation and deliverables was submitted to the secretariat by February 28, 2012 indicates that all the objectives identified in the approved work plans were achieved. The evidence underlines the QSP's success in developing new initiatives and fostering further commitment to sound chemicals management issues relevant to the Strategic Approach. Stakeholders also reported strong motivation and interest to continue the work of SAICM implementation as a result of the outcome of projects.

Indeed, completed projects have reported positive impacts and significant progress related to capacity-building efforts and SAICM implementation activities, as well as successfully achieving objectives relevant to their national context and needs. Moreover, impacts on national planning and decision making – mainly through political commitment and enhanced communication, coordination and collaboration with stakeholders – have been widely reported. All completed projects have enabled long-term positive impacts by building socio-political and institutional frameworks and governance in the field of chemicals.

The results of the projects also serve to act as a baseline for future assessment of the chemicals management situation in a given country. Several projects state that by increasing their understanding of national chemicals management, and through setting national SAICM priorities, they have reached a fundamental stage for future action to implement SAICM.

The majority of project reports reveal specific examples of how their implementation has contributed to the elaboration of national programmes, legislation and policies on chemicals management. From a policy perspective, all projects state that they have had an impact either directly or indirectly on national planning and decision making through the following actions:

- Political *commitment* (e.g., through meetings and workshops);
- Increased *awareness* of the role and function of local authorities (due to the new information and data available);
- Increased *knowledge and understanding* of local authorities with regard to chemicals management and associated risks;
- Enhanced *communication, coordination and collaboration* between government and stakeholders; and
- Development of *synergies* between the different International Chemicals Conventions and treaties through the respective projects.

Stakeholder participation and project completion delays are among the most important challenges facing projects. Some projects report effective participation from a range of stakeholders from multiple sectors. Others, however, have indicated that achieving this level of engagement has been an ongoing challenge. Another issue identified during the review process is difficulty in meeting timelines. The majority of projects have requested extensions as a result of various factors, including delays in administrative procedures (internal and external), political instability, natural disasters and lack of multi-sectoral involvement. This has considerably affected completion timelines for projects extending beyond 24 months.

Despite varying needs and the level of development in the countries, all projects have triggered positive actions to achieve sound management of chemicals. That said it would be easier to assess the nature and significance of projects' contributions if a more detailed description of the country's situation, that is, the *context*, was provided in the projects' initial and final reports.

Lessons Learned

The Mid-Term Review offers a number of lessons learned through project implementation, including achievements in capacity building, development of legislation, policies and regulations, and governance and institutional strengthening of chemicals management. The following represents some of the most compelling lessons learned:

- Technical and awareness-raising workshops have been instrumental in engaging stakeholders in project implementation activities.
- The Programme has provided an opportunity to share information and experience at the national and regional levels.

- Given the right circumstances, fostering synergies among relevant sectors may lead to improved collaboration in chemicals management issues.
- Strategies to implement SAICM should be aligned with broader national policies.
- Some of the challenges identified, such as insufficient technical capacities or limited data, may be attributed to inadequate project design that fails to consider these national deficiencies from the outset.
- Political challenges e.g. lack of political commitment and the low priority of chemicals management in the national environmental agenda should be adequately addressed.

Conclusion

The Mid-Term Review of the Quick Start Programme shows that this SAICM initiative has been successful in enabling initial capacity-building activities in developing countries, small island developing states and countries with economies in transition. The QSP has also been widely recognized as being accessible and flexible, and it is seen as a practical vehicle for quick project implementation. Although a multi-sectoral approach has been identified in QSP projects, broader participation from sectors other than the environment should be encouraged and put into practice.

The Governance of the QSP appears sufficient to support the administrative and decision-making functions for an efficient implementation of the Programme. However, the structure of the SAICM secretariat supporting the administration of the Programme, which seemed appropriate in 2009, has become insufficient to support the current portfolio of projects managed by the secretariat given the two-fold increase in the number of projects funded by the QSP between 2009 and 2012. This has had a negative impact on the secretariat's ability to efficiently administer the Programme.

An overall assessment of all completed projects indicates that these met their strategic objectives and achieved meaningful impacts related to capacity building and SAICM implementation activities. Upon achieving positive results through enabling activities, several countries have moved towards SAICM implementation, focusing on mainstreaming. However, the number of projects addressing strategic priority C (mainstreaming) was lower than strategic priorities A (capacity needs assessment) and B (institutional strengthening). This suggests that it may still be necessary to support countries in achieving mainstreaming.

In summary, the evidence reviewed indicates that the QSP has been successful in supporting initial capacity-building activities. As SAICM enters into a critical phase of its implementation after six years of its adoption, a more sustainable financial mechanism may be necessary to support implementation of SAICM beyond enabling activities.

2. INTRODUCTION AND BACKGROUND

2.1 Introduction

Under resolution II/3 on financial and technical resources for implementation of the SAICM, the International Conference on Chemicals Management requested the QSP Executive Board to undertake a mid-term evaluation of the Programme, including an assessment of its overall effectiveness, the efficiency of its implementation and key recommendations for the consideration of the Conference at its third session.

Detailed terms of reference were developed by the SAICM secretariat and approved by the Executive Board of the QSP at its fifth meeting on June 29 and 30, 2010³. The SAICM secretariat was tasked with facilitating the review by engaging and supporting the work of consultants, and coordinating the work according to the specifications set out in the terms of reference.

This report was developed following the proposed outline from the terms of reference, and also reflects recommendations for its improvement made by the Executive Board at its sixth meeting. The results presented in this document include a review of the information available from December 31, 2006 to December 31, 2011, which was established as the cutoff date for this review. In addition, information available as of February 29, 2012 was used as supporting evidence, according to the scope and timeline for the completion of this report. The sources of information comprised: documentation relevant to the QSP and its operation, meeting reports, questionnaires, face-to-face interviews, QSP project reports, the project database developed by the secretariat and site visits to select countries.

2.2 Background

The Strategic Approach to International Chemicals Management – SAICM

The Strategic Approach to International Chemicals Management was adopted in Dubai in February 2006. SAICM provides a policy framework to guide efforts to achieve the Johannesburg Plan of Implementation goal that, by 2020, chemicals will be produced and used in ways that minimize significant adverse impacts on the environment and human health.

SAICM comprises a High Level Declaration (the *Dubai Declaration on International Chemicals Management*), an Overarching Policy Strategy, and a Global Plan of Action.⁴ Seen in its entirety, SAICM represents the first internationally agreed mechanism that attempts to strengthen chemicals management governance across all relevant sectors of society for the purpose of achieving the WSSD goal.

It can be argued that SAICM attempted to reflect the global community's entire collective understanding of what is required for sound chemicals management for agricultural and

³ The Terms of reference for the Evaluation of the Quick Start Programme can be obtained from the SAICM website at www.saicm.org

⁴ See Strategic Approach to International Chemicals Management, (http://www.saicm.org/documents/saicm%20texts/SAICM_publication_ENG.pdf UNEP (2006)).

industrial chemicals.⁵ The Overarching Policy Strategy, for instance, is quite broad. It identifies the scope, statement of needs, the five objective areas of SAICM (risk reduction, knowledge and information, governance, capacity-building and technical cooperation and illegal international traffic), and outlines details on financial considerations, principles and approaches, and required steps for implementation and assessment. Achieving the objectives of the Strategic Approach requires the involvement of all relevant sectors and stakeholders, including those at the local, national, regional and global levels. A transparent and open implementation process and public participation in decision-making, featuring a strengthened role for women are also critical success factors.

The negotiation of SAICM also reflects the international community's view that a new way of functioning is needed to manage the massive and growing number of chemicals in global commerce. With over 100,000 chemicals in use⁶, and many new chemicals being introduced to market each year, the substance-by-substance or substance-list approach typical of chemical-related multilateral environmental agreements (MEAs) cannot possibly keep pace in terms of transaction costs and implementation financing, even for the smaller subset of the most hazardous of chemicals. A transformative agenda for advancing chemicals management capacity and governance is becoming increasingly urgent in all countries. Also important, is a cost-effective forum to bring international attention to new and emerging chemical management problems, which the design of SAICM allows.

It is extremely important when considering the performance and possible future of the SAICM QSP to understand the tension between, a) the need for broad-spectrum gains in chemicals management governance, and b) the need for financial investments to be justified at a manageable and sustainable scale. A failure to adequately manage this tension will almost certainly challenge the future of SAICM overall. On the other hand, it is also fairly well understood that the lack of SAICM or a broad spectrum international initiative similar to SAICM will most likely impose much higher chemicals-related costs to human health, the environment and economic sustainability into the future, particularly in developing countries with underdeveloped chemicals governance capacities.

It is in this broader SAICM context that this mid-term review of the SAICM QSP is situated.

2.3 The Quick Start Programme - QSP

A multi-faceted approach to the financial model for the QSP was agreed upon in paragraph 19 of the SAICM Overarching Policy Strategy, providing that financial arrangements for SAICM should include:

...supporting initial capacity-building activities for the implementation of SAICM objectives by establishing a programme to be called the Quick Start Programme. The Quick Start Programme will contain a voluntary, time-limited trust fund and may include multilateral, bilateral and other forms of cooperation.

⁵ SAICM does not address military chemicals or chemicals regulated by either a domestic food or pharmaceutical authority.

⁶ Practices in the sound management of chemicals (UNDESA, UNEP, Stockholm Convention, 2010)

Under resolution I/4, the ICCM called for the QSP to include a UNEP trust fund and multilateral, bilateral and other forms of cooperation. It invited governments, regional economic integration organizations, intergovernmental organizations, the private sector, industry, foundations, non-governmental organizations and other stakeholders, to contribute to the QSP. Appendix II of ICCM Resolution I/4 contains the terms of reference for the trust fund.

The QSP is widely recognized by stakeholders from all sectors and several channels have been used to share information about the Programme. These include national, regional and international meetings in the field of chemicals and waste management; publication and dissemination of materials distributed by the SAICM strategies; information sharing mechanisms available through intergovernmental organizations, executing agencies, etc.

The Trust Fund was established with a modest agenda to provide seed money to support initial enabling capacity-building and implementation activities. It identified three strategic priorities as eligible for funding consistent with the work areas set out in the strategic objectives of Section IV of the Overarching Policy Strategy (OPS):

- a) Development or updating of national chemical profiles and the identification of capacity needs for sound chemicals management;
- b) Development and strengthening of national chemicals management institutions, plans, programmes and activities to implement the Strategic Approach, building upon work conducted to implement international chemicals-related agreements and initiatives;
- c) Undertaking analysis, interagency coordination, and public participation activities directed at enabling the implementation of the Strategic Approach by integrating – i.e., mainstreaming – the sound management of chemicals in national strategies, and thereby informing development assistance cooperation priorities.

Although the Conference did not specify what constituted “enabling activities” within these three strategic priorities, further guidance is provided in Paragraph 22⁷ of the OPS as well as in the *Funding Application Guidelines* developed by the QSP Executive Board. (*Guidelines* available on the SAICM website (www.saicm.org)).

Resolution I/4 also stipulated that “the QSP should mobilize resources for national priority initial enabling activities.” A detailed resource mobilization plan, including methods, amounts and disbursement, was addressed by the subsequent development of the QSP Business Plan⁸.

The Trust Fund was officially established within UNEP on December 1, 2006. Special arrangements have been agreed upon by UNEP for the operation of the trust fund. At

⁷ Paragraph 22 of the Strategy provides that “SAICM implementation could begin with an enabling phase to build necessary capacity, as appropriate, to develop, with relevant stakeholder participation, a national SAICM implementation plan, taking into consideration, as appropriate, existing elements such as legislation, national profiles, action plans, stakeholder initiatives and gaps, priorities, needs and circumstances”.

⁸ The QSP Executive Board developed a Business Plan in 2007 as a living document, which is subject to periodic updates as appropriate. This document is available under the QSP section of the SAICM website at www.saicm.org.

the request of the donors, the Executive Director established UNEP's programme trustee support costs at 5% of contributions. The SAICM secretariat is not supported by this fee; and its QSP operational costs are funded by a grant from the European Commission.

The QSP as a whole is governed by an Executive Board comprising 10 Government regional representatives, plus donors/contributors. The QSP trust fund is overseen by a Trust Fund Implementation Committee which makes decisions on project funding twice a year. The IOMC participating organizations and UNDP are the members of the Committee.

The SAICM secretariat provides support for the operation of the trust fund. The three major functions of the secretariat in this respect include: facilitating meetings of the QSP Trust Fund Implementation Committee and QSP Executive Board; providing administrative support to the QSP Trust Fund; and screening project proposals for completeness and eligibility.

2.4 The Quick Start Programme Business Plan

The business plan of the QSP was developed in 2007 as part of a consultative process involving QSP stakeholders. It was endorsed by the QSP Executive Board in 2007. The business plan outlines a resource mobilization strategy to help ensure the sustainability of the QSP, including the replenishment of the trust fund on a steady and equitable basis by as broad a donor group as possible. The plan also stipulates performance indicators to guide the effective delivery of the QSP and, in its annex, provides information on the background of the QSP, its current status and its broader financial context.

3. SCOPE, OBJECTIVES AND METHODS

3.1 Scope

The QSP and its Trust Fund established in 2006 have reached mid-term given that the Fund will be open to receive voluntary contributions until the third session of the ICCM, which will take place in 2012, and will disburse funds until 2013.

Seen in this context, the review is best understood as a mid-term review as QSP projects constituting a large portion of total disbursements will run past the 2012 “closing” date due primarily to, a) project approvals in later selection rounds⁹, b) the time it takes to address administrative start-up of projects¹⁰, and c) the 24-month duration of many projects under the QSP.

The scope of the review is set out in the terms of reference approved by the QSP Executive Board, and includes an analysis of information in the following categories:

- e) Overall Outcomes of the QSP
- f) Institutional and Administrative Arrangements of the QSP
- g) Project Performance and Impact
- h) Conclusions on the main findings

The first category addresses the trust fund and the cooperation aspects of the QSP Programme, the latter also known as the Non-Trust Fund contributions to the QSP. The second category is best seen as the overall governance aspects of the Programme, and the third category addresses individual projects. It is important to note that given the relatively short life of the QSP, the analysis of the projects focuses on existing documentation of completed projects only. Selected site visits to countries have contributed additional information to cover this third category. Based on the findings and analysis of the information available, the final category provides general conclusions on the performance of the QSP through the mid-term review.

3.2 Objective

Based on decision II/3, the objective of the mid-term evaluation is to report on the effectiveness and the efficiency of the QSP implementation and to provide recommendations based on the review for consideration by the Executive Board.

A final assessment of the overall effectiveness of the QSP is not possible at the mid-term juncture, therefore, the review focuses on outcomes related to the objectives set out in Appendix I of Resolution I/4, mainly *“to support activities to enable initial capacity building and implementation in developing countries, least developed countries, small island developing States and countries with economies in transition consistent with their national priorities for the implementation of the Strategic Approach to International Chemicals Management.”*

⁹ According to the QSP Business Plan, there are three remaining rounds of applications for funding through the QSP Trust Fund (August 2012, February 2013 and August 2013).

¹⁰ There is a standard six month period established to have administrative arrangements in place, as indicated to project implementers in the letter confirming approval of the project proposal.

3.3 Methodology

In order to assess the overall effectiveness of the QSP and the success of the projects implemented to date, the preparation of this report has relied mainly on the analysis of existing published material. The review was based on a multiple method approach to gathering data. This included: documentation of project implementation, face-to-face interviews, an online questionnaire, and select country visits. (A comprehensive list of documents consulted is available in *Annex I*.) The overall assessment of the QSP is based on the evidence supporting the attainment of strategic objectives, as well as on the progress against performance indicators as set out in the business plans.

The following is a description of the multiple methods used as part of the review process:

Desk study

Following the terms of reference, a desk review of available documentation was an important source of information for this report. The review was conducted between May 2011 and January 2012. The complete portfolio of approved projects (145) was considered for the purpose of providing an overall review of the QSP and its effectiveness. This included a review of all project-related data, as follows:

- Applications
- Progress and final project report
- Monitoring and evaluation (M&E) reports
- Funding agreements
- Meeting reports (QSP Executive Board and QSP Implementation Committee meetings)
- QSP Business Plans
- Progress reports on QSP project implementation
- QSP project database

The information collected from the desk study was made available by the SAICM secretariat, and has been analyzed and summarized in chapters 4 and 5 of this report.

Project analysis

The project analysis included a sample of 30 completed projects out of a total of 37 that had completed all project activities by December 31, 2012. Projects were assessed against outcomes and achievements obtained through project activities, as presented in chapter 6 of this report. The sample used for this purpose included only those projects in the QSP portfolio for which final reports had been submitted by December 31, 2011, in agreement with the cutoff date established for the completion of this report. The analysis of projects was based on the information provided by implementers by means of the following reports:

- Final Narrative Report, which summarizes the project objective and relation to the QSP objective and strategic priorities; activities conducted; outcomes and deliverables; and problems encountered.
- Monitoring and Evaluation Report, which supports project accountability and provides an overall project assessment conducted by an independent evaluator.

The above reports were submitted by implementers to the secretariat according to the guidelines and formats suggested by the QSP Trust Fund Implementation Committee.

The project specific analysis included in this report is mainly of a qualitative nature, and focuses on the overall project performance and the attainment of objectives as established in the workplan. Due to the absence of performance indicators for each specific project, project implementation success has been evaluated based on the completion of activities and the submission of expected deliverables as set out in respective workplans.

Interviews

Interviews were conducted by telephone, Skype or face-to-face with the SAICM secretariat and selected organizations serving as executing agencies, representatives of the QSP Executive Board and Trust Fund Implementation Committee, donors, contributors to the broader (non-trust fund) QSP, and project implementers. The objective of this task was to obtain input considered relevant to the aspects subject to the mid-term review.

A number of stakeholder interviews coincided with the first meeting of the Open Ended Working Group held in Belgrade from November 15-18, 2011. The list of interviews is recorded in Annex II *Consultation list of stakeholders and questionnaire respondents*. Despite extensive efforts, the responsiveness of potential interviewees was somewhat low due to the busy schedule of the OEWG meeting agenda. Nevertheless, important feedback and useful comments were collected from those who were able to participate in this process, including comments shared SAICM stakeholders during a QSP Information Session organized by the secretariat. (Comments of interviewees are not attributed in this document.)

It is important to note that several members of the Executive Board, who were interviewed during the first OEWG meeting, provided valuable guidance to improve the use of the existing information and available resources. This guidance was also helpful in directing the research work to target the issues of main interest to the Executive Board with respect to the effectiveness of the QSP.

Questionnaire for the mid-term review of the QSP

A questionnaire was developed and emailed in June 2011 to all SAICM stakeholders, including project implementers (governments and NGOs) and other SAICM stakeholders to obtain their feedback on the QSP. The questionnaire was distributed through the secretariat to all the focal points registered on the SAICM database (approximately 350 people). Given the initial low response rate, a second questionnaire was sent to 46 targeted implementers to collect additional information between November and December 2011. Given the scope of the mid-term review, and to recommendations made by the Executive Board at its sixth meeting in September 2011, the second questionnaire was prepared with priority given to stakeholders that had participated in projects that were considered completed by the secretariat, including projects for which final narrative and monitoring and evaluation reports had been submitted, as well as implementers that had reported an advanced level of implementation according to the secretariat's *Report on progress in the execution of QSP projects (November 2011)*. The

list of all 46 respondents is provided in Annex II *Consultation list of stakeholders and questionnaire respondents*. A detailed analysis and summary of responses with the data collected is given in Annex III *Questionnaire Analysis*. Given the different scope between the two questionnaires, only those collected between November 2011 and February 2012 have been analyzed in this report. Nevertheless, some of the information obtained from respondents to the first questionnaire has been used for the preparation of the report of the mid term review.

The respondents were asked open and closed-ended questions, which covered the following pertinent areas:

- Overall relevance and impact of the QSP with activities at the national and regional levels in developing countries and countries with economies in transition
- Attainment of the QSP strategic priorities and specific goals and objectives
- Effectiveness of the institutional and administrative arrangements of the QSP

The analysis of the questionnaire responses is focused mainly on project outcomes and achievements with an emphasis on the attainment of objectives covering the following issues: capacity building, awareness raising, mainstreaming, planned activities, cost effectiveness, catalytic role, relevance to QSP strategic priorities, country ownership and stakeholder involvement.

Although a low response rate is common in such surveys, the level of response was significant in this case with 29 completed questionnaires (63%) submitted as of February 2012.

Country visits

In addition to the methods described above, seven country visits were scheduled between March and April 2012. The main objective of these field visits was to conduct a general and qualitative assessment of project performance at the country level.

Site visits were conducted in the following countries:

- African region: Tanzania (March 12-13), Uganda (March 15-16), Zambia (March 19-20), Kenya (March 22-23).
- Latin America and the Caribbean region: Colombia (March 5-6), Guatemala (April 12-13), Costa Rica (April 24-25).

Selection of site visits was based on the submission of final or progress reports to the secretariat prior to the visits, and also that projects met some of the following criteria:

- Implemented by different stakeholders (e.g. Governments, NGO's)
- The main objective was linked to a public health strategy
- Multi-country approach
- Implemented with the assistance of an executing agency
- Implemented without the assistance of an executing agency

Other factors also influenced which were selected for site visits. These included the need to consider at least two regions where developing countries had received support

from the QSP Trust Fund; the availability of staff to conduct the visits and the cost of travel; the availability of stakeholders during the visit period; and the opportunity to organize back-to-back visits to countries where travel arrangements could minimize costs.

The main activities carried out during these visits consisted of:

- Interviews with key stakeholders that participated in the implementation of activities of QSP projects. In most countries, representatives of the public sector, industry, regional and international organizations, academia and NGO's were available for this purpose. The selection of stakeholders was agreed upon in coordination with the SAICM national focal point, to ensure that whenever possible all sectors were represented. The objective of these individual face-to-face interviews was to obtain information and feedback reflecting the perspective of the sectors represented.
- Obtaining access to documentation developed or drafted as a result of the QSP project. Some examples included National Development Plans, Draft Referendum for Policy and Regulation on Chemicals Management, Draft Mandates for the establishment of a National Stakeholder Committee for Chemicals Management, Dissemination and Awareness Raising materials. Given the status and nature of some official documents, it was not possible to keep copies of those.
- Visits to governmental departments and other agencies responsible for the regulation, inspection and enforcement of chemicals and waste management; private and public laboratories; industry associations; universities and trade unions.

Constraints

When considering the entire portfolio of QSP projects subject to this review, the main limitation for many of them was the lack of complete data. For example, out of 145 projects approved over the 11 rounds of applications, only 37 had completed activities, and of these, only 30 had submitted all the final reports to the secretariat by December 31, 2012. For projects which are currently under implementation, some data was generally available through progress reports, which were reviewed to assess whether they were being implemented as per the workplans or any obstacles had been reported. To address these constraints, the mid-term review focuses only on the available information (e.g. reports, questionnaires, and the outcomes of selected country visits) that was obtained during the timeframe allocated to perform the tasks as per the terms of reference.

4. OVERALL QSP PERFORMANCE

Since 2006, 150 projects have been approved to receive financial support from the QSP Trust Fund (Table 1). However, five projects from application rounds 1-3 and 7, have been officially suspended (or cancelled), for a current total of 145 projects in the QSP Portfolio.

Since 2006, the secretariat has carried out the following work:

- Organized six Executive Board meetings and the seventh meeting is scheduled for May 7 and 8, 2012
- Organized 12 Trust Fund Implementation Committee meetings and the thirteenth meeting is scheduled for May 9, 2012
- Processed 11 rounds of applications, screening 359 applications, of which 298 were apprised by the QSP Trust Fund Implementation Committee
- Provided guidance and replied to inquiries from potential applicants
- Confirmed the approval of 100 conditionally approved projects
- Provided administrative support to 145 approved projects for a total funding of \$30.9 million
- Processed and finalized 115 legal agreements
- Processed the extension of 29 projects

Out of the 145 projects that have been approved through 11 rounds of application, 64 should be completed by December 31, 2012. Only 37 projects from application rounds 1-6 had completed¹¹ all activities. Of those, 30 had submitted the required final reports and the remaining seven projects were preparing the final reports for submission to the secretariat.

Most of the non-completed projects had been granted extensions due mainly to delays in setting up administrative arrangements prior to the implementation of project activities. The nature of these delays is further discussed below in Chapter 6: Project Performance and Impact.

The QSP Trust Fund Implementation Committee suspended five projects following recommendations from the secretariat due to various reasons, including: failure to demonstrate progress in the implementation of the project; failure to finalize legal arrangements between agencies due to political instability at the country level; and delays in finalizing legal agreements within the established timeline.

The completed projects represent 25.52% of the total number of approved projects and approximately 19% of the total amount of funds allocated to the entire QSP portfolio. Given these small percentages, the significance of completed projects is small relative to the entire portfolio, although outcomes achieved could be indicative of the potential and success of the QSP. Lessons learned could also be relevant for ongoing and future projects (Chapter 7). The stated project objectives have been met by all of the completed projects analyzed, and the available information on ongoing projects indicates that these are likely to achieve their stated objectives upon completion.

¹¹ SAICM/OEWG.1/5. Update on the Quick Start Programme. Open-ended Working Group of the International Conference on Chemicals Management. First meeting. November 2011.

The distribution of QSP Trust Fund approved projects is shown in Table 1 below. Out of the total number of projects, almost 90% correspond to proposals led by Governments, while the remaining 10% have been coordinated by civil society.

4.1 Attainment of Objectives and Strategic Priorities of the QSP

Table 1: QSP Trust Fund Approved Projects¹²

QSP Trust Fund Approved Projects	Total
Government projects	130
- Multi-country	(16)
- Individual country	(114)
Civil society projects	15
Total approved projects	145

The objective of the QSP is to “support initial enabling capacity building and implementation activities in developing countries, least developed countries, small island developing states and countries with economies in transition consistent with their national priorities for the implementation of the Strategic Approach objectives as set out in section IV of the Overarching Policy Strategy”. Paragraph 22 of the OPS further identifies capacity building as capacity to develop, with relevant stakeholder participation, a national SAICM implementation plan, taking into consideration, as appropriate, existing elements such as legislation, national profiles, action plans, stakeholder initiatives and gaps, priorities, needs and circumstances.

The analysis of information pertaining to the 30 completed projects indicates that the objective of the QSP is being achieved through the implementation of activities corresponding to:

- Capacity building
- Development of legislation
- Policies and regulations
- Governance and institutional strengthening in the area of chemicals management

As may have been expected, there is variation in the scope and manner of delivery due to country needs and context.

Table 2 below summarizes the types of activities carried out under the 30 completed projects. This is further supported by information collected through stakeholder consultation. It is important to note that some projects had more than one objective and addressed more than one enabling activity through their work plans. Detailed information on the attainment of objectives and planned results of projects is provided in Chapter 6.

¹² SAICM/TF.12/6 Provisional report of the twelfth meeting of the Trust Fund Implementation Committee of the Quick Start Programme of the Strategic Approach to International Chemicals Management. November 2011.

The distribution of approved projects across the three strategic priorities of the QSP Trust Fund reveals an emphasis on projects addressing Strategic Priorities A and B as can be seen in Table 3 below.

This tendency appears to be reasonable since many countries where chemicals management is not a priority, generally address the following areas of work as a starting point: a) developing a national chemicals profile, b) setting a baseline, and c) setting national priorities for a sound chemicals management. A detailed description of the Strategic Priorities can be found in Annex IV.

Table 2: Summary of enabling activities types in completed projects

Activity type	Number of projects
Capacity assessment, priority setting, chemicals profile and database	25
Technical workshops	8 (4 NGOs)
Draft legislation, policies and regulations	6 (3 NGOs)
Mainstreaming	2
New Governance instances	4 (1 NGO)
Institutional strengthening	23

**Table 3: total funds granted by strategic priority
USD '000**

Strategic Priorities	ROUNDS											Totals
	1	2	3	4	5	6	7	8	9	10	11	
A	746	1,032	379									2,157
B	230	378	468	2,299	1,169	748	750	666	1,189	449	338	8,345
C									250			250
AB		370	643	1,340	1,902	500	750	928	1,688	3,609	234	11,750
BC	821		492	250	500	500	247	173	486	387		3,856
AC							480					480
ABC					500	250			895	949	891	2,594
Totals	1,797	1,780	1,982	3,889	4,071	1,998	2,226	1,767	4,507	5,395	1,462	30,874

It would be reasonable to expect that countries that have already addressed Strategic Priorities A and B may decide to follow up by undertaking capacity strengthening for specific areas of work that are considered a priority at the national level (e.g. those identified through enabling activities) and continue efforts towards SAICM implementation. For instance, from the 58 countries with more than one QSP project approved, 23 countries have implemented activities addressing all three Strategic Priorities. Specific examples from completed projects in four countries can be seen in Table 4 below.

Table 4. Sample of Countries addressing more than one Strategic Priorities (Completed projects).¹³

Country	Total funds awarded USD	Strategic Priorities
Armenia (multi-country and individual)	295,287	A / B,C
Bolivia (individual and multi-country)	109,654	A / B
Cambodia (individual and multi-country)	174,570	A / B
Chile (3 multi-country projects)	165,452	A / B / B

A shift in emphasis toward Strategic priorities B and C will strongly depend on financial resources and in-kind contributions, as well as the country's capability to undertake activities for this purpose, for instance, by allocating national planning funds for activities targeting chemicals management. Additionally, a key challenge that countries face when considering the mainstreaming of chemicals is identifying the contributions that the sound management of chemicals makes to the

achievement of the Millennium Development Goals (MDGs).

The sound management of chemicals is interlinked with the economic and social development of developing countries and is a key to reaching millennium development goals. One of the key barriers to progress on this issue is the lack of a clear understanding, mainly at the national level, on the costs of inaction on the sound management of chemicals. Further efforts are therefore necessary to improve integrated planning for chemicals management across government. International cooperation is a key element in promoting a coordinated approach to the sound management of chemicals globally. The support that the QSP has provided within its mandate for enabling activities, may well be used as a catalyst to encourage governments in pursuing strategies in their efforts towards advancing SAICM implementation.

4.2 Multi-stakeholder approach

One of the most important aspects of SAICM is its multi-stakeholder and multi-sectoral character¹⁴. The SAICM OPS states that involvement of all relevant sectors and stakeholders is paramount to achieving the objectives of SAICM. This is further emphasized in the QSP Funding Guidelines, where applicants are encouraged to engage stakeholders from relevant sectors in the development and implementation of projects.¹⁵ The QSP approval process requires project implementers to submit letters of support from different stakeholders or sectors to ensure wide participation. While endorsement of applications by stakeholders does not ensure their active participation, it is nevertheless a useful requirement to at least ensure they are informed of and support the project. Another requirement is that implementation activities with stakeholders are identified in the project design.

¹³ SAICM/OEWG.1/INF/12 Draft baseline estimates report (2006-2008): progress in implementation of the Strategic Approach to International Chemicals Management Progress. Open-ended Working Group of the International Conference on Chemicals Management. First meeting. November 2011.

¹⁴ Background and QSP Overview. SAICM/EB.5/3/Rev.2

¹⁵ SAICM QSP Funding Application Guidelines

The reporting procedures also focus on stakeholder involvement. For example, *Form C: Stakeholders Involvement of the Independent Monitoring and Evaluation (M&E) report*, requires a list of contacts and information on project stakeholders interviewed, or respondents to questionnaires. The final substantive report requires a description of the involvement of stakeholders from different sectors (e.g. health, environment, labor agriculture etc) and in the project and groups (civil society, industry, academia etc). Involvement can be seen at different levels. The QSP documentation requirement aims to ensure greater stakeholder engagement in the projects and also enables the monitoring of this important aspect.

The QSP allows for projects to be led by civil society organizations for up to 10% of available funds. As Table 1 indicated previously, 15 projects are led by civil society organizations, representing about 10.3% of the total.

Typical stakeholders

Data obtained from stakeholder consultation indicates that stakeholder involvement is generally challenging. Often, attendance at workshops is modest, there is low awareness about chemical management issues and, therefore, chemicals are a low priority in the development agenda. In addition most projects are not focused on mainstreaming. However, data from the 30 completed projects points to a broader range of stakeholder involvement from government, civil society and the private sector¹⁶. Further analysis of this feature should be carried out in future evaluations of the QSP to better assess the impact of broad stakeholder involvement in the sound management of chemicals.

Assessment

Endorsement letters are a standard practice to attempt to show broader national level buy-in for project proposals and the engagement of stakeholders. However, while these letters are a requirement for project proposals, they do not necessarily guarantee that the issuing organizations would have a meaningful involvement in project implementation.

Civil society organizations play a significant role since they are becoming increasingly involved in these issues, and they are taking a leadership role on many initiatives that are having relevant impacts. It would be advisable implement a more rigorous process for requesting information on how civil society groups have actually been engaged in project implementation and a description of the activities where they participate as opposed to consultations only.

¹⁶ See Annex IV Summary of Project Outcomes – Completed Projects

4.3 Sectoral Balance

The QSP Business Plan¹⁷ establishes performance indicators to guide the effective delivery of the QSP. In Section 5 of the plan, *Outreach and equitable delivery strategies and targets*, there are two specific indicators regarding sectoral balance: "... b) an increase in the involvement of all relevant sectors in the QSP ; ... f) The Trust Fund Implementation Committee (TFIC) should approve projects from at least four different sectors in each application round."

Table 5 provides the sectoral lead of approved projects. While most projects mention a multi-sectoral approach and/or scope in their proposals, the vast majority of projects are led by the environment sector and actual engagement of other sectors in project implementation can be expected to vary widely, as discussed above for multi-stakeholder involvement. Several projects address more than one sector, thus the total figure given in this table is higher than the total number of projects approved (145).

Assessment

The QSP Implementation Committee assigns considerable importance to the process used to demonstrate expressions of multi-sectoral participation in QSP trust fund projects. Application requirements include letters of support from different ministries.¹⁹ However, as mentioned above for multi-stakeholder engagement, endorsement letters from other ministries are at best a very loose indication of potential for cross-sectoral participation in actual project implementation and results adoption. A much more reliable indicator could be whether the project's prime objective could be reached without multi-sectoral participation. In such cases, having different sectors sign on to undertake different parts of the work might be a practical approach.

On the other hand, if the prime project objective cannot be achieved without full participation of other sector ministries, the QSP project may have a better chance of being prioritized and having a broader cross-sectoral educational effect. Even more so, if the project requires formal project approvals at various stages by other ministries, the effects will be much more significant to changing the culture of chemicals management governance within the country.

Table 5: QSP Sectoral Distribution of Approved Projects¹⁸

Sectors	Number of projects
Environment	96
Health	38
Labor	6
Agriculture	12
Science	2
Industry	2
Multi sector	44

¹⁷ Business Plan for SAICM QSP adopted May 2007 updated July 2008

¹⁸ Several projects address more than one sector, thus the total is more than the total number of projects approved

¹⁹ SAICM/EB.5/5/Rev.1 June 2010 Fifth meeting of the Quick Start Programme Executive Board. Review of implementation of the Quick Start Programme Business Plan

As SAICM acknowledges, it is important to understand that active multi-sectoral participation is vitally important knowledge transfer and for building readiness to take on additional responsibilities for sound chemicals management within a sector and government wide. For example, if a sector (e.g. industry, transportation, mining, etc.) has had very little engagement with chemicals management issues to date (i.e. beyond knowing that the environment department “is doing something over there”), the prospect for significant innovation in chemicals management governance is minimal. However, when active project implementation involvement and participation in project approvals is built up over time, the prospects for significant governance improvement (e.g. new chemicals legislation, strengthened institutional mandates, PRTRs, GHS at the government-wide level, and full integration of chemicals management into national development planning, etc.) are greatly enhanced. As such, every project that is approved with a prime objective that cannot possibly be achieved without significant cross-sectoral participation and decision-making can be considered a lost opportunity for building momentum for change within a country.

While most projects mention a multi-sectoral approach in their proposals, the majority of projects are led by the environment sector. However, it is essential to actively encourage sectors other than environment to participate in project proposals and implementation since they are part of different stages of chemicals life cycle. A cross-sectoral approach is fundamental not only for the project’s development, but also for the actions that are triggered. Signatories of endorsement letters should have active and meaningful opportunities for involvement.

4.4 Geographical Balance

As noted in Tables 6 and 7, the geographical distribution of projects and disbursements of funds undertaken in rounds 1-11²⁰ is noticeably weighted towards Africa.

Table 6: Geographical distribution of QSP Projects

Total countries / Region	104	% of projects
Africa	40	38.4
Asia-Pacific	28	26.9
Central & Eastern Europe	8	7.7
Latin America	28	26.9

Assessment

A large proportion of least developed countries are in Africa, as can be seen in Table 8 and the emphasis of the QSP Trust Fund on least developed countries and small island developing states appears to be reflected in the geographical distribution of projects. The QSP is also based on the concept of country-driven programming and some geographical distortion can be expected out of the relative priority that countries in various regions assign to QSP participation.

Another reason that African region and also LAC region countries have been well represented in QSP Trust Fund projects is attributable to the fact that both regions have very active regional focal points and well integrated coordinating mechanisms. In the case of Africa, it had a coordinating mechanism and an implementation plan from the

²⁰ QSP Database, SAICM secretariat

onset. The regional focal points and regional coordinating mechanisms for both regions have been comparatively active going beyond endorsing project proposals.

Table 7: Geographical disbursements of QSP projects²¹ (USD)

QSP Trust Fund Data		Total
Funding granted by region		
Africa	12,603,583 (40.8%)	
Asia-Pacific	7,787,495 (25.2%)	
Central & Eastern Europe	2,433,023 (7.8%)	
Latin America & Caribbean	8,049,559 (26%)	
Total excluding suspended projects	30,873,659	

4.5 Assistance to Least Developed Countries and Small Islands Developing States

The QSP Trust Fund Business Plan²² gives performance indicators regarding the proportion of projects going to LDCs and SIDS to guide the effective delivery of the QSP. Section 5, *Outreach and equitable delivery strategies and targets*, mentions two specific indicators for LDCs and SIDS: c) *the Trust Fund Implementation Committee*

should approve at least one project for at least 75%(57) of the 76 LDCs and SIDS and d) the Trust Fund Implementation Committee should approve at least one project for 65 per cent (95) of the 145 countries on the OECD DAC list. The numbers achieved thus far for indicator c) above can be seen in Table 9.

Table 8: Least Developed Countries (LDC) and Small Island Developing States (SIDS) by region

Total Number of African Countries	40
Total of LDC in Africa	25
Total of SIDS in Africa	2
Total of countries that are both SIDS and LDC in Africa	2
Total Number of Asia Pacific Countries	28
Total of LDC in Asia and the Pacific	6
Total of SIDS in Asia and the Pacific	4
Total of countries that are both SIDS and LDC in Asia and the Pacific	3
Total Number of CEE	8
Total of LDC in CEE	0
Total number of Latin American and Caribbean Countries	28
Total of LDC in LAC	0
Total of SIDS in LAC	11
Total of countries that are both SIDS and LDC in LAC	1

²¹ QSP Database

²² Business Plan for SAICM QSP adopted May 2007 updated July 2008

Assessment

Table 9: QSP Coverage of LDCs and SIDS²³

Least Developed Countries (LDCs) and/or Small Island Development State (SIDS)	Total number
LDC	31
SIDS	17
Both LDC and SIDS	6
Total	54
% of SIDS and LCD covered	71

(102 countries) countries from the OECD DAC list.

The QSP Trust Fund is functioning well from the perspective of its prioritization of least developed countries and small island developing states. For indicator c) the QSP trust fund has approved projects in 54 least developed countries and or small Island developing states -- countries which represent 71% of the total number of countries in these categories. Indicator d) has been achieved and exceeded with 75%

4.6 Fundraising efforts

The QSP Business Plan sets out a resource mobilization strategy to ensure the sustainability of the QSP, including the replenishment of its trust fund on a steady and equitable basis by an expanding donor base if possible. The plan also stipulates performance indicators to guide the effective delivery of the QSP and, in its annex, provides information on the background of the QSP, its baseline status, and its broader financial context²⁴.

The fund-raising target range established under the QSP Business plan set a minimum cumulative amount of US\$40,811,477 to be raised by the end of 2011. As seen in Table 10 below, the total target has not yet been achieved²⁵. The overall fund-raising target by the end of the Programme has been established at US\$44,811,477, and to meet this target the trust fund must therefore receive by September 2012, US\$11,802,635, an amount that would enable it to support at least another 47 projects. Considering that 30 eligible countries have yet to receive funding support, the receipt of these contributions would allow for these countries to meet at least some of their sound chemical management needs.

Assessment

Contributors to the QSP Trust Fund 2006-2010 can be seen in Annex V. Although contributions to the Trust Fund have certainly been significant (\$33 million), the majority of contributions is restricted to a relatively few donors since the establishment of the QSP Trust Fund.

²³ QSP Database

²⁴ SAICM/EB.5/5/Rev.1 June 2010 Fifth meeting of the Quick Start Programme Executive Board Geneva Review of implementation of the Quick Start Programme business plan

²⁵ SAICM/OEWG.1/ING/12/Rev.1

Table 10: Resource mobilization targets and performance²⁶
UDS

Year	Funding target range 2006-2011	Actual contribution /Pledges received	Difference - lower end
2006	6,000,000	5,909,473	-90,527
2007	6,300,000 - 6,600,000	7,678,533	1,378,533
2008	6,615,000 - 7,260,000	5,371,694	-1,243,306
2009	6,945,750 - 7,986,000	4,614,190	-2,331,560
2010	7,293,038 - 8,784,600	4,467,681	-2,825,357
2011	7,657,689 - 9,663,060	4,959,270	-2,698,419
2012	4,000,000		
Total	44,811,477 - 42,982,954	33,008,842	-7,810,636

In addition to the major drop-off in resource mobilization for 2011, the Business Plan target of broadening the donor base to make a more equitable sharing of the burden of contributions, including to non-governmental entities has not been effective. While the major cause for this shortfall is *inter alia* the policy choices of potential donor governments and industry groups which have not yet committed resources to the trust fund, progress in this area has been slow given the limited fund raising capacity of the secretariat.

The QSP has demonstrated progress in attaining most targets established in the business plan with the exception of, *i) repeat contributions before the sessions of the Conference by at least 60 per cent of donors, and ii) expanding the donor base*, reflecting the challenges faced by the QSP in attracting new donors.

The strategies and targets of outreach and equitable delivery which were established to ensure the participation of underrepresented regions, least developed countries and small island developing states, have all been achieved or have progressed satisfactorily.

Catalytic role

The QSP Trust Fund has also performed a catalytic role, with a fundraising target of leveraging 30% above the trust fund seed money from other sources to supplement resources devoted to projects.

The SAICM secretariat has reported that since its establishment up to March 2012, the QSP has mobilized a total of US\$40.8²⁷ million, including the contributions to the Trust Fund and additional cash and in-kind contributions to fund the projects. In addition US\$57.5 million non-trust fund contributions had been reported

²⁶ Business plan update. July 2011

²⁷ This amount includes \$33.3 million cash contribution and \$7.5 million provided by project implementers and executing agencies for the implementing of projects.

Since 2006, the Trust Fund contributions have been received from the governments of 23 countries, as well as from the European Commission and the International Council of Chemical Associations (ICCA). Annex V contains a detailed list of annual contributions to the Trust Fund by donors.

Regarding the QSP capacity to leverage co-financing from other existing funding mechanisms, approximately US\$5 million of QSP funds were used to leverage up to US\$25.2 million from the Global Environmental Facility (GEF) to support projects in Africa and Asia-Pacific. These include: i) “Capacity strengthening and technical assistance for the implementation of NIPs for the Stockholm Convention on POPs in Least Developed Countries and Small Island Developing States” in Africa, and ii) “POPs release reduction through Improved Management of Solid and Hazardous wastes” in Asia Pacific, for a total of US\$16 and US\$9.2 million respectively.

These numbers demonstrate the strong commitment of donors and contributors to the QSP and they should be congratulated for their continued support.

While the non-Trust Fund contributions are a significant achievement, the extent to which it reveals a positive effect on achieving SAICM objectives in developing countries is much less certain due to data limitations.

Firstly, declared non-Trust Fund contributions (US\$57.5 million) are quite varied as can be seen in Annex VI, some being project oriented, and others more focused on administrative activities. It is also true that the amounts of non-Trust Fund contributions cited can represent only an estimate as not all contributors disclose the dollar amount provided through their reported activities. Without improved data clarity, it is also difficult to say how much of this activity is actually generated by the QSP Trust Fund versus another funding mechanism.

Secondly, while in-kind and cash contributions from project implementers (US\$7.5 million) are clearly important and projects could not go forward without them, they are difficult to assess because of the lack of field verification. We can, however, assume that the contributions have been meaningful from the perspective of the resource scarcity of many developing countries.

Bilateral, Multilateral and Other Forms of Assistance

The bilateral, multilateral and other forms of assistance component of the QSP are also an important aspect of the Programme. Access to bilateral assistance resources should be a key source of funding for chemicals management in the future, given that dedicated environment funds prioritizing chemicals management is unlikely to keep pace with rising demand. However, it appears that the bilateral project aspects of the QSP non-Trust Fund activities have been underdeveloped.

The QSP Business Plan has established two indicators for the broader (non-trust fund) QSP fundraising target: a) an increase of 10% in the number of contributors ²⁸ and, b) an

²⁸Between 2006 and 2007 12 contributors were registered, this represents our base line target for the increase of number of contributors by 10%.

increase of 10% in financial contributions²⁹. Target a) was achieved in 2010 where four new contributors confirmed their contributions representing an increase of 30%. As of September 2011 eight contributors had confirmed their contribution for this year and target b) has not been achieved since 2007. However the secretariat³⁰ highlights the difficulty in data collection on these targets as “some of the updated forms received do not indicate whether contributions are new or not.”

Assessment

It is informative to note that many OECD countries in the SAICM negotiations promoted the idea of bilateral contributions to the QSP through the bilateral, multilateral and other forms of assistance channel to encourage greater involvement of official development assistance in SAICM implementation. This, however, has not truly materialized. So far non-trust declarations are comprised of some actual projects in developing countries motivated by SAICM. The majority is in the form of administrative contributions (e.g. staff support) -- though many of those will be important -- and/or contributions that would have occurred in a non-SAICM baseline scenario.

Donor countries have asked that developing countries mainstream chemicals management issues into their national development (i.e. development assistance) plans as a reflection that such issues are a priority for the developing country. This was intended to stimulate greater activity with bilateral projects and additional funds to advance SAICM. Indeed, during the negotiation of SAICM³¹, one of the issues for possible inclusion in Chapter 19 of the Overarching Policy Strategy was a call for environment and health agencies in developed countries to actively encourage their donor assistance agencies to mainstream assistance for improved chemicals management governance in their development assistance frameworks. With a few exceptions that are fairly obvious (i.e. the major QSP Trust Fund supporters), embedding mainstream assistance in development frameworks remains a challenge.

²⁹The 2006 declared financial contribution totaled \$21, 518,000 represents the base line target for the increase by 10% of confirmed financial contributions

³⁰SAICM/EB.5/5/Rev.1 June 2010 Fifth meeting of the Quick Start Programme Executive Board
Geneva Review of implementation of the Quick Start Programme business plan

³¹SAICM/PREPCOM.3/INF/28. Available on the SAICM web site: www.saicm.org

5. INSTITUTIONAL AND ADMINISTRATIVE ARRANGEMENTS

5.1 QSP governance structure

This chapter addresses two broad governance issues:

1. The role of the Executive Board and Implementation Committee
2. The role of the ICCM in the governance of the QSP

The Governance of the QSP comprises firstly, the International Conference on Chemicals Management as the most senior body, followed by the QSP Executive Board and the QSP Implementation Committee. The Conference delegates in the Executive Board the oversight of the QSP, and the Board reports to the Conference every three years.

The Executive Board sets operational rules in line with ICCM negotiated parameters of the QSP, reviews progress and directs administrative changes as might be required or desirable. The Board has been meeting once per year since 2006, when the first meeting was held in Geneva on April 26-27, 2006³². A review of the rules of procedure of the Executive Board notes in Rule 2 that this body shall be composed of: a) two national government representatives of each United Nations region; b) bilateral and multilateral donors or other entities that have made or pledged to make financial contributions to the QSP. It further provides details on the selection of officers (Rule 8) to act as meeting co-chairs, including one from among the government representatives of the five United Nations; and one from among the representatives of donors. The functions of these co chairs are listed in Rule 10, which include among other tasks the following: ensuring that the rules are observed; putting questions for decisions and announce decisions; and ruling on any points of decision.

On other substantial matters, Rules 15 to 21 describe the conduct of business during meetings, such as discussing proposals, addressing points of order, and managing intervention of participants throughout the meetings. In regards of the adoption of decisions, Rule 23 highlights that the Executive Board shall make any effort to reach agreement on all matters of substance by consensus. Additional rules (24-28) describe the mechanisms to decide on matters where consensus was not achieved, including provisions on voting procedures. In addition, Rule 28 bis indicates how cases in which there may be a conflict of interest shall be resolved.

The Implementation Committee, comprising representatives of participating organizations of the Inter-Organization Programme for the Sound Management of Chemicals (IOMC)³³, approves project proposals according to QSP Trust Fund guidelines approved by the Executive Board. The Implementation Committee meets twice yearly.

³² A detailed list of all the meetings of the governing bodies of the QSP can be found on the SAICM website at www.saicm.org

³³ IOMC organizations include FAO, ILO, UNDP, UNEP, UNIDO, UNITAR, WHO, World Bank and OECD.

A similar conduct of business is followed by the QSP Trust Fund Implementation Committee. Respective rules indicate the institutional arrangements (Rule 1) and the representatives that may be part of the Committee (Rule 3), as well as the possibility of inviting observers to attend its meetings (Rule 4). The Chairperson elected by the Committee usually serves on a rotational basis (Rule 5) and is responsible for directing discussions and controlling the proceedings of the meeting. The conduct of business at meetings (Rules 10-13) also describe procedural matters for the Committee to take all its decisions by consensus, or any other efforts to decide on substantial matters when consensus cannot be reached. An additional provision is set aside in rule 14 to address a potential conflict of interest if such situation is declared by any representative of the Committee.

The constitution and function of the Executive Board and Implementation Committee can be readily seen on the SAICM Secretariat website. A review of meeting reports from the annual Executive Board Meetings and the twice-annual Implementation Committee meetings indicates that the respective functions of these groups have been carried out with a high degree of professional integrity.

In both cases, the bodies of the governance structure are supported by UNEP and the SAICM Secretariat to undertake the following tasks: making necessary agreements for convening meetings, preparation of agenda and other meeting documents, making meeting reports available on the SAICM website, and other tasks that these bodies may require.

The ICCM, the governing body for SAICM, meets every three years and has met twice since 2006. As previously noted, the second session of the ICCM, held from 11 to 15 May 2009 decided that the trust fund would be open for contributions until its third session, scheduled for September 2012, 17-21. Few other aspects of the QSP were advanced enough to be called to the attention of the ICCM at that time.

Assessment

The review of information, including meeting reports and the outcomes of face-to-face interviews, shows that the Executive Board performs its functions efficiently and effectively, and that it has followed the conduct of business that is expected from a governance body. The Executive Board and the Implementation Committee also ensure that the QSP continues to operate dynamically. This is reflected in the strong positive response from donors and their contributions to the Trust Fund; from governments and other implementers that have submitted proposals; and from executing agencies that continue their active involvement by providing technical assistance and methodological support for project implementation.

The contribution of the QSP Implementation Committee to the governance of the QSP follows standard procedures for the appraisal of proposals and monitoring of projects. However, it is noted that while the screening and approval process follows a set of guidelines established for each round of application, the process for monitoring the progress of funded projects is less clear, lacking a set of standards and indicators for project evaluation to assist the Committee and the Secretariat in assessment of progress. Having such tools would facilitate the monitoring and evaluation functions of the governing bodies of the QSP, as well as the secretariat. It would also support

projects with a lifecycle approach by means of relevant methodologies to optimize technical and administrative work.

In relation to project appraisal by the Implementation Committee, the meeting reports reviewed for this chapter of the report summarizes in general the outcomes and the decisions made on several issues. The Implementation Committee also provides recommendations on the need to improve or update project proposals that are conditionally approved or which require resubmission in a future round of applications.

5.2 Disbursement of funds within the QSP Trust Fund

The QSP Implementation Committee is responsible for ensuring all available funds paid into the Trust Fund account are disbursed at each round of application, subject to the availability of complete and eligible project proposals and the need to maintain an overall geographical and sectoral balance for the duration of the Programme, as well as to provide assistance as a matter of priority to Least Developed Countries (LDCs) and Small Islands Developing States (SIDS)³⁴.

Approximately all of the available funds were allocated in the fourth, fifth, ninth and tenth rounds. This was not the case for the third, sixth, seventh and eight rounds. In the first and second rounds, available funds were calculated from contribution pledges made at the time the funds were awarded. Therefore, the Implementation Committee decided that the amounts to be allocated should not exceed 50 percent of the total pledges in order to retain a reserve for the second round of applications pending commitments by donors to replenish the Trust Fund (see Table 12 below).

Given the Provisions under Resolution I/4 of the ICCM, and according to UNEP's legal authorities, arrangements may be established only for those projects to be completed before November 30, 2013. This could have a significant impact on projects that are approved in rounds 12-14, since the time available to implement the activities of approved projects in these rounds could be reduced significantly. This is particularly true when considering the time required to process agreements before clearance is obtained for disbursements. This provision also applies to extension of existing agreements. In this respect, the OEWG is recommending that the Conference extend the period of disbursement of funds beyond 2013 until all activities of approved projects have been completed. The Conference will consider the recommendation at its next meeting.

³⁴ QSP Business Plan April 2007

Table 11: Funds allocated per round of applications - USD

Rounds	Available funds	Requested to the QSP Trust Fund	Funds allocated	
				%
I	4,742,000	8,504,953	1,966,262	42
II	3,776,341	4,782,973	1,861,841	49
III	2,628,000	4,363,340	2,232,155	85
IV	3,870,000	7,906,929	3,888,505	100
V	3,994,500	7,154,605	4,071,489	100
VI	1,700,000	4,958,273	1,998,134	100
VII	2,000,000	7,352,461	2,476,478	100
VIII	2,911,930	3,978,088	1,766,896	61
IX	3,417,743	9,645,313	4,507,347	100
X	5,694,173	10,211,047	5,394,607	95
XI	1,520,988	8,049,465	1,461,795	96
TOTAL	34,734,687	76,907,447	31,625,509	91

5.3 QSP Trust Fund project application and approval procedures

The process for project application is transparent, and generally well described and explained for each round of applications. However, it is not without its challenges, as governments and other stakeholders frequently encounter constraints to develop adequate proposals that comply with all requirements for submission. While this issue cannot be generalized, it is important to note that during the interviews conducted with project implementers, one of the prevailing concerns expressed was related to the preparation of project proposals to be submitted to the QSP Trust Fund. In this respect, and taking into consideration the outcomes of these interviews, it is clear that there are cases in which governments lack sufficient technical capacity and/or support from local stakeholders to design and approve a proposal at the national level. In such cases, it is likely that the proposal will not meet the criteria established by the QSP Trust Fund, and as a result, it may be rejected or, in the best of cases, remain pending for a later round.

While these aspects may seem to influence the motivation of the proponents, there was indication by several interviewees that such setbacks can also have a positive response. For instance, countries may feel encouraged to improve overall project design; ensure that it reflects national priorities; and that it is developed with all the necessary elements for screening by the secretariat before it reaches the appraisal phase by the Implementation Committee. It should be noted that in response to these situations, the secretariat has provided guidance to project applicants on how to improve their proposals before final submission. This is, however, a task that may significantly add to the already heavy workload of the secretariat.

A final criterion for assessing governance of the QSP, namely QSP Trust Fund project application and approval procedures, is provided in detail in chapter 6 below under *administrative, operational and/or technical problems: the constraints that influenced the effective implementation of the QSP projects*.

5.4 Effectiveness of the Secretariat

The SAICM secretariat (hosted within the Chemicals Branch of UNEP's Division of Technology, Industry and Economics) fulfills official secretariat functions and reports to the International Conference on Chemicals Management. The functions of the secretariat with respect to supporting the operations of the QSP and its trust fund are defined in ICCM resolution I/4 as follows:

- To facilitate meetings of the QSP Trust Fund Implementation Committee and QSP Executive Board;
- To provide administrative support to the QSP trust fund; and
- To screen trust fund project proposals for completeness and eligibility.

Since 2006, the secretariat has carried out the following work up to December 31, 2011, which was established as the cutoff date for the preparation of this report:

- Organized six Executive Board meetings and the seventh meeting is scheduled for May 7 and 8, 2012
- Organized 12 Trust Fund Implementation Committee meetings and the thirteenth meeting is scheduled for May 9, 2012
- Processed 11 rounds of applications, screening 359 applications, of which 298 were appraised by the QSP Trust Fund Implementation Committee
- Provided guidance and replied to inquiries from potential applicants
- Confirmed the approval of 100 conditionally approved projects
- Provided administrative support to 145 approved projects³⁵ for a total funding of \$30.9 million
- Processed and finalized 115 legal agreements
- Processed the extension of 29 projects

Since its establishment in 2006, UNEP has contributed one staff to the secretariat, mainly the SAICM coordinator at the P5 level, and WHO has contributed with one senior staff member, currently at 60%. In 2008, the secretariat was able to establish a temporary professional position to support the administrative functions of the QSP, in line with resolution I/1 of the International Conference on Chemicals Management and with the support of a grant of EUR 150,000 provided by the European Commission. The incumbent to this position resigned in November 2010 and since then, the secretariat has filled these vacancies with consultants.

³⁵ The QSP Implementation Committee approved 150 projects for a total of \$31.6 million, but following suspension of 5 projects, the total amount of projects remaining is 145.

Since November 2010, the QSP has been staffed by two consultants until the regular position can be filled through the official UN staffing system *Inspira*. Funds to support salary for the QSP Program Officer have been secured by a grant from the European Commission until 2013. The continuation of the position depends on further contributions to cover costs in the future. Funds for the QSP Associate Program Officer are derived from voluntary contributions.

Since 2009, the number of projects under the QSP portfolio has more than doubled from 71 to the current 145 projects. This steady increase in the workload of the secretariat has affected its capacity to service in a timely manner all aspects of the Quick Start Programme.

Delays in completing agreements and processing requests for project extensions are expected to continue for some time, as the number of approved projects will likely increase since there are three more rounds of applications planned, pending availability of funding. In the event that the number of projects does not increase, the workload is expected to gradually decrease as the remaining 108 projects progress towards completion. As of 28 February 2012, there was a backlog of 32 agreements (either extension of or new Implementation Agreements) ready for certification and steps were being implemented to ensure the backlog is resolved as quickly as possible.

Some of the most common causes of these delays can be attributed to the country level (e.g. project implementer), but eventually have an impact on the secretariat's capacity to manage these situations. For instance, the time required to obtain signatures from national stakeholders (this is variable and country dependent) can take up to several months; the submission of complete information or documentation before an agreement or project extension is processed; and staff changes within the public sector in countries usually means a change in project coordination.

Processing requests for extension of projects can take up to several months before an authorization is granted. This has been a common delay experienced in project implementation. When project proposals are conditionally approved by the Implementation Committee, the secretariat usually provides guidance to proponents in order to fulfill the conditions mandated by the Implementation Committee. Another important task consists of follow up, and tracking the submission of pending reports. The secretariat also dedicates time to update its website to keep all stakeholders informed on the outcomes of the different activities related to SAICM and the QSP.

Assessment

The main limitation of the secretariat is the increased workload which falls under the responsibility of two staff members. Considering the increased demands of an expanding programme, it is currently challenging to provide adequate follow up to the operation and execution of all QSP projects. Moreover, and taking into account the timeframe of the projects (24 months), in any given year, the secretariat must monitor projects that are under implementation, as well as those which are in the process of screening and approval. This represents an increasing demand on administration and management work.

The impact of those limitations is already evident within the secretariat's day to day business. After conducting a series of interviews with secretariat staff, and following a

review of the portfolio of approved projects (both ongoing and those ready to start activities), it is evident that the number of projects exceeds the existing capacity to deal with the necessary administrative work.

Stability of personnel will help the secretariat to perform in a more efficient manner regarding project monitoring and reporting -- these obligations increase round by round with the number of projects. The increasing number of projects will also need more support from the UNEP Chemicals Administrative Officer, which has not been funded for this purpose. This situation is not sustainable without negative effects on project timelines.

In general, each project has an established lifecycle indicated in the proposal approved by the QSP Trust Fund Implementation Committee, and in the respective agreements between the secretariat, UNEP and Implementing/Executing agencies (if applicable). However, during this review, significant delays were identified in administrative procedures for the authorization to begin the implementation of projects. This is likely the result of the following factors:

- Insufficient staff to expedite the necessary paperwork considering the number of projects.
- Safeguards in the administrative arrangements within UNEP, Executing Agencies, and the secretariat, may take a considerable amount of time before a project is cleared and ready for counter signature.
- The secretariat has faced challenges in its follow up with QSP project management, particularly when other operational activities need to be carried out simultaneously. For example, during the second half of 2011, it had to plan and organize meetings of the Executive Board, the Implementation Committee, the first meeting of the OEWG, as well as regional meetings. This was reflected in its ability to process agreements and the subsequent backlog of pending agreements.
- Project proposals at the national level require the endorsement of several stakeholders, which poses a challenge to obtaining buy-in from them before a proposal is submitted to the secretariat. Changes in government and in public servants at the country level have also been a common cause of delays, both technical and administrative.
- In the majority of cases, implementers have found it necessary to request an extension on the timeframe of projects. This type of application triggers a series of internal procedures within the secretariat and UNEP for such extensions to be considered and eventually approved. Even when it comes to minor changes to an ongoing project, the approval of such changes or adjustments can take up to several months.

The work required for project management is mainly of an administrative nature, but it may also require a scan of technical aspects when progress reports are submitted to ensure that all products and outcomes have been delivered. These tasks impose a considerable burden on the limited resources of the secretariat. This is a critical aspect of the program since it is essential that during the various stages of implementation of a

project that the secretariat has the ability to adequately review progress and further provide timely feedback to implementers and other stakeholders.

To improve on the efficiency and delivery of all administrative and paper work, the secretariat would benefit from an increase in human resources for the following tasks:

- Facilitating and expediting the institutional and administrative procedures of the QSP projects, such as the development of agreements between UNEP and the Executing/Implementing Agencies.
- Development of project indicators, identifying means of verification, as well as conducting a rigorous follow up of projects through their complete life cycle. This additional support would assist the secretariat in providing a better rate of response and continuous feedback to implementers on the progress made during the execution of the project.

6. PROJECT PERFORMANCE AND IMPACT

This chapter has been prepared based on the information available on the 30 complete projects that had submitted final documentation to the secretariat by December 31, 2011, as well as the field assessment of projects done during site visits conducted between March and April 2012. The outcome of the field assessments are summarized in Appendix VIII

6.1 Attainment of Objectives and planned results

Effectiveness

A review of the evidence indicates that all the objectives identified in the approved workplans were successfully achieved by the 30 completed projects included in this review.

Capacity-building goals were achieved in 25 completed projects addressing strategic priority A through the development or updating of national chemical profiles, identification of capacity needs, and national priority setting. Objectives from completed projects addressing strategic priorities B and C were also successfully achieved and included: awareness raising and capacity building on the safe use of pesticide in Egypt; formulation of a Risk Assessment Methodology and preparation of a National Risk Reduction Strategy in Armenia; development of an Integrated Regional Campaign on Chemical Safety Promotion from mercury domestic exposure in Argentina, Chile, Paraguay, Uruguay, Bolivia and Peru; enhancing trade union knowledge, capacities and technical tools and enabling worker involvement in SAICM implementation in Brazil, Chile and Uruguay; identification of capacity-building needs in Africa; strengthening the capacity of SIDS in the Caribbean in implementing their obligations under the Basel Convention; strengthening the domestic sound management of chemicals in Belize; and Government commitment, multi-stakeholder National Strategic Plan and regional collaboration and coordination for mercury reduction in artisanal and small scale gold mining in Cambodia and Philippines.

Projects' results suggest that capacity building has provided practical knowledge and concrete tools which have been used in the workplace and at the policy level. A noteworthy example is the inclusion of issues related to chemical risk prevention in the workplace into current negotiations on labor conditions as well as health and occupational safety in Uruguay.³⁶

From a policy perspective, all projects stated that they have had an impact either directly or indirectly on national planning and decision making through the following actions:

- Political commitment through meetings and workshops

³⁶ QSPTF/ 07/3/NGO/03 III.11.C.SLAB Sustainlabour -Brazil, Chile and Uruguay Status of project implementation as of 31 January 2011 (detailed reports available in annex 7 of document SAICM/TF.11/INF/6 and annex B of SAICM/TF.11/INF/7) Eleventh meeting of the Quick Start Programme Trust Fund Implementation Committee Geneva, Switzerland 13-14 April 2011 Item 3 of the provisional agenda Status of the Quick Start Programme

- Increased knowledge and understanding of local authorities on chemicals management and associated risks
- Increased awareness of local authorities due to the new information and data available
- Enhanced communication, coordination and collaboration between government and stakeholders

Project outcomes also include the elaboration of national programmes, legislation and policies. The following projects illustrate this achievement:

- Chad: a new legislation on chemicals management was proposed.
- Guatemala: a government decree for the creation of the technical coordination committee for chemicals management was developed and the National Policy for Environmentally sound management of chemicals and hazardous wastes was proposed.
- Honduras: the National Policy on sound management of chemicals was proposed.
- Kyrgyzstan: development of the National System of Chemicals Management.
- Moldova: formulation of the national program for the sound management of chemicals. This was endorsed and coordinated with all relevant stakeholders, and included the preparation of a chemicals communication strategy.
- Armenia: preparation of the national risk reduction strategy.

On a different level, projects led by Non-Governmental Organizations have also contributed to the development of policies for the sound management of chemicals:

- Day Hospital Institute for Development and Rehabilitation of Egypt: The condensed awareness raising campaign resulted in the issue of pesticides management being raised at the supreme pesticides committee in Egypt.
- AAMMA: Declaration of the Societies of Pediatrics from Argentina, Bolivia, Chile, Paraguay, Peru and Uruguay and the National Declarations of the Societies of Pediatrics of Paraguay and Uruguay on the sound management of pesticides and mercury.
- Sustainlabour: In Brazil, the National Commission on Chemical Safety (CONASQ) was reactivated; in Chile, the trade union representatives were incorporated into the Coordination Commission of National Policy on Chemical Safety (PNSQ); and in Uruguay, a mechanism for dialogue was established within the government.

All completed projects can be seen as enabling a long-term impact by building socio-political and institutional frameworks and governance in the field of chemicals.

Project results also act as a baseline for a future assessment of a country's situation. Several projects stated that by increasing their understanding of national chemicals management, and through setting national SAICM priorities, they have reached a fundamental stage for future action to implement SAICM. Macedonia's project also reports that "the Macedonian Government can rely and use SAICM project results for future planning and investment strategies."

Relevance

The purpose, approach and modality of execution of the Programme require that projects are relevant to the national context and needs. The funding application package includes a project proposal document where the project applicant has to clearly explain the extent to which the outcomes and activities of the proposed project are consistent, complementary and harmonized with the country context and needs. Upon completion of the project, implementers are required to discuss in detail how this was achieved in the final substantive report.

Furthermore, the country-driven nature of the QSP has resulted in activities that are directly relevant to national needs (e.g. based on national priorities) and regional needs (e.g. based on regional SAICM meeting decisions).

At the national level, all completed projects are reported to be very relevant on the following aspects:

- Identification of capacity needs, priorities, action plans and resource needs to improve chemicals management
- Institutional strengthening
- Capacity building
- Information exchange
- Cooperation, coordination and synergies strengthening among diverse stakeholders
- Legislation development and enhancement on chemicals management
- Awareness raising
- Resource mobilization
- Link into a single system all legal instruments on different aspects on chemicals management
- Clarification of country's chemicals management situation and obligations of different stakeholders
- Improvement of understanding and knowledge on issues related to sound chemicals management and risks
- Baseline data development

In addition to projects' relevance in relation to countries' needs, all projects also report to have contributed to QSP objectives through:

- Supporting strategic priorities of the QSP
- Ensuring compliance of other global instruments and agreements
- Guiding implementation of the three Conventions

In some instances, project implementers provide additional information on the needs that justify the project. This information is provided in annex III of the applications entitled "Country Situation", which details how activities are country driven. It is important to note that this annex is not a mandatory document for application; however, it does provide useful information in assessing project relevance.

The Implementation Committee noted that the information provided on country situation is not always sufficient to justify the project, and therefore suggested that the Application

Guidelines be modified to provide a more comprehensive analysis of the current status of the chemicals management situation at the country level³⁷. For example, it would be preferable for applicants to provide a clear scenario and analysis of the overall chemicals management situation in the countries where the project is proposed for implementation.

Efficiency

The evidence examined in this review indicates that the QSP Trust Fund has been a cost effective means of using seed money to achieve the overall programme goal: “to support activities to enable initial capacity building and implementation in developing countries, LDCs, SIDS and countries with economies in transition.” Indeed, projects with relatively small amounts of funding have taken creative approaches with concrete results. The costs of projects are seen as reasonable in relation to the results and impacts.

Funding from the Trust Fund for completed projects ranged from US\$50,000 to US\$250,000. All completed projects reported that no additional resources were leveraged for the project except for the in-kind contributions in the form of human resources (mainly from government and executing agencies), equipment, office space and website maintenance and hosting, among others. In-kind contributions reported by countries ranged from zero to US\$95,000 representing 19% of the total QSP funds awarded. However 10 of the African countries that were reviewed form part of the list of countries involved in the GEF funded Regional project on POPs: Capacity Building Programme for LDCs and SIDS in Africa, for a total of US\$16 million.

Several recipients reported having delays at the project start-up stage. Delays were primarily attributed to administrative problems. Other recipients reported delays in activities due to countries’ internal problems such as difficulties gathering information, barriers during negotiations between stakeholders, and political instability. These delays often resulted in amendments to the project agreements to extend the end date, usually between 6 and 12 additional months, with no cost to the Trust Fund.

Assessment

As the data indicates all completed projects successfully achieved their stated project objectives and have made a positive impact on national planning and decision making through enhanced political commitment and communication, coordination and collaboration with stakeholders.

Projects can also be seen as relevant at national, regional and global levels. Depending on the country’s needs and level of its development, all projects have triggered positive actions to achieve sound management of chemicals. However, projects’ reports lack a detailed description on the country’s situation. It is recommended that this kind of information be requested both at the initial project proposal phase and in final reports to facilitate the comparison of country’s situation before and after projects’ implementation. This information would also allow for an easier assessment of the nature and significance of projects’ contribution.

³⁷ See Report of the 11th meeting of the QSP Implementation Committee available from www.saicm.org.

In summary, projects are efficient with costs appearing to be reasonable in relation to their results and impacts. In some cases additional resources were leveraged through the QSP project, including GEF funding through larger scale projects in Africa and Asia-Pacific. The level of in-kind contributions to projects should be highlighted to show additional financial leverage of the QSP. As noted previously, most of the delays at the project start-up phase are related to administrative problems, political instability and barriers during negotiations between stakeholders.

6.2 Sustainability

The enabling activities undertaken by the projects under the strategic objectives of the QSP have produced outcomes which are likely to be sustained in the future. Projects have built a foundation for continued advances in the sound management of chemicals.

Sustainability is seen to be supported by projects mainly through the socio-political and institutional framework and governance aspects as follows:

- Multi-stakeholder and interagency participation and cooperation, which strengthens national coordination and provides a solid base for national chemical frameworks and a strong foundation for SAICM implementation.
- Development of national programmes, plans, strategies and policies that have committed key stakeholders to have the technical and financial mechanisms to ensure sound chemicals management sustainability.
- Strengthening the legal, institutional, administrative, and technical infrastructure for chemicals management.
- Raising awareness and strengthening information exchange among stakeholders.
- The knowledge transferred to local experts which will be shared to future projects related to chemicals management.
- Political commitment derived from awareness campaigns.
- Methodologies for data collection, development and dissemination of awareness raising materials that could be replicated and used in other countries or regions through bilateral or regional cooperation mechanisms.
- Implementation and functioning of the national registers of pollutant release and transfer (PRTR).

Examples of projects supporting sustainability are:

AAMMA:

- Strong network of stakeholders and partners developed.
- A medium- to high-priority of sound mercury management in the governmental agendas of participating countries, together with the course of international negotiations towards a binding international instrument.
- The participation and involvement of all sectors reinforced the implementation of the project's activities, strengthen the application of the schedule and guaranteed the sustainability of it through time.
- The different project's tools developed, as the project website, also contributes in it sustainability through time.

Belize:

- Establishing Sound Management of Chemicals as a strategic action in Belize's medium and long-term development plans.
- Continuation of the inter-agency coordinating mechanism as a body for coordinating current and future chemical related projects and issues.

Burundi:

- The project has nurtured synergies with actors providing information and with the implementation of The Burundi National Implementation Plan of Stockholm Convention.

Moldova:

- The Division of Pollution Prevention within the Ministry of Environment has overtaken the full responsibility for further promotion of the National Sound Management of Chemicals programme, elaborated within the framework of the project.

Egypt:

- The awareness raising campaign created a critical mass among officials responsible for pesticides management in Egypt, bringing the issue of sound management of pesticide before the Supreme Pesticides Committee in Egypt.

Sustainlabor:

- The three participating countries in this project (Brazil, Chile and Uruguay) agreed to develop activities to ensure the sustainability of the project. This included maintaining the network and extending it across other countries in the region; enhancing the exchange of experiences and knowledge between Latin American trade unions; exploring possibilities of regional collaboration on agrochemicals; and on-line training to replicate training activities at the sub-national level.

Projects have also been instrumental in fostering synergies between sectors. Some examples include:

- Guatemala: The project has helped foster synergies between the agriculture, labor and energy sectors. This has resulted in these sectors becoming deeply involved in common activities with the support of industry.
- Comoros: The project has nurtured collaboration among the principal actors: Health, Environment, Agriculture, Justice and the private sector in close collaboration with the National Commission for Sustainable Development.
- Armenia: Sustainability is being demonstrated through the promotion of interagency coordination for chemicals and sound waste management and public participation activities for integration.
- Burundi: The project has nurtured synergies with actors providing information and with the implementation of the Burundi National Implementation Plan of the Stockholm Convention. These synergies are with the Department of Plants Protection in obtaining data for updating the profile and developing the database

and with Custom Department on registration of imported chemicals and private sector on importation, transformation of chemicals.

Assessment

Project reports submitted by implementers indicate that their work has strengthened and encouraged interaction among diverse stakeholders, and has further fostered synergies between the sectors. Concerns are, to a large extent, linked to the likely unavailability of financial resources required to continue with project activities once the QSP comes to an end. A special effort therefore needs to be made to assist countries in identifying and implementing relevant financial mechanisms, including specific budget lines in sectors with clear responsibilities on the sound management of chemicals.

Sustainability is a key challenge for advancing sound chemicals management. It should be noted that one aspect of sustainability - that of sustainable financing - was presented as one of key obstacles to SAICM implementation at a recent workshop in Johannesburg³⁸. The following reasons were given: insufficient political priority, lack of, or weak, implementation of chemicals policies at national, sub-regional & regional levels, lack of integration of chemicals management into national development strategies, lack of coordination among relevant stakeholders, and difficulty in keeping abreast of evolving chemicals and regulations adopted in other regions.

Projects have also enabled the countries to develop synergies between the different International Chemicals Conventions and treaties. Mali, for example, reports that the project enabled the country to develop synergies between the different International Chemicals Conventions and treaties: Basel, Stockholm, Rotterdam, Vienna, and Montreal and also the Africa Stockpiles Programme.

There are some signs that many of the projects are acting as a catalyst to encourage governments to start looking for chemical waste management solutions through awareness raising, capacity building and knowledge transfer and information projects. Malawi, for example, reports that “the project has been instrumental in fostering synergy with other sectors such as Pesticide Control Board and has had a catalytic role with the implementation of another project on chemicals in the country³⁹.”

6.3 Achievement of outputs and activities

Overall, the completed projects have largely reached their expected outputs, both in terms of quantitative and qualitative measures. Moreover, the Programme outputs are seen as useful to the beneficiaries. This is demonstrated in the enabling activities completed in many countries. Details of the completed projects by round are in table format under Annex VII *Summary of Project Outcomes - Completed Projects*

For projects addressing strategic priority A, the output deliverables consisted of the development or updating of the National Chemicals Management Profiles; the

³⁸ SAICM implementation and update on progress in the African region David Kapindula Regional Focal Point for AfricResponsible Care and Product Stewardship Workshop January 18, 2011 Johannesburg, SA

³⁹ QSPTF/07/2/GOV/06 II.15.G.MWI Malawi Status of project implementation as of 31 January 2011 (detailed reports available in annex 7 of document SAICM/TF.11/INF/6 and annex B of SAICM/TF.11/INF/7) Eleventh meeting of the Quick Start Programme Trust Fund Implementation Committee Geneva, Switzerland 13-14 April 2011 Item 3 of the provisional agenda Status of the Quick Start Programme

development of a National SAICM Capacity Assessment; and national SAICM priority setting workshops. In certain cases, the output deliverables consisted of other items such as awareness raising activities, capacity building and formulation of risk assessment methodologies. All of these country projects have successfully delivered the outputs as a prerequisite of having completed the project.

The completed projects are seen to demonstrate many effective methodologies for developing technical documents and related management options in the project countries and targeted project areas. Projects addressing strategic priority A, for example, share a common methodology for developing/updating the National Chemicals Profile, assessing national capacity and setting priorities. Countries report that this methodology is both useful and replicable.

6.4 Effectiveness of monitoring and evaluation arrangements

The “independent monitoring and evaluation and reporting on project implementation to the QSP Trust Fund Implementation Committee is the responsibility of project implementers.” The individuals/organizations selected to undertake this task demonstrate impartiality and relevant expertise as far as it is possible to discern by a desk research. The independent monitoring and evaluation (M&E) is an invaluable tool for the project management. There have been concerns over the cost of independent evaluation; however, the monitoring and evaluation tasks were budgeted adequately. Moreover, this process is seen by many project implementers as being an effective way to monitor progress.

The format for the M&E reporting if used correctly is practical. Most of the projects achieve a satisfactory quality level of reporting. However, the level of detail and description of some M&E reports does not provide sufficient data on certain aspects of project outputs that are relevant for evaluation purposes. For example, when a country reports that changes and/or updates in chemicals regulation have been made or proposed as a result of the QSP project, it would be useful to make a reference to such regulation and a brief description of the changes. Having this of information would also effectively direct project reviewers to the actual tangible impacts of projects.

The SAICM secretariat is vigilant in checking the quality and content of the reports and following up where necessary with the projects. However, as noted earlier in this report, the secretariat has a large portfolio of projects -- more than 100 projects currently -- and this will increase over the next funding rounds (2012 – 2013).

Assessment

It would be advisable to establish specific M&E criteria, and encourage countries to apply standard tools for the design, development and assessment of projects. Indicators should also be clearly defined, followed up, and applied.

A more comprehensive follow up during projects’ design and implementation phase may also be needed, particularly when projects present serious delays or where technical capacity is not adequate. The establishment of an ongoing communication and a closer physical monitoring with countries could be useful mechanisms for improving project monitoring tasks. Meetings of the ICCM, the OEWG, Conventions, national and regional

workshops could be used by countries to present their achievements and for sharing information, lessons learned, and constraints.

Another important element reflected in M&E reports is the participation and role of stakeholders. In this regard, during the monitoring phase, the involvement of civil society should be seen as an essential input to ensure an open and transparent evaluation of project outcomes.

Executing agencies appear to follow the guidelines regarding their role in reporting, monitoring and evaluation of the projects. Their involvement at this stage is critical, as it provides an opportunity for continuous guidance and feedback before final reports are submitted.

6.5 Replicability / catalytic role

Many of the projects demonstrated a catalytic role in encouraging governments to begin identifying chemicals and waste management solutions through awareness raising, capacity building and knowledge transfer and information projects

One example of replication is given by UNITAR, which has used a similar design and methodology for the different projects funded by the Trust Fund. For instance, the training tools and materials for updating the national chemicals profiles, as well as those used in the development of capacity assessment have been applied in many of the projects in which UNITAR is the executing agency.

Several countries report having developed project and awareness raising materials and activities that could be replicable in other countries and regions. Specific examples of successfully replicated projects include:

- AAMMA: “the project is perfectly replicable in other countries...its methodology is presented in the project website and openly shared for different countries and regions”.
- Macedonia: “the methodology applied could be very useful for all EU pre-accession countries. It shows how chemicals related issues can be successfully incorporated in national documents”.
- Belize: “the project serves as a good model to follow in order to mainstream or integrate sound management of chemicals into any countries development planning and processes”.
- Cambodia & Philippines: “[the project] will help other countries to develop their national strategic plans in the future”.

6.6 Preparation and readiness

The application guidelines require that project applicants provide clear, achievable and timely objectives. Furthermore, applicants are required to demonstrate that the project has been discussed with relevant stakeholders through the submission of a letter of

endorsement to the Implementation Committee. Based on the project documentation it was not always evident that the preparation and readiness component included evaluations on feasibility, baseline awareness, and contacting and involving stakeholders. Subsequently, some stakeholders considered their preparation and readiness insufficient because many administrative arrangements and stakeholder engagement activities were made during the project implementation phase. This was a significant contributor to project delays. It would be advisable to request proponents to provide detailed evidence that stakeholders have agreed to be involved in the implementation of the project prior to submitting their proposal. This will be particularly important for projects involving Specific Priority areas B and C which entail more complex components.

6.7 Country ownership

The relevance of projects to national development and environmental agendas, recipient country commitment, and regional and international agreements contribute to the effectiveness of the QSP. Projects are expected to be country-driven, which is understood to align with country priorities. When endorsing applications to the QSP, SAICM National Focal Points certify that proposed projects are consistent with national priorities. This procedure has its critics but is generally seen as effective. However, the number of endorsement letters is not evidence in itself of country ownership. Endorsement should imply active participation and buy-in by the signatories.

The country-driven nature of the QSP projects is demonstrated by the fact that they result in key outputs such as national profiles and SAICM capacity assessments which also complement national chemical safety policies. Projects have contributed to the improvements of coordination within government institutions, civil society and other sectors. This has increased cooperation and dialogue between the actors involved in the project activities and development of planning skills at local and national levels. This is referenced by projects as increasing the level of country commitment to the SAICM implementation.

Project reports and outcomes of interviews as well as country visits have confirmed that stakeholders at the country level are encouraged to continue the work towards SAICM implementation. This is reflected in further efforts that have been stimulated as a result of QSP projects. This is evidenced by more QSP projects within the country, or projects that have obtained support from other sources (e.g GEF, WHO, UNEP).

6.8 Gender considerations and vulnerable population groups

There are examples of QSP projects in which the primary goal of the project is to protect vulnerable populations, children and women such as the “Integrated Regional Campaign on Minimization of Mercury Domestic Sources with Actions of Intervention in the Community to Protect Children and Women’s Health in the Countries of Argentina, Chile, Paraguay, Uruguay, Bolivia and Peru”. Many projects recognize that it is critical to raise awareness about the linkages between chemical exposure, human health, environmental threats, and gender differences in risks and impacts.⁴⁰ The representation of vulnerable population groups in the implementation of projects is one that has not

⁴⁰ QSPTF/06/1/NGO/03 Tanzania: Strengthening the capacity of agricultural workers and workers’ organization in the implementation of SAICM at enterprise and community levels

been frequently reported in project documentation mainly because it is not a requirement specified in the QSP guidelines. It is important to note however, that vulnerable populations are considered in various ongoing projects.

6.9 Financial considerations

The projects subject to this review adhere to the required QSP finance documentation which is rigorous. The SAICM secretariat ensures that the schedule of funding release is linked to the reporting of the individual project components. These are carefully chosen. However, this schedule is affected by the frequent initial delay in the disbursement of funds for implementation of activities which many projects cited as the major crucial financial problem. This has a compounding effect on project management throughout the life cycle of the project. Delays adversely affect informed decisions about the budget and the proper and timely flow of funds for the payment of project deliverables. Financial reporting is an issue that requires the attention of project implementers and executing agencies. Proponents reported that the funding allocated to the projects was sufficient and a cost effective way of using seed money.

6.10 Implementation arrangements

The effectiveness of monitoring, administrative and financial support by UNEP in relation to the QSP Trust Fund projects could be improved upon. The current administrative procedures and rules are cumbersome. These arrangements have created a bottleneck which affects the implementation of projects.

Table 12 indicates that close to \$30.9 million has been approved for project funding through all selection rounds of the QSP Trust Fund.⁴¹

The QSP Trust Fund project management arrangements allow that intergovernmental organizations or non-governmental organizations may act as an executing agency⁴² for a project if requested by the applicant. The executing agency is understood to have

Table 12: Total funding granted

QSP Trust Fund Data	Total
Total funding granted	\$30,873,659
Government projects	\$27,607,276
Civil society projects	\$3,203,383

responsibility in the overall administration and delivery of the project, including for conclusion of a legal agreement with UNEP on project implementation arrangements, management of project funds, implementation of the work plan and activities and reporting. The involvement of an executing agency is not an application requirement. Applicants who choose to engage the services of an executing agency are free to choose whichever organization they consider most suitable.⁴³

The vast majority of QSP Trust Fund projects have been completed with Executing Agencies as can be seen in Table 13.

⁴¹ Total funding before suspension of 5 projects: \$31,625,509

⁴² Profit making entities cannot serve as project executing agencies

⁴³ Funding Application Guidelines SAICM Quick Start Programme Trust Fund

The distribution of projects across the various Executing Agencies can be seen in Table 14.

6.11 Gaps assessment and potential areas for improvement

The review presented in this chapter demonstrates that overall, QSP completed projects have achieved positive impacts and significant achievements regarding capacity building efforts and SAICM implementation activities.

However, it is important to note the significant role that final reports play when assessing projects' outcomes and impacts. While some countries have submitted detailed final reports, others have reported only the minimal information requested as per the secretariat official formats. Lack of detail in reports could lead to a misunderstanding or underestimation of projects' relevance. In addition, countries usually report all positive outcomes and impacts and not all the obstacles and domestic problems occurred during a project's development.

While M&E reports are more descriptive, substantive final reports are sometimes too concise and lack essential project details. In addition, official formats used for final reports do not request all the information necessary to make the projects' overall assessment. For example, final substantive report formats do not request information on the country's situation before and after implementation or a description of the project's methodology. In addition, not all countries have submitted M&E reports, making it difficult to assess the effectiveness and soundness of the project implementation and development.

Projects' overall assessment show several deficiencies in methodological aspects, demonstrating the lack of a comprehensive strategy for project design and management. Moreover, there is not enough information on how executing agencies assess project implementation, progress and achievements. These operational aspects of projects need to be better documented. A large number of projects have requested extensions for complementing activities (see Figures 1 and 2), and although this may be caused by administrative delays, it may also be due to technical matters that could be addressed

Table 14: Executing Agency distribution

Agency	No. Projects
Basel Convention secretariat	2
Basel Convention secretariat & regional centres	4
Caribbean Environmental Health Institute	1
CILSS	1
IPCP	1
UNDP	5
UNEP	6
UNDP & UNEP	8
UNEP & WHO	1
UNIDO	8
UNITAR	66
WHO	7
FAO	1
Pesticide Action Network (PAN Africa)	1
The Blacksmith Institute	1

through a better project design that anticipates potential risks and other assumptions that may slow down the project.

Finally, implementers do not describe the significant changes that have been attained through the QSP project. For example, it would be useful to have a clear indication of the main findings in countries where a national chemicals profile has been updated; or an indication of the situation had the project not been implemented.

For this reason it would be advisable to:

- Design a reporting format for countries to provide more detailed information. Projects reports should be more descriptive (but not necessarily more extensive) and provide more clarity through examples of impacts, constraints and lessons learned. The design of a user-friendly format (including an online version) where all the significant information could be collected would be a valuable tool project assessment.
- Establish a series of standards and indicators to facilitate timely and effective project follow up and assessment tasks. These standards should be considered in all project stages including the proposal development, implementation, execution and final evaluation.
- Use of tools for more robust and coherent project management and strategic planning. Such tools would demonstrate the intended outputs, outcomes and impacts in a relevant and realistic way -- and illustrate progress and achievements against those outputs and outcomes. An example of projects design and management tools is the Logical Framework Approach.
- Standardize the methodology and indicators of all projects in order to facilitate comparison, including the strategies or methodological guidelines used by the different executing agencies. This is an issue of particular relevance for projects that are implemented without the assistance of an agency.

The SAICM secretariat is vigilant in checking the quality and contents of the reports and following up with the projects. Nonetheless, a closer and continuous monitoring is recommended to achieve a more comprehensive assessment of projects' scope, methodology, activities, outcomes, constraints and impacts.

Administrative, operational and/or technical problems: the constraints that influenced the effective implementation of the QSP projects.

The average planned duration for a project is 24 months. Delays in completed projects approved in the first application round were related to the slow start-up of the projects e.g. the time required for the bilateral agreement between the executing agency and the government, political situation in the country, and delays in processing project extensions. The different stages involved in the application approval process and the finalization of administrative arrangements, including funding agreements, are outlined in the table 15 below: Stages for administrative start-up of QSP Trust Fund projects.

Table 15: Stages for administrative start-up of QSP Trust Fund projects

A: Process for QSP Project Approval

- A1. Receipt of Application by SAICM secretariat.
- A2. Initial Screening – (verification on eligibility and completeness, endorsement by applicant and SAICM national focal point).
- A3. Write back to applicant immediately acknowledging receipt and completeness.
- A4. Detailed Review of the Application (Forms I, II and III) based on the internal guidelines
- A5. Provide comments and feedback to the Applicants.
- A6. Review that comments and feedback were addressed. If application is in place then is ready for appraisal of the QSP TF Implementation Committee.
- A7. Inform the QSP Trust Fund Implementation Committee on the progress in review of applications one or two weeks after the application deadline.
- A8. Prepare information for the QSP TF Implementation Committee meeting.
- A9. Organize and hold QSP Implementation Committee meeting for the appraisal of proposals.

B: Administrative arrangements after approval

- B1. Applicant is informed about appraisal meeting outcomes.
- B2. If project is not conditionally approved process of signature of agreement is initiated. If project is conditionally approved applicant is given three months to address conditions. If conditions are fulfilled project receive confirmation approval and process of signature of agreement is initiated.
- B3. The agreement is consulted with the executing agency or country (in case of absence of executing agency). Once agreed by all parties is sent to UNEP administration in Geneva for clearance and to UNEP Paris for signature.
- B4. Once it is signed by UNEP, agreement is sent to the applicant for counter-signature **(CLOCK STARTS ON PROJECTS TO AN IDEAL MAXIMUM OF 24 MONTHS ONCE SIGNED BY UNEP AND THE APPLICANT OR EXECUTING AGENCY)**
- B5. Once the agreement is signed by all parties transfer of fund is initiated by UNEP Financial office in Geneva.
- B6. In case of project with Executing Agency a bilateral agreement with the counterpart (country) is arranged and project implementation started after the bilateral agreement is signed.

Assessment

UNEP begins tracking projects for adherence to timelines at the last signature of the project agreement, which is stage B4 in Table 15 above. Delays in projects approved in the first application round were primarily related to the recent creation of the QSP Trust Fund process resulting in the slow start-up of the projects as well as delays in processing project extensions.

The main challenges for projects are:

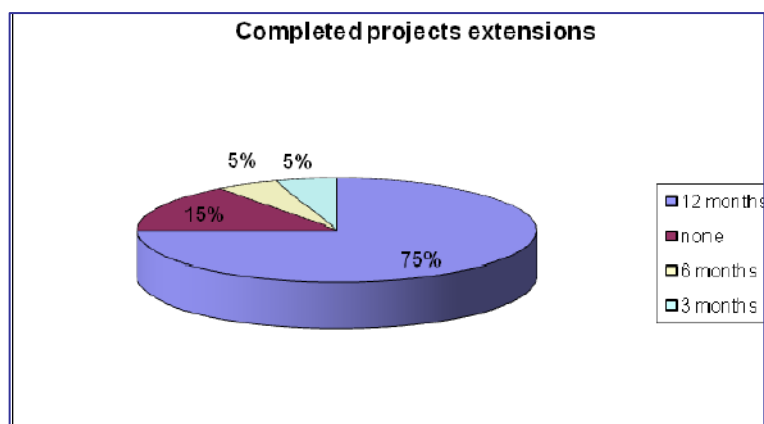
- Extended consultations for the conclusion of agreements between executing agencies and implementing agencies (i.e. governments or NGOs)
- Project organizational and coordination problems at the national level, including delays in the recruitment or replacement of project personnel. Mobilizing national project teams also has often been cumbersome. Some of this cannot be avoided, but the degree to which projects are able to anticipate and mitigate delays may be better understood once a full evaluation can be conducted on more of the completed projects.

- Funds transfers from the UNEP Trustee to the implementing agency, either via UNEP directly or the executing agency.

Another reason given for the delays was the transfer and access to funds transferred from UNEP or executing agencies to recipients. Similar to the projects in the first round, the main challenges faced by projects in second round and subsequent rounds still remain. In addition, several project partners reported poor or lack of available data on chemicals management for preparing assessments and drafting policies and legislation.

The majority of projects have required extensions. It was often reported that the projects' planned timelines were not possible to adhere to "even by adapting to the challenges and problems faced". Fifty-four percent of approved projects from rounds 1-6, requested an extension⁴⁴. For the completed projects, 75% of the projects needed extensions of up to 12 months (see Figure1). This trend is also seen in projects from rounds 1-4, where 55% of the projects have received approval for extensions for 12 months and another 16% are requesting an extension of 12 months (see Figure 2).

Figure 1: completed projects approved extension times.



In addition, the vast number of agreements, and the fact that they come in large waves after approval, stretches the capacity of the UNEP administrative system which is more designed for a constant flow of work. Within the UNEP guidelines and delegations, processing involves clearance from four people, including: 1) the SAICM

Secretariat or Implementation Committee, 2) the Administration Office at UNEP Chemicals, 3) the Head of UNEP Chemicals, and 4) the DTIE Office in Paris. While these steps are all designed as administrative safeguards, they do require time to complete.

⁴⁴ SAICM/TF.12/5. Report of the secretariat on the execution of projects supported by the Quick Start Programme Trust Fund. Twelfth meeting of the Quick Start Programme Trust Fund Implementation Committee. November 2011.

A way to understand the current bureaucratic delays is to examine the typically lengthy steps that need to be taken when changes are requested to ongoing projects. For example, when the secretariat receives requests to increase a project's budget (beyond 10% of what was originally approved), or to make changes in implementation activities, supporting documentation that justifies the request must be obtained. In many cases the executing agencies responsible for obtaining that documentation may take several weeks or even months before submitting all the required documents. This is in part due to delays in collecting information from implementers. The secretariat then needs to provide feedback and make sure that the information meets all the requirements before it reaches the Implementation Committee. If the request is approved by the Committee, it is then necessary to obtain the official clearance of the units mentioned above.

A feasible way to plan for such delays or other issues may be to add four to six months to the project timeline once the agreement is signed. This would allow for more project team mobilization time before the clock starts running on the actual project implementation.

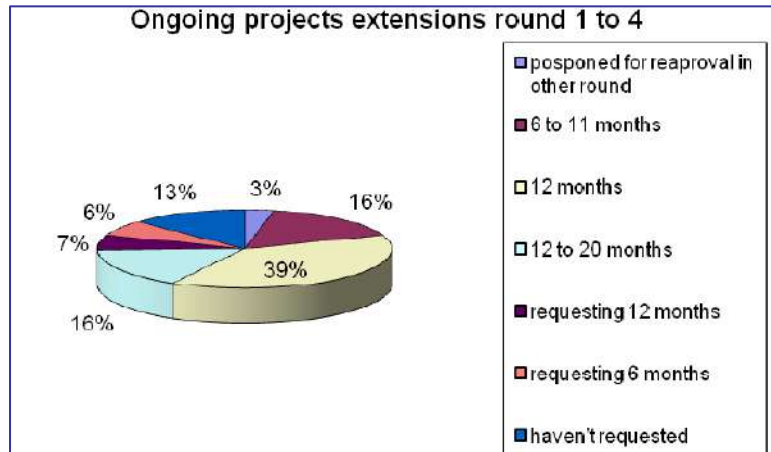


Figure 2: ongoing projects approved and requested extension times

7. LESSONS LEARNED

There are a wide variety of lessons learned reported from the projects. These include the following aspects: a. value and success, b. best practice and c. challenges faced. Value and success lessons include concrete actions that have led the country to move forward on chemicals management. The best practices relate to successful experiences or recommendations leading to political and stakeholder buy-in and concrete actions.

Challenges are primarily related to time and resource limitations, delays during project start-up, and difficulties gathering data or involving key stakeholders. Lessons learned have the potential for adaptive management for the projects and have wider practical application to the QSP. Projects' concrete actions and experiences are included below.

7.1 Value and success

In general, countries that have provided information on project implementation have reported value and success. For example, the QSP has provided significant resources to develop national baseline information, which is considered an essential tool to identify the most urgent matters on chemicals management. Similarly, a common added value reported in most countries has been achieving progress in raising awareness among civil society of the risks associated with chemicals.

Some of the specific country input that was collected for this report is listed below:

Bolivia: The value of developing a policy for SAICM implementation -- a document that can be used for awareness raising, stakeholder outreach and to guide and inform about strengthening/developing legislation.

Burundi: The need for a chemical safety policy for Burundi was identified.

Chad: The project coordinating team and stakeholders increased their knowledge about the process of developing legislation and electronic databases.

Honduras: The project action plans provided the basis for a planning document for the country to address the identified priorities.

Kazakhstan, Kiribati, Kyrgyzstan: Key outputs included the national chemicals profile, capacity assessment, information sharing and awareness raising.

Moldova: The current action plan of the National Programme for the Sound Management of Chemicals reflects needs and priorities for improvement of various areas of chemicals management.

DHIDR (Egypt): Design of locally-made, suitable and affordable protective clothing distributed by the pesticides retailers; and development of verbal and non-verbal education materials.

AAMMA: Improvement of awareness and information for the protection of vulnerable populations such as children and young women from domestic sources of mercury;

capacity building on mercury or other chemicals household products, health effects and vulnerable populations in the participating countries; building communication bridges among different stakeholders to lead concrete actions in the local fields of the participating countries to minimize environmental health risks and raise awareness to develop a common understanding and position on minimization of household products containing mercury; and interventions to increase and create opportunities to introduce and implement BAT/BET to minimize and manage domestic sources containing mercury.

SETAC: Successful workshop with intense interaction among participants and consensual views on a number of key aspects of training and chemicals management.

Macedonia: Creation of an inventory on obsolete chemicals by the Ministry of Environment and Physical Planning as well as the establishment of a Chemicals Registry by the Ministry of Health.

Cambodia & Philippines: Securing government commitment for mercury reductions within Artisanal and Small Scale Gold Mining

7.2 Best practices

Chemicals management is usually recognized as an environmental issue that needs to be addressed through a cross-sectoral approach. In this regard, some of the common lessons learned shared by countries clearly indicate that relevant work has been achieved in enhancing coordination mechanisms among sectors at the national level. This type of synergistic strategy has resulted in increased public participation and stakeholder involvement to discuss and advance management practices for the sound management of chemicals. Sharing of information, improved data collection and strengthened communication have also been reported as common best practices achieved through QSP project implementation.

Some of the specific country input that was collected for this report is listed below:

Burundi:

- Development of forms for information collection on chemicals imported, transformed, produced and used in Burundi;
- Registration of information in the database tool: learning-by-doing;
- Development of strategies to face issues, constraints and challenges in updating the national profile and developing the national chemicals management database;
- Methodology for preparation of the project's independent evaluation reports and for analyzing and commenting on the chemicals profile contents

Guatemala:

- To involve the private sector at the outset to achieve better results;
- Ongoing and effective communication with the stakeholders and periodic meetings to present the latest advances on the project and obtain information directly from them.

Honduras:

- Prepare a national strategy to implement SAICM which is congruent with the National Policy;

- In-kind contributions were very important in completing the project.

Kyrgyzstan:

- All stakeholders are ready to cooperate for further development of the chemicals management network by implementation of SAICM, and to get further experience on chemicals management.

Malawi:

- To have dedicated staff for such programmes and projects to meet time deadlines and ensure substantive deliverables.

Moldova:

- Discussions in smaller groups of stakeholders facilitate the in-depth approach to the issues of chemicals management
- Communication strategy as a key component of NPSMC.

DHIDR (Egypt):

- Coordination efforts between the ministries of agriculture and health and the governors and local government leaders of the 10 governorates where pesticides are most used and their directors of agriculture;
- Establishment of a local plan for each governorate to make a team of local officials, local agriculture cooperatives, NGOs and farmers group.

SETAC:

- The inclusion of several types of learning experiences, activities, case studies and individual action plans resulted in sustained participation among the participants, learning from each other, demonstrating how the concepts taught in the lectures are applied in practice, and a focus on the future and practical problems participants would face in their home country.

Macedonia:

- Workshop on priority setting was an excellent opportunity for all the relevant institutions to share information and experience.
- Regular ICM meetings and consultation meetings between experts and relevant stakeholders were an important tool for ensuring regular communication of activities and to build a sustainable network on national, regional and international level.

Belize:

- Priority areas pinpointed.
- Enhanced interest and support from key ministries after project implementation.

Trinidad & Tobago:

- The methodology applied was successful and provided a framework that can be applied in other developing countries.

UNITAR projects addressing strategic priority A also identified as best practices:

- Organization of working groups to promote inter-sectoral interaction and ownership of the project

- Stakeholder involvement, inter ministerial and inter-sectoral coordination, regular dissemination, sharing of information and project documentation.
- Information and presence of the project in various regions of the country.

UNITAR projects also report the following recommendations for the projects to be successful:

- The national experts' role is important in information/lessons learned sharing under the framework of other QSP projects
- Sustainable mechanisms are important for information exchange and increasing knowledge
- Successful implementation depends on effective resource mobilization
- The involvement of as many stakeholders as possible in all planning meetings and workshops is important

7.3 Challenges

The most common challenges among countries include the scarcity of financial resources for chemicals management, possibly because of its low level of priority in the national environmental agendas; low public awareness; lack of national data and information on the impacts of chemicals; and time constraints for project implementation and delivery of outputs. Additionally, institutional capacities as well as sectoral coordination are areas that need to be strengthened if chemicals management is to be mainstreamed into broader national development plans.

Some of the specific country input that was collected for this report is listed below:

Barbados:

- Chemicals management is not perceived to be an important issue and chances of attaining effective chemicals management are slim and resource mobilization is not effective.
- Increased public awareness information exchange mechanisms and greater political will are needed to push the process forward.

Bolivia:

- Gathering information from various institutions and stakeholders was a difficult task.
- Creating awareness-raising was also complicated in the initial phases of the project because some stakeholders lacked basic knowledge on SAICM.

Burundi:

- Collecting information
- Need for extension of the project implementation periods and issues related to the extension and the budget allocated
- Activities should be implemented before project implementation
- Involvement of the private sector
- Problems during the development of the national chemicals management database

Honduras:

- The amount of funds agreed by UNITAR limited certain activities under the project's framework. A larger project budget and scope would be a better approach in the future.

Moldova:

- The development of the SMC National Programme will certainly require a longer period for implementation of activities due to the lack of institutional, human and financial capacity of the country to realize the envisaged measures.

Macedonia:

- At the beginning of the project, the cooperation and coordination among the relevant institutions was as developed. The representatives from the relevant institutions were not completely aware about the responsibilities in terms of national procedures for chemicals management implementation.
- Lack of available data on chemicals management.

Lesotho:

- Limited data on chemicals management.
- Ministries related with chemicals have employees that are not trained to work with them.
- There are no concrete partnerships relating to chemicals management, with ministries and departments working in isolation, rather than as a team to manage such chemicals.
- Chemicals management priorities must be prioritized in terms of long term and short terms.
- National Environment secretariat must remain as the main stakeholder and driver of chemicals management in the country.
- Stakeholder concerns related to the sustainability of the SAICM programme following the completion of the project since many programmes in the country start strong but eventually wither.

Trinidad & Tobago:

- Late introduction of the M&E consultant in the project leaving very little time for desired interaction and verification.
- Late start of the project that constrained the timelines and compressed the time for report generation.

Belize:

- Limited human resources in the agricultural sector shortening their capacity to attend all meetings.
- Limited interest on sound management of chemicals of the Ministry of Economic Development, Ministry of Agriculture and Fisheries and Ministry of Labor at the beginning of the project.
- Few studies showing environmental health linkages.
- Delays hiring consultants.

Philippines:

- Lack of understanding about agencies roles and project jurisdiction.
- The country will rely on agencies stipulating a budget for future projects.

Cambodia:

- Lack of governmental commitment to provide a budget;
- National Strategic Plan (NSP) was weak due to the use of old data and the lack of a baseline. NSP lacks specific targets for mercury reduction, creating a lax framework that does not adequately address industry's attributes.
- Difficulty engaging stakeholders to gather more reliable data.

8. CONCLUSIONS

8.1 Overall QSP Performance

The Mid-Term Review of the Quick Start Programme shows that this SAICM initiative has been successful in enabling initial capacity building activities in developing countries, small island developing states and countries with economies in transition. The QSP has shown positive results and efficiency in providing an effective mechanism to support enabling activities for SAICM implementation towards the 2020 goal. Since the establishment of the Programme, 145 projects have been approved in 104 countries, demonstrating its success in assisting a wide range of countries in the initiation of sound chemicals management activities within five years. The QSP has been widely recognized as being accessible and flexible, and it is seen as a practical vehicle for quick project implementation.

The initial focus of projects on strategic priorities A and B seems to be a reasonable initial approach, as it facilitates a better understanding of the chemicals management situation of the country through the development of basic infrastructure. This has been particularly relevant for countries where chemicals management is not a priority or where there is a significant lack of information about chemicals issues in general. The logical progression after establishing a national baseline would be to undertake concrete actions supported under strategic priorities B and C, such as institutional strengthening and mainstreaming activities. However, it should be noted that there may still be many countries that need to establish or improve their baseline information at the national level before they can progress towards broader sound chemicals management issues.

In relation to multi-stakeholder and multi-sectoral involvement, the review shows that the provisions of the Programme requiring broad involvement from the outset has proven effective in fostering the active participation of stakeholders from a variety of relevant sectors in project implementation. However, the current QSP Reporting Guidelines may not reflect that engagement. Given the relevance of this aspect of the Programme, it would be advisable for the QSP Reporting Guidelines to be revised to better capture the engagement and participation of civil society groups. The importance of those contributions in support of QSP projects at the national and regional level needs to be better described and acknowledged.

In general, most projects mention a multi-sectoral approach in their proposals, but the majority of projects are led by the environment sector. Although a multi-sectoral approach has been identified in QSP projects, broader participation from sectors other than the environment should be encouraged and put into practice. A cross-sectoral approach is fundamental not only for the project's development, but also for the actions that are triggered.

8.2 Governance of the QSP

The Executive Board and the Implementation Committee fulfill their functions in accordance to their mandates contributing to the adequate management of the Programme in a spirit of common responsibility. The acceptance of the QSP by a wide range of stakeholders appears to demonstrate that a strong trust has been built in the governance structure and in the conduct of business of the two bodies it comprises.

The QSP Implementation Committee follows standard procedures for the appraisal of proposals and the monitoring of implementation of projects. In relation to project evaluation, it should be noted that additional benefits would be gained if indicators and measurable targets against which progress can be assessed are agreed upon by the Implementation Committee. Having such tools is likely to enhance project support and outcomes by providing relevant methodologies that optimize technical and administrative work.

Regarding project appraisal by the Implementation Committee, the outcomes of this function show that decisions based on a rigorous review of proposals, that these comply with all requirements, and that they are clear in terms of objectives and goals. Declaration of potential conflict of interest by representatives of executing agencies with have an interest in the proposal being appraised was not clearly identified in meeting reports. For transparency purposes, a short explanation on how the rules and procedures are being followed in these cases would be advisable.

8.3 Secretariat QSP-related functions

The SAICM secretariat has made substantive efforts in support of the operation of the QSP, and it has shown professionalism in the management of the increasing workload as a result of the larger number of projects in the QSP portfolio. To this end, the secretariat has fulfilled its mandate, while using limited human resources to complete relevant tasks.

Indeed, the rapid success of the Programme was probably not anticipated when it was first established. Considering that between 2009 and 2011 the number of projects under the QSP portfolio doubled, the infrastructure to administer the Programme remained at 2009 levels. The consequences have been identified earlier in this report and are mainly related to delays in processing agreements and project extensions.

Nevertheless, the feedback obtained from stakeholders during the interviews and site visits conducted, reflects a positive response to the support and performance of the secretariat.

8.4 Project performance and impact

While there are significant variations among the goals, scopes and outcomes of projects, overall assessment shows that completed projects have achieved positive impacts and their deliverables are relevant to building capacity in implementation of SAICM. While the information provided in project reports was sometimes limited, there was indication that all project activities had been implemented and all objectives were fulfilled. Variations in the scope and manner of delivery of projects are closely related to country needs and context. Although there are projects that appear to have wider scopes and more significant outcomes, they all appear to have brought important impacts to each country:

- The significant in-kind contributions to projects (20%) should be highlighted to show the financial leverage of the QSP

- The cost effective use of small amounts of funds to develop important foundation building of sound chemicals management
- The effective multi-stakeholder approach
- The opportunity to work and develop projects in a multi-sectoral way and for countries to implement activities under the SAICM Global Plan of Action (GPA)

The SAICM secretariat is vigilant in checking the quality and contents of project reports and following up with the projects. However, a closer and continuous monitoring would be more appropriate to achieve a comprehensive assessment of projects' scope, methodology, activities, outcomes, constraints and impacts, as well as a better review of deliverables. For this purpose, the overall assessment of projects can be improved by applying standard indicators and a comprehensive strategy for project design and management from the onset.

The completed projects that were subject to the mid-term review show that countries have made important progress in the implementation of the Strategic Approach and the activities implemented have acted as a catalyst for additional work on chemicals management and wider stakeholder engagement. However, it is difficult to assess the level of this progress without specific indicators targeting the performance of QSP projects.

8.5 Administrative, operational and/or technical problems

The Programme has been a remarkable success in attracting proposals. Indeed, the number of projects has effectively outgrown the infrastructure to support the Programme. This has been reflected in the various delays that have been described in this report. In 2009, the Conference approved an indicative staffing table that included two officers to manage the QSP. At that time, the portfolio consisted of 71 projects. By December 2011 the number of projects in the portfolio had increased to 145, effectively more than doubling the amount of work associated with the administration of the Programme. However, the staffing structure remains the same. The situation should be closely considered by the Conference as it impacts the secretariat's ability to effectively manage this Programme in the future. This is also an important point to consider in the design of any future financial mechanism that would support the implementation of SAICM or the broader chemicals and waste agenda.

Regarding administrative procedures, while these comply with UNEP financial rules, there is some room for improvement that could streamline these procedures.

An analysis of the implementation arrangements for the administration and disbursement of funds indicates that the current provisions for disbursement of funds until November 2013 will have a significant impact on project implementation, considering that a large number of projects are expected to request extensions.

Under these circumstances, projects approved during the later rounds of the QSP cannot last more than 12 and 6 months. The Open-Ended Working Group is forwarding a recommendation to the Conference to allow for disbursements for approved projects beyond November 2013. The Conference is expected to make a decision in its third session in September 2012.

8.6 Sustainability

Stakeholders consider the QSP as the only available mechanism that is accessible and focused specifically on chemicals management. A major indicator of this is noted in the outputs and tangible impacts that implementers have been reporting. Information submitted by implementers indicate that their work has strengthened with interaction among diverse stakeholders; that it has fostered synergies between the sectors; and that it has enabled the countries to develop synergies between the different International Chemicals Conventions and treaties.

Concerns are, to a large extent, linked to the likely unavailability of financial resources to continue with project activities if the QSP ends. A special effort therefore needs to be made to assist the countries in identifying and implementing relevant financial mechanisms. Additionally, countries should consider including SAICM activities in their respective yearly planning and budgeting. Future partners for further work after the project is completed should be established during the project's life time. The mainstreaming of chemicals into wider national development plans may be a potential way forward to commit national funding for chemicals management with a sustainability approach.

Having proven a high degree of success since it was established, the QSP appears to be the appropriate mechanism to offer support and assist countries in establishing a solid foundation and needs for advancing sound chemicals management. When considering moving on to the next stage in the implementation of SAICM, including the development of action plans focused on the mainstreaming of chemicals management into broader national development plans, this may go beyond the scope of the QSP. In that respect, the experiences and lessons learned through the operation of the QSP are likely to offer important guidance to establish linkages to other chemicals management supported activities, while promoting synergies and strengthening efforts towards sustainability of the Strategic Approach.

Sustained efforts towards SAICM implementation need to be accelerated and expanded if the target of 2020 is to be met. Taking advantage of the significant support that the QSP has offered since inception, but also recognizing that there are still pending issues that cannot rely on this Programme alone, discussions among countries, donors and international funding agencies need to progress at a faster pace. Closer interaction and communication would be highly beneficial to identify and assess existing or new mechanisms that may be able to meet current needs. One feasible way forward may be to consider using existing windows for the financing of chemicals management, such as the Global Environment Facility.

At the country level, it would be advisable for governments to clearly identify the synergies at the national level between SAICM and existing programmes governing chemicals (e.g. Stockholm, Rotterdam, and Basel Conventions). Such a strategy could be seen as an opportunity to address objectives that are of particular relevance to comply with obligations within a Convention, but that may also have an impact in achieving SAICM related objectives without duplicating efforts.

In cases where countries have succeeded in initial mainstreaming activities, efforts to enhance political support in the chemicals agenda may also provide an opportunity to

access local resources. Dedicating public funds to address issues relevant to the Strategic Approach and national priorities on chemicals, may also attract additional support from international agencies and donors.

One of the key barriers to progress on sound chemicals management is the lack of a clear understanding, mainly at the national level, on the links between sustainable development and unsound chemical practices. Further efforts are therefore necessary to improve integrated planning for chemicals management across government. International cooperation is a key element in promoting a coordinated approach to the sound management of chemicals globally. The support that the QSP has provided within its scope for enabling activities may well be used as a catalyst to encourage governments in their efforts towards SAICM implementation.

8.6 Effectiveness of monitoring and evaluation arrangements

The current independent monitoring and evaluation process provides a summary of activities directly associated to the QSP projects. This is an effective tool which also indicates the main achievements and constraints of project implementation. Additionally, the availability of methodologies and guidelines that have been developed by executing agencies and other organizations, appear to further facilitate the external monitoring work.

Several cases were identified which did not describe project outcomes with sufficient detail, which is usually necessary to conduct a comprehensive evaluation. When necessary and to address such situations, a continuous communication strategy and closer physical monitoring of countries is advisable to ensure that sufficient data is gathered and analyzed prior to evaluation. In this respect, the availability of more descriptive reports would facilitate a more effective review and overall assessment of project deliverables and impacts.

8.7 Lessons learned

The lessons learned through QSP projects include a wide variety of actions, experiences and challenges. While some countries report concrete actions such as the development of policies or national programmes, others report the value of awareness raising, information sharing or capacity assessment.

Reported best practices are more project-specific since they depend on countries' direct experience. Best practices most commonly reported include: involvement and close communication and cooperation with stakeholders, organization of working groups, inter-ministerial and intersectoral coordination, information sharing and successful methodologies implemented by countries.

Most of the reported challenges and barriers faced by countries can be attributed to time and resource limitations, delays during project start-up, difficulties gathering data and barriers during negotiations and involvement of key stakeholders. However, some of the challenges related to insufficient technical capacities or limited data may be reflective of

a national picture in chemicals management that had not been considered at the design phase of the project.

Following the successful completion of initial enabling activities, a few projects reported having continued with additional efforts and strategies to mainstream sound management of chemicals into broader national development plans, which is seen as a key aspect to achieve SAICM objectives and meet the 2020 goal.

There are challenges and pending issues that many countries still face in order to address chemicals management with an emphasis on a mainstreaming strategy including: strengthening institutional capacities, establishing mandates for coordination mechanisms, enhancing stakeholder involvement, and increasing political will and support, among others.

In summary, the evidence reviewed indicates that the QSP has been successful in supporting initial capacity-building activities. As SAICM enters into a critical phase of its implementation after six years of its adoption, a more sustainable financial mechanism may be necessary to support implementation of SAICM beyond enabling activities.

Annex I - List of information sources consulted

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Annex II. Consultation list of stakeholders and questionnaire respondents

Interview list

Name	Organization	Stakeholder
Mr Matthew Gubb	International Environmental Technology Center, UNEP	Former SAICM Coordinator
Mr. David Piper	UNEP Chemicals	UNEP
Mr. Jonathan Krueger	UNITAR	Chemicals and Waste Programme Manager
Mr. Brandon Turner	UNITAR	Implementation Committee
Mr. Ardeshir Zamani	DTIE /Chemicals Branch	Administrative Officer (including the SAICM Secretariat)
Ms. Carolyn Vickers	WHO	Implementation Committee
Mr. Mark Davis	Plant Production and Protection, FAO	Implementation Committee
Ms Lesley Onyon	WHO	SAICM Secretariat-Health sector
Mr. Hamoudi Shubber	UNEP-Stockholm Convention Secretariat	Former SAICM QSP Officer
Ms. Leonor Alvarado*	UNEP	SAICM Coordinator
Mr. Muhammad Omotola*	UNEP	SAICM Secretariat
Ms. Nora Silva	UNEP	SAICM Secretariat
Ms Anjana Giri *	UNEP	SAICM Secretariat
Mr. Nassereddin Heidari	Government of the Islamic Republic of Iran	Regional Representative at the Executive Board
Ms. Sezaneh M Seymour	EPA, US	Donor
Ms Gabi Eigenmann	Federal Office for the Environment, Switzerland	Donor
Ms. Jill Hanna	European Commission	Donor
Mr. Henrik H Eriksen	Government of Norway	Donor
Ms. Johanna Lissinger Peitz*	Government of Sweden	Donor
Ms Sara Stenhammar	SIDA, Sweden	Donor
Mr Barry Reville	Government of Australia	Donor
Mr. Rob Visser	Consultant	Former member of the Implementation Committee
Ms Anahit Aleksandryan	Government of Armenia	Project implementer
Ms Alexandra Caterbow	WECF Germany	Project implementer
Ms Abiola Olanipejkan	Federal Ministry of the Environment, Nigeria	Project implementer
Ms Anna Ortiz	Ministry of Environment, Costa Rica	Project implementer
Ms. Antoinette Macumi	Government of Burundi	Project implementer
Mr. Long Rithirak	Government of Cambodia	Project implementer
Ms. Enid Chaverri Tapia	Government of Costa Rica	Project implementer
Mr. Dakouri Raphael Zadi	Government of Cote D'Ivoire	Project implementer
Ms. Luz Patricia Vinuesa	Government of Ecuador	Project implementer
Mr. Fausto Cano	Government of Guatemala	Project implementer

Ms. Caroline Njoki Wamai	Government of Kenya	Project implementer
Ms. Tatiana Tugui	Government of Moldova	Project implementer
Ms. Portia K. Franz	Government of Palau	Project implementer
Mr. Michael Mozur	SETAC	Project implementer
Ms. Judith Carreras Garcia	Sustainlabour	Project implementer
Mr M Hota	Ministry of Environment and Forests, India	RFP
Mr. Supat Wangwongwatana	Government of Thailand	SAICM NFP

* Indicates stakeholders that were consulted or interviewed more than once between May and December 2011.

List of Recipients to the Questionnaire

Country / Organization	Name	Email	Stakeholder	Questionnaire submitted
Armenia	Ms Anahit Aleksandryan	anahit_aleksandryan@yahoo.com	Government-Implementer	Yes
Belarus	Ms Irina Zastenskaya	izastenskaya@gmail.com , rspch@rspch.by	Government-Implementer	No
Burkina Faso	Mr Bruno R. Salo	salobruno@yahoo.fr	Government-Implementer	No
Burundi	Ms Antoinette Macumi	macsasa72@yahoo.fr	Government-Implementer	Yes
Cambodia	Mr Long Rithirak	moeimo@online.com.kh , longrithirak@yahoo.com	Government-Implementer	Yes
Cameroon	Mr Samuel Tetsopgang	tetsopgang@yahoo.com	Government-Implementer	Yes
Chad	Mr Sobrika Yanka	sob_yanka@yahoo.fr	Government-Implementer	No
Colombia	Ms Andrea Lopez Arias	alopez@minambiente.gov.co	Government-implementer	Yes
Comoros	Mr Said Ali Thaoubane	sathaouane@yahoo.fr	Government-Implementer	No
Congo	Mr Jean Claude Emene Elenga	jcemene@yahoo.fr	Government-Implementer	No
Costa Rica	Ms Enid Chaverri Tapia	Enid.chaverri@gmail.com , chavetapia@yahoo.com	Government-Implementer	Yes (2 questionnaires)
Côte D'Ivoire	Mr Dakouri Raphael Zadi	zadid@aviso.ci , adi_raph@yahoo.fr	Government-Implementer	No
Cuba	Mr Mario Abo Balanza	mabo@ama.cu , marioabo@hotmail.com	Government-Implementer	No
Dominican Republic	Ms Deysi Joselin Sanchez	Deysi.sanchez@ambiente.gob.do	Government-Implementer	Yes
Ecuador	Ms Patricia Vinueza	pvinueza@ambiente.gob.ec	Government-Implementer	No
Gabon	Mr Serge Molly Allo'o	sergemolly05@yahoo.fr , allsergemolly@hotmail.com	Government-Implementer	Yes
Gambia	Mr Momodou B.S. Cante	momodoucante@yahoo.com , cantehmbs@yahoo.com	Government-Implementer	Yes
Georgia	Ms Khatuna Chikviladze	khatunac@hotmail.com , k.chikviladze@moe.gov.ge	Government-Implementer	Yes
Guatemala	Mr Fausto Cano	fcano@marn.gob.gt , faustocano@gmail.com	Government-Implementer	Yes
Haiti	Mr Jean Claude Carre	jclaud@hotmail.com , pophaiti@hotmail.com	Government-Implementer	No
Honduras	Ms Ana Gabriela Ramirez	Cesc.co.serna@gmail.com	Government-Implementer	Yes

Country / Organization	Name	Email	Stakeholder	Questionnaire submitted
		agabrielaramirez@gmail.com		
Jamaica	Ms Gillian Guthrie	emdmohe@yahoo.com	Government-Implementer	No
Kenya	Mr Francis Kihumba	kihumbafn@yahoo.com	Government-Implementer	Yes (3 questionnaires)
Kiribati	Mr Farran Mack Redfern	farranr@environment.gob.ki , kaokioki@yahoo.com	Government-Implementer	Yes
Korea	Mr Dae Hyun Ko	daehyunko@me.go.kr	Government-Implementer	No
Kyrgyz Republic	Mr Kubanychbek Noruzbaev	knoruzbaev@yahoo.com , knoruzbaev@gmail.com	Government-Implementer	No
Lesotho	Ms Mammeli Makhate	mafallamakau@yahoo.com	Government-Implementer	Yes
Macedonia	Ms Suzana Andonova	s.andonova@pops.org.mk , Suzana_andonova@yahoo.com	Government-Implementer	Yes
Madagascar	Mrs Marthe D. Rahelimalala	marthe_rahel@yahoo.fr	Government-Implementer	Yes
Malawi	Ms Carolina Theka	caroltheka@yahoo.com	Government-Implementer	No
Mali	Mr Oumar Diaoure Cisse	cdiaoure@yahoo.fr	Government-Implementer	Yes
Mauritania	Mr Sidi Ould Anlouemine	aloueimine01@yahoo.fr	Government-Implementer	No
Moldova	Ms Liudmila Marduhaeva	Liudmila@moldovapops.md , l.marduhaeva@mail.md	Government-Implementer	No
Nepal	Mr Rishiraj Koirala	rishikoirala@hotmail.com , rrkoirala@moenv.gov.np	Government-Implementer	No
Nigeria	Ms Olufunke O. Babade	obabade2002@yahoo.com	Government-Implementer	Yes
Palau	Ms Portia K. Franz	eqpbfranz@yahoo.com	Government-Implementer	Yes
Philippines	Ms Emmanuelita Mendoza	millete04@yahoo.com	Government-Implementer	Yes
Romania	Ms Luminita L. Tirchila	luminita.tirchila@mediu.ro , woolflumi@yahoo.com	Government-Implementer	No
Rwanda	Ms Harerimana S. Ntuye	simeontuye@yahoo.com , Simeon.ntuye@rdb.rw	Government-Implementer	Yes
Saint Vincent and the Grenadines	Mr Marcus Richards	mlrids@yahoo.com	Government-Implementer	No
Serbia	Ms Tatjana Markov	Tatjana.mmilinkovic@shema.gov.rs	Government-Implementer	No
Syria	Mr Farouk Aleter	Fa.aleter@yahoo.com , Fa.aleter@hotmail.com	Government-Implementer	No
Uruguay	Ms Judith Magali	Judith.torres@dina	Government-	Yes

Country / Organization	Name	Email	Stakeholder	Questionnaire submitted
	Torres	ma.gub.uy , Jmtorres1426@gmail.com	Implementer	
Vietnam	Mr Phung Ha	hap@moit.gov.vn	Government-Implementer	Yes
Yemen	Mr Murad Alfakih	alfakih11@maktoob.com	Government-Implementer	Yes
International Society of Doctors for the Environment (ISDE)	Ms Lilian Corra	lcisde@arnet.com.ar	NGO-Implementer	Yes
Society of Environmental Toxicology and Chemistry (SETAC)	Mr Michael Mozur	mmozur@setac.org	NGO-Implementer	Yes

Annex III – Questionnaire Analysis

List of Respondents to Questionnaire

Country	Respondent	Stakeholder
Argentina	Asociación Argentina de Médicos por el Medio Ambiente (AAMMA)	NGO (Health sector)
Republic of Armenia	Ministry of Nature Protection Republic of Armenia	Project implementer, executing agency,
Cambodia	SAICM Focal Point	Government
Cameroon	Research and Education Center for Development (CREPD)	NGO and project implementer
Costa Rica	Ministry of Environment, Energy and Telecommunications (DIGECA)	Project implementer
Costa Rica	Ministry of Environment, Energy and Telecommunications (DIGECA)	Project implementer
Dominican Republic	Environmental Ministry and Natural Resources	Government
Colombia	Ministerio de Ambiente y Desarrollo Sostenible	Government
Gabon	Centre National Antipollution/ Ministry of Environment	National executing agency
Gambia	National Environment Agency	Project Implementer
Georgia	Ministry of Environment of Georgia	NA
Guatemala	Ministerio de Ambiente y Recursos Naturales	Government
Honduras	Centro de Estudios y Control de Contaminantes/Secretaría de Recursos Naturales y Ambiente	Government
Kenya	Ministry of Environment	Project implementer
Kenya	Ministry of Public Health and Sanitation	Project implementer
Kenya	iLimaorganization	NGO
Kiribati	Ministry of Environment, Lands and Agriculture Development	Project implementer
Lesotho	Ministry of Tourism, Environment and Culture – Department of Environment	NA
Macedonia	Ministry of Environment and Physical Planning (POPsUnit)	Project implementer
Madagascar	Ministry of Environment and Forest	Project implementer
Mali	Ministère de l'Environnement et de l'Assainissement	Project implementer
Nigeria	Federal Ministry Of Environment, Abuja, Nigeria	Project Implementer and donor
Republic of Palau	Palau Environmental Quality Protection Board	Executing Agency
Philippines	DENR-Environmental Management Bureau	Project Implementer/Governing Body
Rwanda	Rwanda Development Board (RDB)	Government
SETAC	Society of Environmental Toxicology and Chemistry (SETAC)	NGO (Global Professional Scientific Society)

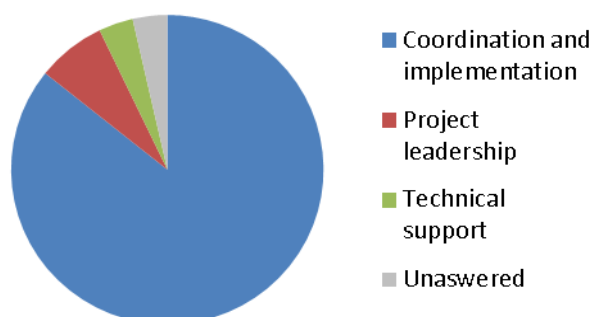
Uruguay	Ministry of Land Planning, Housing, and Environment of Uruguay	Project implementer
Vietnam	Vietnam Chemical Agency	Project implementer
Yemen	EPA	Project implementer

Questionnaire Analysis

1.- Describe your main responsibilities (or those from your organization) in the implementation of a QSP project.

Observations:

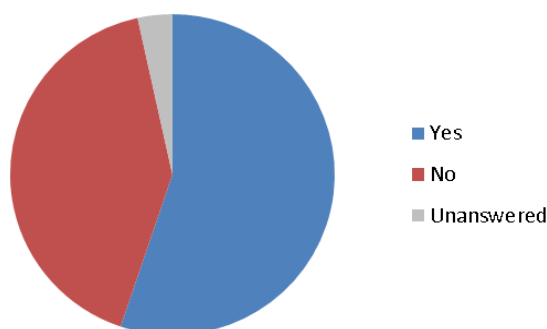
According to the answers for this question, the majority of the respondents (86%) had a close knowledge and experience in the QSP project implementation as their main responsibilities were focused on the coordination and the implementation of the QSP project. Specific activities mentioned are to ensure the achievement of the objectives and outputs of the project according to timelines; elaboration of technical and financial reports and facilitates communication among stakeholders. Two respondents (7%) were the project directors and had the main responsibility to review, guide and approve project outputs. One respondent was a technical supporter to the implementer partner and other respondent did not answer the question.



2.- Did you choose to use an executing agency? If Yes, what was the criteria applied for your selection? If No, how was project implementation achieved (e.g. coordination and direct intervention from stakeholders, etc.)

Observations:

55% of the respondents selected an executing agency to support project implementation. The criteria used for the selection were the previous experience in working with the agency in related projects and its technical expertise and capacity. Some respondents mentioned that did not use any criteria as the agency approached them and offered its supported and they decided to accept its support. 41% of the respondents did not use an executing agency as they use the local capacity of the institutions. It is important to mention that some respondents had an incorrect conceptualization of an executing agency.

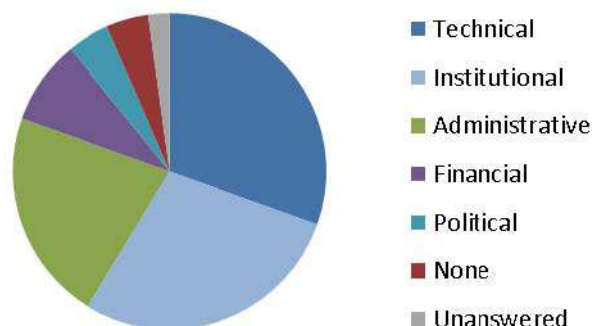


3. Briefly indicate :

a) The challenges and constraints (e.g. institutional, financial, administrative, technical, political) faced throughout the implementation of the QSP project.

Observations:

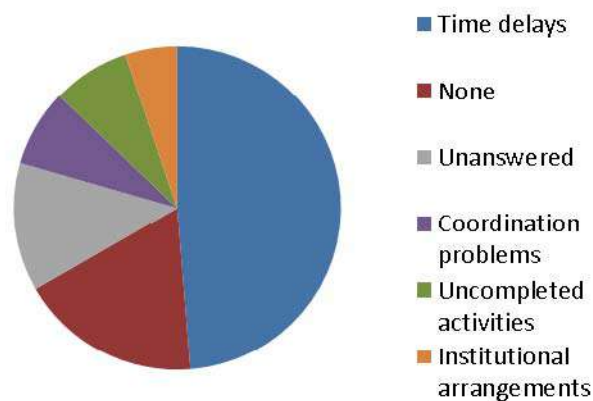
According to the answers, the main challenges and constraints faced during project implementation are technical (30%), institutional (28%) and administrative (22%). The main technical obstacles reported are the limited local expertise to conduct/support project implementation, the restricted technical capacities of the institutions on chemicals management and the limitations of relevant information to implement project activities. The difficulties to engage stakeholders and the limited capacity of the institutions to response to the needs of the projects are the most common institutional barriers identified in the questionnaires. The delay in obtaining the funds was the administrative problem mainly reported.



b) What was the impact of those constraints in terms of project deliverables (e.g. time delays, uncompleted activities, institutional arrangements, lack of coordination, etc.)

Observations:

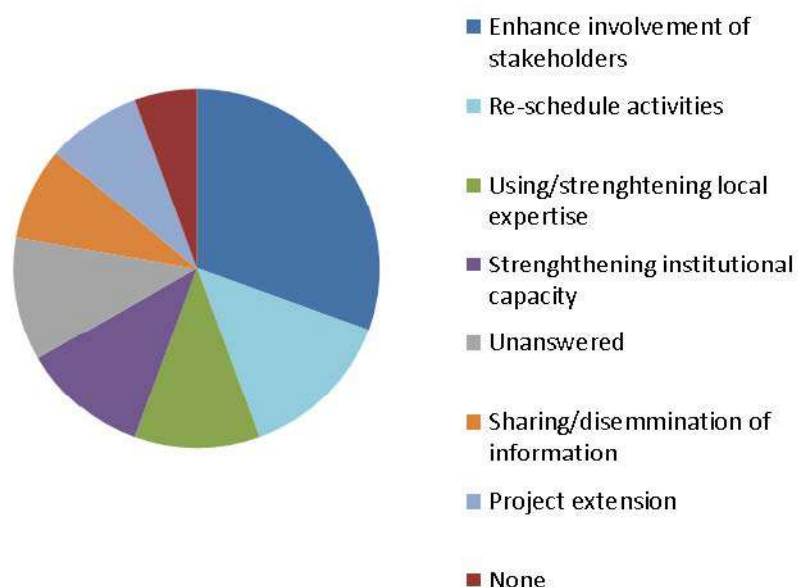
Time delays in starting the project, implementing activities, accomplishing deadlines and releasing outputs were the principal impacts identified (49%). Also, 18% reported to have any impact. Other impacts were coordination problems, uncompleted activities and institutional arrangements.



c) The approach or corrective actions that were implemented to address the challenges/constraints identified on part a).

Observations:

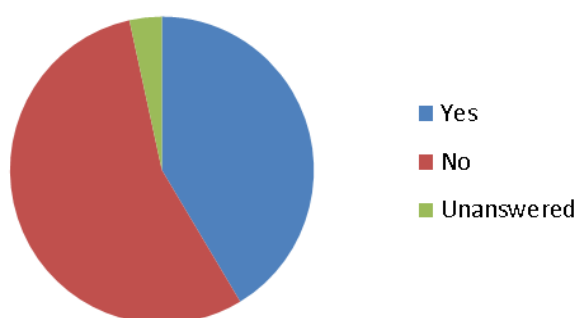
In order to overpass the challenges and constraints faced in the project implementation, the principal approach applied was to enhance the involvement of stakeholders as the difficulties to engage them were reported as one of the main institutional barriers. Due to time delays it was necessary to re-schedule project activities and request a project extension. To cover the technical limitations the strengthening and use of local expertise was applied as other approach. Strengthening institutional capacity such as the creation of national committees to support project development was also necessary. Sharing and disseminate information was also useful to address technical limitations and enhance stakeholders involvement. Other corrective actions included close monitoring of activities, use of international/regional capacity and turn up the project status as a high priority.



4.- Was the QSP project implemented within the timeframe established? If No, indicate the reason and whether an extension was requested to complete the activities.

Observations:

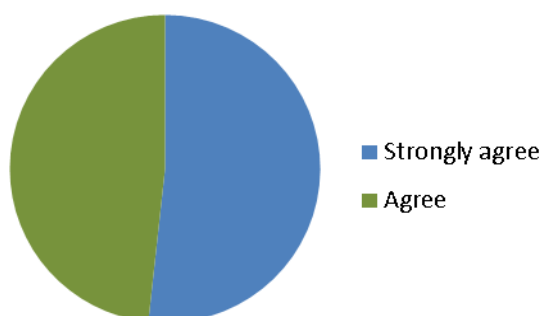
Approximately 41% of the respondents met the project timeframe. 55% stated that the QSP project was not implemented in the timeframe established mainly due to administrative constraints such as delays in obtaining the funds which affected the starting date of the project. One respondent mentioned delays in implementing project activities and another one stated delays in receiving the project from the consultant.



5.-Does the SAICM Secretariat fulfil its purpose to support the operation of the QSP and its trust fund and its related functions?

Observations:

52% of the respondents strongly agree and 48% agree that SAICM Secretariat fulfil its purpose to support the operation of the QSP and its Trust Fund and its related functions.

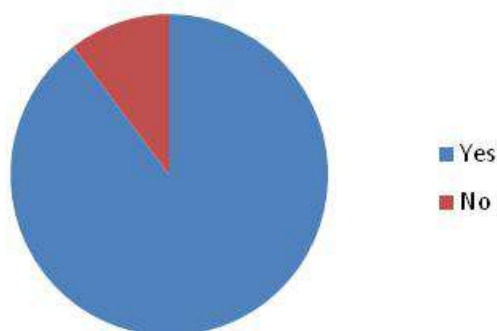


6.- At the National level, what have been the main outcomes and impacts of the implementation of the QSP project? From the following list, select the options that apply.

a) Capacity building/strengthening for chemicals management

Observations:

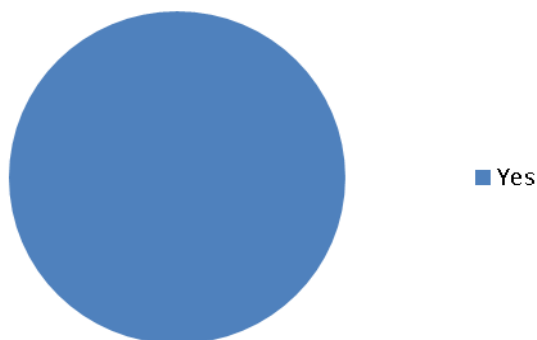
The majority of the respondents (90%) considered that the outcomes and impacts of the project had a positive effect on capacity building/strengthening for chemicals management. Particularly, one of the main impacts was the strengthened of knowledge and expertise of governmental institutions on chemicals management. For example, one respondent mentioned the training of relevant institution for the prevention and attention of chemical accidents.



b) Contribution to policy-making, legislation, institutional capacities relevant to the sound management of chemicals

Observations:

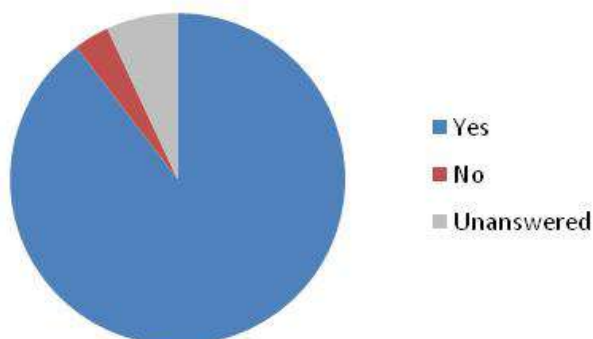
All respondents (100%) agree on the contribution to policy-making, legislation, institutional capacities relevant to the sound management of chemicals. There is a variety of contributions reported in the questionnaires. 24% of the answers made reference to proposals or drafts of regulations and policies on chemicals management. For instance, it was mentioned that the QSP project contributed to the mainstreaming of sound chemical management in the national development planning and sectoral plans/policies including the draft national integrated environment policy. The creation of tools such as methodologies or systems of information to support decision making were also reported (14%). The same percentage (14%) was estimated for proposals of initiatives to improve the coordination and performance of the institutions related to chemicals management and the creation of the platform for new legislation. Published instruments were also reported such as the National Plans of Joint Action on Chemicals Management and a National Policy for SAICM Implementation.



c) Integration of working groups or national committee to address chemicals management

Observations:

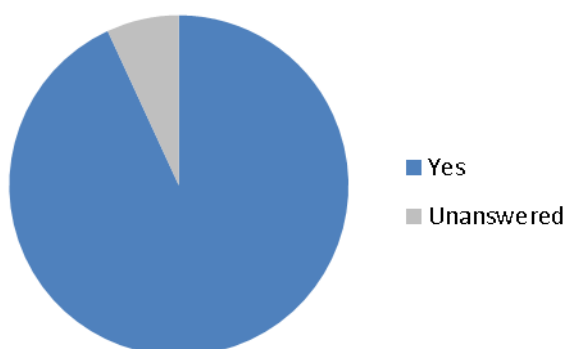
As expected, the highest number of respondents (90%) created or integrated working groups or national committees to address chemicals management. Although many of these respondents (58%) did not mention the name or the kind of group created, some of them include the name. In some cases, the committees or working groups created were exclusive for the QSP project implementation; however, other groups were provided with legal foundations to strengthened capacity, for example, the National Technical Secretariat for the Coordinating of Chemical Substance Management and the National oversight advisory standing committee and its technical coordinating body.



d) Raising awareness among stakeholders and civil society

Observations:

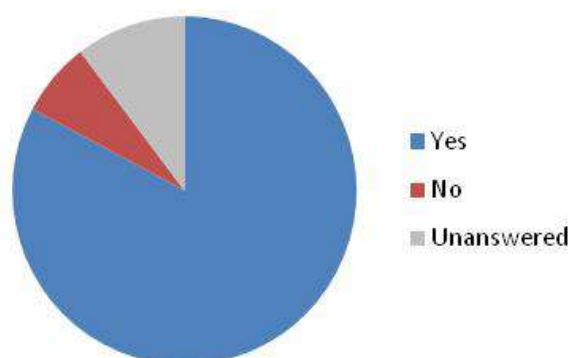
Raising awareness seems to be included in the majority of the QSP projects reported in the questionnaires, 93% of the respondents answered affirmatively this question and 7% did not answer it, one of the respondents was an international NGO, hence the question was not applicable. According to the respondents that provided further details on this issue (48%), raising awareness was provided mainly to stakeholders, some awareness was supplied to other groups such as vulnerable populations, target groups (i.e paint retailers and painters) and public.



e) Establishment of partnerships between public and private sectors, or others.

Observations:

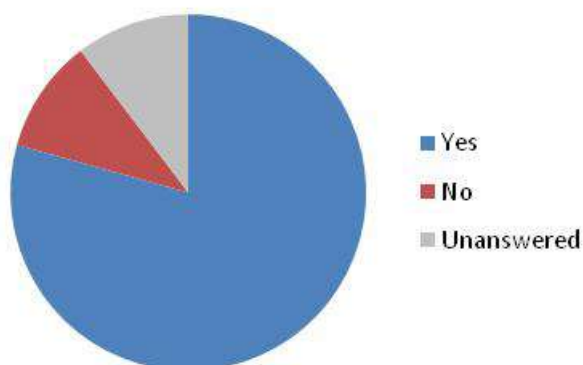
83% of the respondents stated the creation of partnerships. In spite that some countries did not provide a description of the kind of partnership created, some examples of these are the participation of a government as a full member in the *en.ligthen Initiative* (UNEP/OSRAM/Philips), which will be useful to receive technical and financial support on lighting efficiency programs and spent lamps sustainability. Considering some answers of the respondents (17%), it was noticed confusion between the concept of partnership and the integration of committees.



f) Contribution of QSP project activities and outcomes to other chemicals management programmes (Stockholm, Basel, Rotterdam Conventions, others)

Observations:

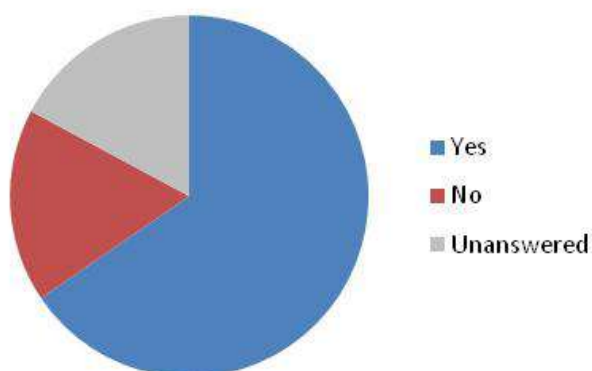
Considering the wider coverage of SAICM Initiative, it is expected that QSP projects may have an impact in other chemicals management programmes such as the Stockholm, Basel and Rotterdam Conventions. According to the answers of the questionnaires, 79% of the respondents mentioned a contribution of the project to other related programmes. The description provided in some answers made reference to the participation of officials of these conventions in the project activities. It was also mentioned that in some cases the information generated provided basis to support implementation or decision making to other initiatives, for example, one project provide outputs to define the position of the country in the international mercury negotiations, other project supported the recommendation for national ratification of Stockholm and Basel Conventions.



g) Mainstreaming of chemicals management into a broader National Development Plan

Observations:

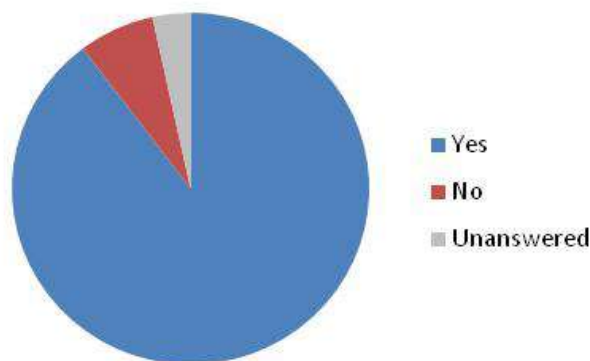
65% of the respondents reported mainstreaming of chemicals management into a broader National Development Plan; however, there is one clear example of this contribution in the questionnaires. This is the draft Kiribati Development Plan (KDP 2012 – 2015) that identifies chemical and waste management as one of the core issue under the environment policy area.



7.- Has the QSP project facilitated follow up work and activities that contribute to chemicals management at the National level?

Observations:

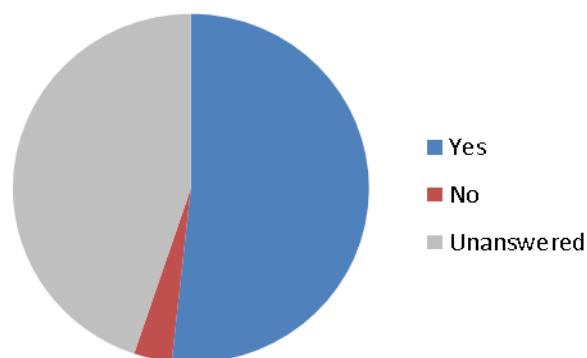
The majority of the respondents (90%) agree that QSP project facilitated follow up to previous efforts on chemicals management. Considering the description provided for some respondents the implementation and outcomes of the project support other initiatives related to chemicals management, for example, improvement of the legislation system and the interministerial coordination, retake discussion on heavy metals. Additionally, QSP project crystallize efforts to have the basis for the sound chemicals management, for example, to have a SAICM National Action Plan and also raise problems that had not been identified or attended, for example, lead in paints, and reaffirm needs previously identified.



8.- What are your views with respect to the overall attainment of the QSP in terms of its effectiveness to implement projects that target SAICM objectives in alignment with national priorities?

Observations:

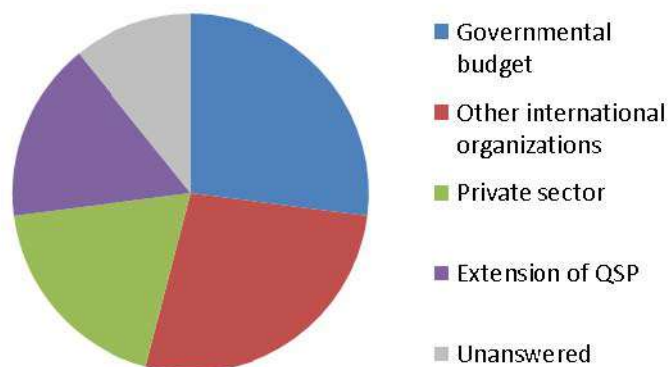
Regarding the opinion of respondents on the overall attainment of the QSP in terms of its effectiveness to implement projects that achieve SAICM objectives in alignment with national priorities, 52% of the respondents opined that QSP has been effective to target SAICM objectives taking into account national priorities. Comments from respondents appoint that the flexibility of QSP to support different projects that respond to national problems, the relative easy access to the funds and its role as a trigger to raise the issue of chemicals management at national level, have contributed to its effectiveness. One respondent supported the effectiveness of the QSP, but stated the lack of attention to guide countries to be able to follow up this issue with their own resources. 45% of the respondents answered this question making reference to the effectiveness and benefits of the project itself, since this answers could not be considered right they were accounted as unanswered. One respondent (3%) did not agree with the effectiveness of the QSP since the timeframe to carry out the projects is too short, the funding provided is insufficient considering that project's objectives are ambitious and the need to evaluate the capacities of the countries for follow up since these are not well developed.



9.- Taken into consideration that the QSP Trust Fund has a time bound limit established until November 2013, what other possible mechanisms and resources would you suggest for the financing of projects aimed to support and sustain SAICM implementation at the National level?

Observations:

Respondents provided different suggestions of mechanisms and resources to finance projects that target SAICM objectives at National level. The allocation of governmental budget, the use of other financial mechanisms provided by other international organizations such as the Global Environment Facility, the contribution of the private sector through partnerships or under the principle of polluters pays, and the extension of the QSP Trust Fund were the most common suggestions reported to sustain SAICM implementation. Other proposals included the creation of a similar mechanism to QSP Trust Fund but assuring its sustainability, the bilateral cooperation, the use of in kind resources and the creation of a Chemical Trust Fund.



10.- From your experience, summarize the major achievements and outcomes of the implementation of a QSP project in your country, or when applicable, through a multi country project.

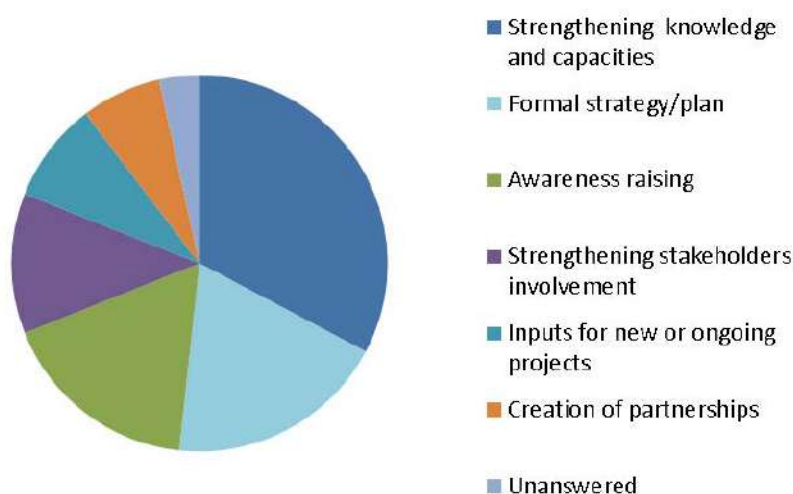
Observations:

Major achievements and outcomes reported in the questionnaires were focused on the following aspects:

- a) Strengthening knowledge and capacities. The outcomes obtained from the QSP project implementation generated or increased the knowledge on the chemicals management situation at national level (i.e. National capacity assessment or on specific issues in this field (i.e. Determination of high lead concentration in paints commercialized).
- b) Formal strategy/plan. Project outcomes included a formal path way to guide the SAICM implementation efforts (i.e. National Plans of Joint Action on Chemicals Management; National Policy for SAICM Implementation; The National Sustainable Development Strategy; and National Strategic Plan for improved mining practices)
- c) Awareness raising. Many project included this activity as part of the project implementation (i.e. Awareness in hazardous chemicals and waste management; Awareness in the relevance of a Pollutant Release and Transfer Register (PRTR); and Awareness about potential health and environment risk implicates in chemical management at all levels.)
- d) Strengthening stakeholders involvement. The interaction, cooperation and participation of stakeholders are included in the comments provided by respondents (i.e. Stakeholders participated in the decision making to propose a new project to continue working on chemicals management)
- e) Inputs for new or on going projects (i.e. "...the National SAICM Committee in collaboration with different stakeholders has again developed a new national chemicals project document...", "It (the project) has revitalized the dormant bilateral "Senegal / Gambia Chemicals Management initiative").
- f) Creation of partnerships. Some examples of partnerships have been reported such as the partnerships established with institutions and foreign agencies for Prevention and Preparedness for Chemical Accidents and partnerships between the government and bilateral aid donors for chemicals management.

Other outcomes and achievements reported were the creation of networks, the dissemination and exchange of information.

Two respondents did not answer the questions, one of this due to it was an international NGO.



Annex IV - Strategic priorities of the QSP Trust Fund

The three strategic priorities of the QSP Trust Fund make sense from the perspective of the broad-spectrum intentions of SAICM based on the following rationale:

(A) Development or updating of national chemical profiles and the identification of capacity needs for sound chemicals management.

Having a basic understanding of what chemicals are in the country's jurisdiction, how they are produced or imported, transported, stored, used and disposed of is needed to identify the country's priorities for its chemicals management regime consistent with SAICM.

(B) Development and strengthening of national chemicals management institutions, plans, programmes and activities to implement the Strategic Approach, building upon work conducted to implement international chemicals-related agreements and initiatives

All countries need to have appropriate legislation, institutions and systems for chemicals control. Without these components in place, there is no basis for improvement in governance of old and new chemicals. Most urgently, these components of the chemicals governance regime are needed to achieve reduced use of hazardous chemicals in developing countries and improved handling of hazardous waste consistent with SAICM implementation.

(C) Undertaking analysis, interagency coordination, and public participation activities directed at enabling the implementation of the Strategic Approach by integrating – i.e., mainstreaming – the sound management of chemicals in national strategies, and thereby informing development assistance cooperation priorities.

Cooperative action is necessary for countries to implement measures that integrate chemicals issues into broader development national agendas, encouraging participation and commitment from all stakeholders in order to successfully implement and sustain the strategic approach.

Annex V – Contributions to the QSP Trust Fund 2006-2012

Donor	2006		2007		2008		2009		2010		2011		2012		Total in USD
	Amount in local currency	Amount in USD	Amount in local currency	Amount in USD	Amount in local currency	Amount in USD	Amount in local currency	Amount in USD	Amount in local currency	Amount in USD	Amount in local currency	Amount in USD	Amount in local currency	Amount in USD	
Australia			AUD 60,000	57,366	AUD 250,000	236,635								0	294,005
Austria	EUR 100,000	131,572	EUR 120,000	159,572	EUR 105,000	156,033	EUR 50,000	73,964	EUR 50,000	67,294	EUR 10,000	13,333		0	601,768
Belgium	EUR 40,000	50,068					EUR 10,000	14,430						0	64,498
Czech Republic					EUR 50,000	66,715			EUR 10,000	12,330				0	79,045
European Commission			EUR 2,400,000	3,108,808	EUR 1,950,000	2,495,783					EUR 1,600,000 + 860,000	2,141,901+ 1,151,227			8,897,719
Finland	EUR 200,000	254,452	EUR 200,000	273,597	EUR 200,000	311,526	EUR 200,000	280,898			EUR 200,000	286,123		0	1,406,596
France	EUR 50,000	65,789				107,503	EUR 60,000	80,753	EUR 100,000	138,888	EUR 200,000	266,666		0	659,599
Germany							EUR 160,000	217,687	EUR 180,000	244,897	EUR 180,000	256,410	180,000	241,286	960,280
Hungary					EUR 10,000	12,936								0	12,936
India		100,000												0	100,000
ICCA										30,000					30,000
Madagascar				5,104		4,542		5,000						5,000	19,646
Republic of Korea				40,000						50,000	USD 50,000	50,000		0	140'000
Romania							EUR 10,000	13,605						0	13,605
Netherlands	EUR 100,000	128,205	EUR 100,000	136,789	EUR 100,000	155,763	EUR 50,000	69,992	EUR 100,000	132,625	EUR 50,000	72,674		0	696,048
Nigeria		50,000						50,000						30,000	130,000

Donor	2006		2007		2008		2009		2010		2011		2012		Total in USD
	Amount in local currency	Amount in USD	Amount in local currency	Amount in USD	Amount in local currency	Amount in USD	Amount in local currency	Amount in USD	Amount in local currency	Amount in USD	Amount in local currency	Amount in USD	Amount in local currency	Amount in USD	
Norway	NOK 3,000,000	485,564	NOK 6,000,000	1,102,941	NOK 6,000,000	848,506	NOK 5,000,000	803,853	NOK 5,000,000	819,000				0	4,059,864
Pakistan										2,009				0	2,009
Slovenia	EUR 20,000	26,350	EUR 20,000	29,213	EUR 120,000	160,808	EUR 20,000	25,830	EUR 90,000	115,935	EUR 70,000	103,703		0	461,839
South Africa		100,000						50,000		100,000		100,000		0	350,000
Spain	EUR 100,000	131,578	EUR 45,000	65,597	EUR 300,000	389,610		389,610	EUR 50,000	65,703				0	1,042,098
Sweden	SEK 25,000,000	3,649,000	SEK 15,000,000	2,266,050			SEK 15,000,000	2,048,525	SEK 14,440,000	2,189,000				0	10,152,575
Switzerland	CHF 200,000	161,419	CHF 150,000	133,496	CHF 150,000	125,330	CHF 200,000	190,043	CHF 100,000	100,000	CHF 100,000	117,233		0	827,521
United Kingdom	GBP 215,000	375,476												0	375,476
United States		200,000		300,000		300,000		300,000		400,000		400,000		0	1,900,000
TOTAL in USD		5,909,473		7,678,533		5,371,694		4,614,190		4,467,681		4,959,270		276,286	33,277,128

Annex VI: Non-trust fund contributions to the QSP in 2009-2012

Contributor	Declared QSP Contribution	Strategic priority addressed	Type of contribution	Indicated value
BASF SE	- Development of a software for introducing eco-efficiency in small and medium sized enterprises (SMEs) operating in the textile dyeing industry - "1+3" project, launched in China as part of its corporate social responsibility activities. Extension to 55 companies - Support to communities on waste management -Public-private partnership on Strategic Alliance for the fortification of oil and other staple foods -Setting up social business with Grameen on products to combat malaria and malnutrition	b)	In-kind	
ICCA	- Capacity-building workshops for chemicals management largely in developing and emerging economies, namely: Thailand, Indonesia, China, Argentina, Bulgaria, India, Croatia and the Baltic States as well as in Japan, coordinated by the National Associations - Further workshops planned during 2010 in Korea, Russia, Thailand, Gulf States, China and Brazil. - Major progress has been achieved between the SAICM Secretariat and ICCA Secretariat in defining the details of the Retiree Project which will receive a modest financial support from ICCA initially to assist the launch phase -	b)	In-kind	
IPEN	- Global SAICM outreach project	Overall QSP objective	In-kind	\$300,000
FAO	- Support based on the International Code of Conduct on the Distribution and Use of Pesticides - Promotion of integrated pest and vector management	a), b) & c)	In-kind	\$20,000

	- Disposal of obsolete stockpiles - Development of standards for pesticides and progressive ban of highly hazardous pesticides and introduction of mechanisms and standards - Development of international reference standards for pesticide quality and for pesticide residues in food - Introduction of mechanisms for the progressive ban on highly hazardous pesticides - Promotion of good agriculture practices - Capacity building in establishing national and regional laboratories - Participation in intergovernmental panels and the secretariat of the Rotterdam Convention - Development of guidelines for the implementation of the Code of Conduct - Promotion participatory approaches based on farmer field schools.			
OECD	-Development of chemicals management and assessment guidelines, guidance, manuals and data systems -Free dissemination and availability of materials, including development of the eChem Portal, which will make the data and assessments in many databases worldwide accessible and available for free, and the development of a QSAR Application Tool Box, which will make QSAR methods accessible and available for free	b) & c)	In-kind	
UNDP	- UNDP 2008-2011 Strategic Plan and Mainstreaming Environment and Energy, and technical assistance and MDG-based support for chemicals management - Development of a strategic approach within UNDP to better assist countries with SAICM implementation within the context of the MDG Support Service	b) & c)	In-kind	\$1,680,000

	programme -Clustering UNDP Montreal Protocol/Chemicals Unit to foster synergies on chemicals-related activities -Efforts to integrate chemicals and SAICM with sequenced financing from other sources and MDGs in the document "Managing Chemicals for Sustainable Development: Sound Management of Chemicals and Sustainable Human Development" - Development of guidelines and tools for mainstreaming of chemicals in development and development of guidelines for mainstreaming gender in chemicals management -Implementation of the UNDP-UNEP partnership initiative in 12 pilot countries. - Assistance to countries to develop proposals for the consideration of the SAICM Quick Start Programme Trust Fund - Technical assistance and capacity building to meet Montreal Protocol and Stockholm convention targets - Chemicals related work in GEF International waters project portfolio -Assistance in mobilizing environmental finance for the development and implementation of projects on sound chemicals management			
UNEP	-Development and implementation of UNDP-UNEP partnership for sound chemicals management and mainstreaming, including developing a supplement to the cost-benefit economic analysis guide and research guide for assessing national capacities for environmental economics in developing and transitional countries - Development of guidance on development of legal and institutional infrastructures and economic instruments for cost recovery	b) & c)	In-kind	

	- Flexible framework for addressing chemical accident prevention and preparedness with pilot testing in Cambodia and Philippines - Regional laboratory and analytical POPs capacity in the Asian and Pacific region - Chemical Information Exchange Network (CIEN)			
UNIDO	-Cleaner production programme and network. Additional activities under the programme include prevention, health and safety, process simulation and optimization, and risk management. - Activities in national cleaner production centres on waste management and minimization - Chemicals leasing programme and capacity building in Egypt, Mexico and Russia, to be extended to Colombia, Morocco, Serbia and Sri Lanka	b)	In-kind	\$1,400,560
UNITAR	-Support to strengthen capacities for sound chemicals management with an emphasis on assisting countries and regions with SAICM implementation (including nanotechnology – see below) and addressing challenges related to mercury and other heavy metals - Together with OECD raising awareness in countries about nanotechnology/manufactured nanomaterials - Development and implementation of QSP trust fund projects in 53 countries/entities -Development of guidance material for SAICM activities and on line national chemical profiles collection -Specific support for capacity building (POPs, PRTRs or GHS)	a), b) & c)	In-kind	\$250,000 \$2,000,000 (per year)
WHO	- Actions to improve ability to access, interpret and apply scientific knowledge - Filling of gaps in scientific knowledge - Development of globally-harmonized methods for	a) & b)	In-kind	\$11,000,000

	chemical risk assessment - Development of better methods to determine impacts of chemicals on health, to action and to monitor progress of SAICM - Building capacities of countries to deal with poisonings and chemical incidents - Strategies directed specifically at the health of children and workers - Work to promote alternatives to highly-toxic and persistent chemicals - Strategies aimed at prevention of ill-health and disease caused by chemicals			
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Annex VII – Summary of Project Outcomes – Completed Projects

Round	Recipient(s)	Project Title	Deliverables	Lessons Learnt	Attainment of objectives and planned results	
					Effectiveness	Relevance
1 st	Burkina Faso, Djibouti, Madagascar, Rwanda and Sao Tome & Principe	Updating National Chemicals Management Profile of a national SAICM capacity assessment and holding a national SAICM priority setting workshop in five least developed countries	1. National Profile 2. Capacity Assessment Report, 3. SAICM Priority Setting Workshop 4. Report for every country	(not available)	- Projects objectives have been met. – Political commitment by setting up the project structures and by the project’s meetings. New data and information on chemicals and waste management produced. - Increased understanding of national chemicals management through national priorities setting, countries have reached a fundamental stage for further action to implement SAICM.	Contribution to QSP objectives through SP A.
1 st	Côte d'Ivoire, Haiti, Mongolia, Republic of Congo and Syria	Updating National Chemicals Management Profile, development of a National SAICM Capacity Assessment and holding a national SAICM priority setting workshop in one LDC and four developing countries	1. National Profile 2.Capacity Assessment Report 3. SAICM Priority Setting Report 4. Report for every country	(not available)	- Projects objectives have been met. - Political commitment by setting up the project structures and by the project’s meetings. New information on chemicals and waste management produced. - Increased understanding of national chemicals management through national priorities setting, countries have reached a fundamental stage for further action to implement SAICM	Contribution to QSP objectives through SP A

1st	Armenia, Chile, Costa Rica, Georgia and Serbia	Updating National Chemicals Management Profile, development of a National SAICM Capacity Assessment and holding a national SAICM priority setting workshop in two least developing countries and three countries in transition	1. National Profile, 2. SAICM Capacity Assessment Report 3. SAICM Priority Setting Workshop 4. Report for every country	(not available)	- Projects objectives have been met. – Political commitment by setting up the project structures. New data and information on chemicals and waste management produced. - Increased understanding of national chemicals management through national priorities setting, countries have reached a fundamental stage for further action to implement SAICM.	Contribution to QSP objectives through SP A
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2nd	Barbados	Updating a national chemicals management profile, developing a national SAICM capacity assessment, and holding of a national SAICM priority setting workshop in Barbados	1. National Profile 2. SAICM Capacity Assessment Report, 3. SAICM Priority Setting Workshop Report	- Project enabled identification of the following aspects that needed strengthening: - Chemical management legal framework; - promotion of safer alternatives; - promotion of information exchange among stakeholders; - emergency planning and response; - research and laboratory capacity; - education and awareness raising activities. - Best practices: The establishment of coordinating committees that facilitate greater stakeholder input enhanced the quality of project deliverables.	- Projects objectives have been met. - Decision making capabilities related to planning and strategy development for the sound management of chemicals strengthened. - National coordination, awareness raising and information exchange to ensure ongoing dialogue on chemicals safety and management strengthened. - Strengthened foundations of sound chemicals management to assist the countries in SAICM implementation.	National Profile and Capacity Assessment will aid the country in the Identification of capacity needs for sound chemicals management. Priority Setting Workshop helped to identify number of action plans to pursue in order to improve chemicals management. Resource needs identification to implement action plans effectively.
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2nd	Bolivia	Strengthening national governance for SAICM implementation: updating the national chemicals management profile, developing a national SAICM capacity assessment, and holding a national SAICM forum in Bolivia	1. National Profile 2. Capacity Assessment Report 3. SAICM Priority Setting Workshop Report 4. National Policy for SAICM Implementation	- The importance of national experts' role in information/lessons learned sharing under the framework of other QSP projects. - The importance of sustainable mechanisms for information exchange. - The importance of Involving as many actors as possible in all planning meetings and workshops. Best practices: - Organization of working groups to promote inter-sectoral interaction and ownership of the project. - Stakeholder involvement, inter-ministerial/inter-sectoral coordination, - Regular dissemination/sharing of information on project documentation. - The methodology to gather information on the state of chemicals management in the country through personalized interviews is the best way. - To create evaluation tools for project activities.	- Increased authorities' awareness of country situation regarding chemicals. - Increased Capacity-building efforts. - National Policy for Chemicals Management and SAICM implementation was prepared. - Document presented to the relevant authorities for its national approval and distribution.	Very relevant. Institutional strengthening needed due to a problem of continuity within institutions in the country.
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2nd	Burundi	Updating the National Chemicals Management Profile and developing a national chemicals database in Burundi	1.National chemicals management database 2.National Profile	-The importance of sustainable mechanisms for information exchange. - Getting relevant information from the private sector was a real challenge, thus it seems necessary to develop specific methodology for collecting information from public and private sectors. - Need for a national chemical safety policy. - Best practices: - Organization of working groups to promote inter-sectoral interaction and ownership of the project. - Stakeholder involvement, inter-ministerial/inter-sectoral coordination. - Development of forms for information collection on chemicals imported, transported, produced and used in Burundi. - Development of strategies to face issues, constraints and challenges in updating the national profile and developing the national chemicals management database. - Analysis and comments provided by UNITAR.	- Strengthened capacities - Improved chemicals management information exchange - Identification and confirmation of the lack of chemicals management information	- Capacity building related to the control and monitoring of chemicals used in the country. First project that undertook capacity building in the development of a chemicals management database in Burundi. - Information exchange and distribution among Stakeholders.
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2nd	Cambodia	Updating the national chemicals management profile, development of a national SAICM capacity assessment and holding a national SAICM priority setting workshop in Cambodia	1. National Profile 2. SAICM Capacity Assessment Report 3. SAICM Priority Setting Workshop Report	(not available)	- Baseline information updated.	- Strengthened cooperation and encouraged interaction among diverse stakeholders and provided opportunities to build national capacity through sharing information and lessons learned in meeting/ workshops group discussion and participation in all phases of project implementation
2nd	Chad	Strengthening integrated chemicals management for effective SAICM implementation in Chad	1. National chemicals management database 2. National Profile 3. SAICM Capacity Assessment Report 4. Awareness raising Law	- The National Programme elaboration is based on substantial efforts made to gather international experience and knowledge, thus the current action plan of the programme reflects needs for improvement in various areas of chemicals management. - Discussions in smaller groups of stakeholders facilitate in-depth approach to the issues of chemicals management. - Awareness programmes are important tools and that's why the project included the Communication Strategy.	- National chemicals and waste management database available. - National chemicals management profile available. - New legislation on chemicals management proposal available (to be endorsed).	Relevant. Chad will have legislation on chemicals management that will control entry of chemicals in the country.

2nd	Comoros	Developing a national SAICM capacity assessment, Holding a national SAICM priority setting workshop and Updating a National Chemicals Management Profile in Comoros	1. National Profile, 2. SAICM Capacity Assessment Report, 3. SAICM Priority Setting Workshop Report	-Important input to the updated National Profile Guidance Document and Guidance on National SAICM Capacity Assessment. - Standardized questionnaires as evaluation tools were developed to collect lessons learned in workshop. - Sustainable mechanisms for information exchange were encouraged.	- Projects objectives have been met. - Baseline information Updated. - Knowledge on national capacity gathered.	- Project raised awareness and mobilised resource persons in various sectors in the area of information-sharing.
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2nd	Guatemala	Strengthening national governance for SAICM implementation: updating the national chemicals management profile, developing a national SAICM capacity assessment, and holding a national SAICM forum in Guatemala	1.National Profile, 2. SAICM Capacity Assessment Report, 3. National Policy for SAICM Implementation, 4.Interministerial /interagency coordination decree, 5. National SAICM priority setting/validation report 6. SAICM implementation plan development	-To involve since the beginning the private sector. - Communicate efficiently with the stakeholders and hold meetings periodically to inform them of the latest advances on the project.	- All stakeholders involved. - Profile information used in many activities. - Draft of National Policy for SAICM was developed. The document will be used to outline the national governance framework for SAICM implementation and propose the first National Policy on chemicals management. (Policy currently been reviewed and discussed by legal authorities). - A Government Decree for the creation of the “Technical Coordination Committee for Chemicals Management” has been developed. - A Policy for Environmentally Sound Management of Chemicals and Hazardous wastes proposed. - National Implementation Plan on SAICM developed.	- The Technical Committee will strengthen the intergovernmental coordination to promote sound management of chemicals and involve the private sector. - The National Policy will help maximize efforts and use of national resources to address the management of chemicals that are included in agreements and instruments ratified.
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2nd	Honduras	Strengthening national governance for SAICM implementation: updating the national chemicals management profile, developing a national SAICM capacity assessment, and holding a national SAICM forum in Honduras	1. National Profile 2. SAICM Capacity Assessment Report 3. SAICM priority setting/validation report 4. National Policy for SAICM Implementation	-The project contributed to update the National Profile on Chemicals Management and developing Capacity Assessment. The project would have benefited from the inclusion of action plans. -The amount of funds agreed by UNITAR and Honduras limited certain activities under project's framework. -An important lesson was the need for work-shop related evaluation tools. Sustainable mechanisms for information exchange were considered to be particularly important. -Many costs were subsidized from other projects, such as the NIP Project. However, in-kind contributions were also very important. -Working groups were organized during workshops to promote intersectorial interaction and ownership of the project.	- Evidence on chemicals management needs. - SAICM implementation Plan proposal was discussed. The Plan is the national strategy to implement the National Policy on sound management of Chemicals. - A National Policy proposal was developed under the framework of the Stockholm Convention.	Significantly relevant initiative that allowed all stakeholders and sectors to analyze and to identify priorities to develop actions to eliminate obstacles to the integrated chemicals management. Raised awareness among key stakeholders. The project provided the space to create the basis for the chemicals management sector (agricultural and industrial) and to efficiently identify strategic actions to achieve the Johannesburg objective.
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2nd	Kazakhstan	Updating the national chemicals management profile, development of a national SAICM capacity assessment and holding a national SAICM priority setting workshop in Kazakhstan	1. National Profile, 2. SAICM Capacity Assessment Report, 3. SAICM priority setting/validation report	- Updating the National Profile allows more complete picture of the chemicals management situation in the country and renewing opportunities for SAICM implementation in the legal and practical framework for the Capacity Assessment gives an understanding of existing gaps and needs for achieving sound chemicals management system at the national level. - The testing of guidance and Methodology for UNITAR gives and important input to the ongoing National Profile Guidance Document and National SAICM Capacity Assessment development. -The importance of sustainable mechanisms for information exchange and increase knowledge. -An important lesson was the need for work-shop related evaluation tools. -Working groups were organized to promote intersectoral interaction and ownership of the project.	New information available	Effort to link into a single system all legal acts on different aspects of chemicals management. - Gives more complete picture of chemicals management situation in the country particularly the obligations of government and private sector.
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2nd	Kiribati	Updating the national chemicals management profile, development of a national SAICM capacity assessment and holding a national SAICM priority setting workshop in Kiribati	1. National Profile, 2. SAICM Capacity Assessment Report, 3. SAICM priority setting/validation report	-The stakeholders recommended that the committee is important to be formally established with cabinets blessing to ensure sustainability. -The testing of guidance and Methodology for UNITAR gives and important input to the ongoing National Profile Guidance Document and National SAICM Capacity Assessment development. -The importance of sustainable mechanisms for information exchange and increase knowledge. -Working groups were organized to promote intersectorial interaction and ownership of the project.	- Information sharing and awareness raising among stakeholders	Very relevant. Improving awareness on sound chemicals management. - Highlights the important areas and gaps in terms of technical capacity and recommends areas needing capacity building.
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2nd	Kyrgyzstan	Updating the national chemicals management profile, development of a national SAICM capacity assessment and holding a national SAICM priority setting workshop in Kyrgyzstan	1.National Profile, 2. SAICM Capacity Assessment Report, 3.SAICM priority setting/validation report	-For the first time the assessment of National capacity for implementation of SAICM was done Important input to the ongoing updating of the National Profile Guidance Document, Guidance on National SAICM Capacity Assessment development. - Lessons for workshop-related evaluation tools with the development of standardized questionnaires. -Sustainable mechanisms for information exchange were encouraged	- Analysis of current situation on chemicals management, problems from production to chemicals use relating to impact to human health and environment. - Recommendation for development of system of chemicals management.	- Outstanding contribution to the development of a National System of Chemicals Management, identification of possibilities for implementation of SAICM and provided training for inspectors at the local level.
2nd	Malawi	Updating the national chemicals management profile, developing a national SAICM capacity assessment, and holding of a national SAICM priority setting workshop in Malawi	1.National Profile, 2.SAICM Capacity Assessment Report, 3. SAICM priority setting/validation report	-Best practices learned were collaboration and information sharing with stakeholders and interested parties, and the need to have dedicated staff for such type of programmes.	- Collaboration and information sharing	- Very relevant in terms of national capacity building objectives and the use of the technical, human and other resources available in the country as it made an inventory of capacities and infrastructure available.

2nd	Moldova	Moldova and UNEP partnership on capacity building for improving the environmentally sound management of chemicals in the Republic of Moldova and the implementation of SAICM	1. National Profile, 2. Chemicals Communication Strategy 3. National Program for SMC	-The National Programme elaboration is based on substantial efforts made to gather international experience and knowledge, thus the current Action plan reflects needs for improvement on chemicals management. -Discussions in smaller groups of stakeholders facilitate in-depth approach to the issues of chemicals management -More involvement of economic agents is needed and awareness programmes are important tools and that's why the project included the Communication Strategy.	New information available. - Awareness raising. - Promote information exchange. - Catalyzed a process of collaboration between government and stakeholders towards understanding and identifying priority needs for SAICM implementation. - Identify country needs. - Facilitate coordination. - Formulation of a National Programme for the Sound Management of Chemicals. - Preparation of a Chemicals Communication Strategy. National Programme endorse and coordinated with all the relevant ministries, agencies and stakeholders.	Creation of the mechanism on performance of promotion of mechanism for chemicals reduction and elimination of risks; strengthen national capacity and enhance knowledge and understanding, achieve a high level of awareness amongst decision makers, Managers and industry.
2nd	Nicaragua	Strengthening national governance for SAICM implementation: updating the national chemicals management profile, developing a national SAICM capacity assessment, and holding a national SAICM forum in Nicaragua	1.National Profile, 2. SAICM Capacity Assessment Report 3. SAICM Priority Setting Workshop 4. Report National Policy for SAICM Implementation	(not available)		

2nd	Day Hospital Institute for Development and Rehabilitation of Egypt	National awareness campaign for all stakeholders on the safe use and management of pesticides according to the International Code of Conduct on the Distribution and Use of Pesticides	Educational materials booklets, pamphlets, documentary pictures of workshops. List of participants, geographical places of the workshops, films and other.	-There is control from the central government at top level but at community level there is none and accordingly the community is not protected from the health hazards of pesticides. -The experts designed suitable protective clothing. -Also verbal & non verbal education materials are produced and put in the package of the protective clothing.	-Strengthening awareness raising on pesticide safe use. - Increasing the capacity building preparing highly qualified training teams. - Supporting minimizing human and environmental health risks.	Raising capacity building for all stakeholders of pesticides and draw all technical, human resources and other available in the country to work together
3rd	Mali	Updating the national chemicals management profile, developing a national SAICM Capacity assessment, and holding a national SAICM priority setting workshop in Mali	1. National Profile, 2. SAICM Capacity Assessment Report, 3. SAICM Priority Setting Workshop Report	-Important input to the ongoing updating of the National Profile Guidance Document, Guidance on National SAICM Capacity Assessment development. -Lessons for workshop related evaluation tools with the development of standardized questionnaires. -Sustainable mechanisms for information exchange were encouraged.	- New info on chemicals management. - Inter-sectoral interaction, inter-ministerial coordination; information sharing.	Capacity building of key national actors; and involved human and financial resources

3rd	Armenia	Armenia and UNEP Partnership Initiative for Sound Management of Chemicals and Implementation of SAICM in Armenia	1. Armenia SAICM Assessment 2. Risk Assessment Methodology 3. SAICM texts and Resolutions	-Stakeholders' involvement and greater understanding, as well as defined national goals in the area of priority chemicals and waste management facilitated the efficient organization of safe and sound production and application of chemicals. -Trainings and workshops were arranged for enhancement of professional skills, information sharing, and awareness rising regarding the risks of hazardous substances.	Assessment of impacts of hazardous chemicals and wastes from priority sources. - Formulation of the Risk Assessment Methodology. - Preparation of the National Risk Assessment/Risk Reduction Strategy. - Promotion of interagency coordination	
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3rd	Argentine Society of Doctors for the Environment (AAMMA) - Argentina, Bolivia, Chile, Paraguay, Peru and Uruguay	Integrated regional campaign on minimization of mercury domestic sources with actions of intervention in the community to protect children and women's health.	1. Agenda of the Third Regional Meeting (1) 2. Conclusions and Recommendations emerged from the Third Regional Meeting. Regional 3. Declaration of the Societies of Pediatrics. 4. National Declarations of the Societies of Pediatrics of Paraguay and Uruguay 5. Photos of the Third Regional Meeting	-Improvement of awareness and information for the protection of vulnerable populations as children and young women from mercury domestic sources. -Capacity Building on mercury or other chemicals household products, health effects and vulnerable populations. -Building communication bridges among different stakeholders to lead concrete actions in the local fields of the participating countries; looking to minimize environmental health risks and rising awareness to develop a common understanding and position on minimization of household products containing mercury. -Actions of interventions to increase and create opportunities to introduce and implement Best Available Technologies and Best Environmental Practices (BAT/BET) orientated to the minimization and sound management of domestic sources containing mercury.		
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3rd	Sustainlabour - Brazil, Chile and Uruguay	Enabling workers and workplaces for SAICM implementation	Annex 5 to 18 – Presentations at the Tripartite Conference Annex 19 – Report Tripartite Conference by Sustainlabour Annex 20 – Report Tripartite Conference by Fundacentro Annex 24 – Report of Seminar in Brazil (Portuguese) Annex 25 – MoU CNQ - Sustainlabour Annex 36 – MoU FIEL – Sustainlabour Annex 42 – Report of Seminar in Uruguay Annex 43 – MoU PIT-CNT – Sustainlabour Annex 51 – First year Bulletin	-The project has made a significant contribution to improving, facilitating (or inaugurating) dialogue with other actors in the area of chemical safety. -In Brazil, the project propelled the reactivation for the National Commission on Chemical Safety – <i>CONASQ</i>. -In Uruguay, the project allowed for the possibility of opening a channel for dialogue within areas of government, which had a direct impact on the extension of the Bipartite Health Commissions in the factories. - In Chile it allowed for trade union representatives to be incorporated into the Commission of Coordination of National Policy on Chemical Safety – <i>PNSQ</i>. -An important aspect of the project has been the possibility granted for exchange between the trade union organizations of the three countries.		
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4th	Society of Environmental Toxicology and Chemistry (SETAC)	Scientific Capacity Building in Support of SAICM in Africa	1. "Report on Implementation of SAICM Africa Regional Training Workshop" 2. SETAC report and clarifications Training materials 3. SETAC report Participants evaluations and SETAC documentations	-Making the training materials available to participants prior to the conference so they can familiarize themselves with the content and the use of interpreters during the sessions was important. -Materials should be further simplified. -The risk assessment trainings and other capacity building activities are critical to development of infrastructures in Africa. -The feasibilities of case studies and relevance to the African context should also be considered. -Defining challenges related to sound chemical management in Africa cannot be done without the input of Africans. -SETAC's initiative to integrate some of this into curriculums in African schools is a great step - Similar trainings should be extended to other African countries.		
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3rd	Yemen	Integrated national program for the sound management of chemicals and implementation of the Strategic Approach in Yemen	- National Profile. - National Capacity assessment.	- Public support id of great value to chemical management. - The government has a strong role to play in chemicals management. - Inter-sectoral interaction and ownership of the project is fundamentally important.	The final database will provide an efficient information exchange and register system that could be used by customs and other relevant stakeholders. Adopted general framework of policies and legislation for SAICM implementation. Strengthened inter-agency cooperation through inter alia, development of a national chemicals committee decree.	The project addressed some of the main capacity building objectives of Yemen, dealing with some key infrastructure issues, and bringing together stakeholders that had previously not been well coordinated. Further efforts are still required and will build on what was achieved.
1st	The Former Yugoslav Republic (FYR) of Macedonia	Mainstreaming Safe Management of Chemicals Considerations into MDG Based National Planning	- Roadmap for mainstreaming of actions for sound management of chemicals into National Development Plans.	- Cooperation and coordination amongst relevant institution has to be satisfactory since the beginning. - The regular inter committee meeting and the consultation meetings between experts and relevant stakeholders proved to be an important tool for ensuring regular communication of activities. - One of the obstacles the project had to overcome was the lack of available data, which was overcome by building capacities at relevant levels.		Very relevant. in terms of national / regional capacity building and utilization of the technical, human and other resources. - Ensure compliance with other global instruments and agreements. - Helped strengthen national institutions and to build capacities of the public administration for implementation of an integrated approach to C.M. Improved understanding and knowledge on issues related to safe management of chemicals in public servants.

2nd	Ghana	Updating a National Chemicals Management Profile, Developing a National SAICM Capacity Assessment, and Holding of a National SAICM Priority Setting Workshop in Ghana	- Updated National Profile - National SAICM Capacity assessment - National SAICM Priority setting	- Stakeholder collaboration is key to the environmentally sound management of chemicals and wastes. - The project has played a key role in cataloging the national process of chemical management.		Very relevant.
2nd	Lesotho	Updating a National Chemicals Management Profile, Developing a National SAICM Capacity Assessment, and Holding of a National SAICM Priority Setting Workshop in Lesotho	- National Profile - National Chemical Capacity Assessment	- Limited data on chemicals management, with many Ministries not collecting data that are relevant. - Lack of concrete partnerships relating to chemicals management with Ministries and Department working in isolation.	New information available. Documents contribute to a better understanding of the problems or potential problems related to chemicals and the mechanisms available to address them. Reference point against which future activities can be measured. Greater communication and cooperation between stakeholders	Baseline documents setting out legal, institutional, administrative and technical infrastructure for management of chemicals.
2nd	Trinidad and Tobago	Strengthening the legislative, regulatory and enforcement capacity of SIDS in the Caribbean			Strengthening the capacity of SIDS in the Caribbean in implementing their obligations under the Basel Convention Development of the gaps and needs analysis tool provides information. Awareness raising	Very relevant. in terms of national / regional capacity building. Useful roadmap for implementing the three Conventions.

4th	Belize	Mainstreaming into Development Plans the Sound Management of Chemicals (SMC) Priorities for Key Development Sectors in Belize and Associated SMC Governance	- Economic Cost Benefit Analysis Report - Economic Analysis Framework	- Measures should be taken to make the documents concise as stakeholders do not have time to read lengthy documents. - Establishment of interagency coordination mechanism creates better opportunities for sharing of information cross-sectorally.	Increased awareness amongst government officials	Workshops, project documents have contributed to capacity building and awareness raising, and synergies.
4th	Cambodia & Philippines	Initial enabling capacity building & implementing activities for Artisanal and Small Scale Gold Mining	- Multi-stakeholder national strategic plan for ASGM for Cambodia and the Philippines (including a review of legal, educational, economic, regulatory and enforcement framework as well as a budget and workplan, identifying potential funding sources and partners in moving forward).	- The Philippines was successful in securing government commitment to deal with ASGM, and developed a strong National Strategic plan. - Cambodia has succeeded in gaining the national government's commitment for mercury reduction in ASGM.	Government commitment in addressing ASGM.	Enabled the countries to discuss the issue at a national level engaging all the stakeholders. Technical alternatives focusing on existing technologies, current best practices and field interventions were discussed during the meetings, raising awareness of the stakeholders involved.

Annex VIII – Outcome of field assessments

The following is a summary of the main outcomes registered during the field visits conducted between March and April 2012 to four countries in the African Region (Tanzania, Uganda, Zambia and Kenya) and three countries in the Latin America and the Caribbean Region (Colombia, Guatemala and Costa Rica). The main objective of these field visits was to conduct a general assessment of project performance at the country level.

I. Methodology

The selection of countries was made taking into consideration that final or progress reports had been submitted to the Secretariat prior to the visits, and also that projects met with some of the following criteria:

- a. implemented by different stakeholders (e.g. Governments, NGO's)
- b. the main objective was linked to a public health strategy
- c. multi-country approach
- d. implemented with the assistance of an executing agency
- e. implemented without the assistance of an executing agency

In addition, other factors influenced the selection of countries visited, such as the need to consider at least two regions where developing countries had received support from the QSP Trust Fund; the cost of travel; the availability of stakeholders during the period of visits; and the advantage of organizing back-to-back visits to countries where travel arrangements could minimize costs.

The main activities carried out during these visits consisted of:

Interviews

Interviews with key stakeholders that had participated in the implementation of activities of QSP projects were coordinated with the SAICM national focal point to ensure that whenever possible, all sectors were represented. In most countries, representatives of the public sector, industry, regional and international organizations, academia and NGO's were available for this purpose, but not always. The objective of these individual face-to-face interviews was to obtain information and feedback with the perspective of the sector represented.

Often, some of the information provided by different interviewees from the same sector did not differ between one another, and the input collected has been summarized. In other cases, interviewees did not have enough data or evidence to respond to several aspects of the interview. However, efforts were made to take advantage of their availability and relevant information that could be useful for this report. It is important to mention that in a few occasions, some stakeholders were not able to attend the interview as scheduled. The information obtained has been organized and presented to provide an overall response to each of the aspects relevant to the interviews. When available, specific contributions from different sectors are indicated in this summary.

The format of the interviews consisted of short meetings (60-90 minutes) where the main issues of discussion were related to the mid-term review of the QSP. The questions asked covered the following pertinent areas:

- a. Overall relevance of the QSP
- b. Project impact and achievements
- c. Challenges and sustainability

Review of project deliverables

Obtaining access to documentation developed or drafted as a result of the QSP project was an important aspect of the field assessments. Some examples include National Development Plans, Draft Referendum for Policy and Regulation on Chemicals Management, Draft Mandates for the establishment of a National Stakeholder Committee for Chemicals Management, and Dissemination and Awareness Raising materials. It should be noted that documents were verified, but no copies kept given the status and nature of some official documents.

Visits to regulatory bodies

Visits to governmental departments and other agencies responsible for the regulation, inspection and enforcement of chemicals and waste management were conducted. In addition, private and public laboratories; industry associations; universities; trade unions were also visited whenever possible and relevant.

The summary of the information collected has been based on project outcomes and achievements, with an emphasis on the attainment of project objectives covering the following issues: capacity building, awareness raising, mainstreaming, catalytic role, and stakeholder involvement.

II. Country assessments

2.1 Africa

2.1.1 TANZANIA

Representatives from the following sectors participated in the interview sessions.

- Government Chemist Laboratory (National SAICM Focal Point)
- Tanzania Plantation and Agricultural Workers Union (NGO)
- University of Dar es Salaam (Department of Chemistry)
- Agenda for Environment and Responsible Development (NGO)
- Division of Environment, Vice President's Office

a. Overall relevance of the QSP

The launch of the first QSP project to develop enabling activities was one of the first efforts at the country level to raise awareness and introduce SAICM to the agenda of different stakeholders. It also led to the establishment of a National Chemical Managements Committee, which has been responsible for the discussion and planning of actions in the field.

The QSP is considered a flexible and accessible mechanism that promotes collaborative work among a wide range of stakeholders. Given the low level of awareness in several sectors, the relevance of the QSP was also seen as an important tool to build capacity and improve access to information related to chemicals.

The QSP is also recognized as an important global multi-stakeholder effort to improve the sound management of chemicals through the development and strengthening of capacity and other essential activities. Relevance is also acknowledged as the QSP provides guidance to establish an inter-sectoral forum for discussion among experts and to make recommendations for policymaking aimed at identifying and implementing solutions through informed decisions.

b. Project impact and achievements.

The first project in the country consisted of enhancing capacities for the implementation of the Stockholm Convention, with an emphasis on partnerships between stakeholders. Several delays

had seriously affected the completion and timely delivery of the project outputs due to local administrative problems, staff changes, procurement policies to hire consultants, and the availability of funds, among others. As a result, the outputs from this project were limited and the impacts do not seem to be readily evident, except for only a few activities that have been reported as completed. Those include capacity building activities for the handling of PCBs, and a national inventory developed for PCBs. In addition, a roundtable for discussion was established with electricity companies to exchange ideas on feasible solutions for the management of PCBs containing materials; and also to increase awareness on chemicals and the need to implement the Stockholm Convention in the country.

Further efforts have been made by civil society through the implementation of a second QSP project, which has looked into the needs in capacity strengthening of agricultural workers. Important achievements consisted in raising awareness on the best use and safe management practices of agrochemicals. Intensive training activities were also implemented in several communities with wide participation, including trade union and community leaders. Fieldwork has been conducted to assess the impact of these activities. Initial evidence has shown that people working in plantations are implementing handling techniques for the safer use of agrochemicals. The use of protective gear is becoming more common and managers in the field are more aware of the impact that these protective measures have in reducing risks among the community. Safer control and management of empty pesticides containers has been adopted at the community level. Outreach efforts to raise awareness have also been achieved by developing printed materials in local language (Swahili).

As a result of the activities and the emphasis placed on risk reduction in the field, policies for the registration and control of pesticides have become more rigorous. For example, enforcement officials from the customs agency are more qualified to conduct inspection tasks at entry points.

The success in the implementation of the above mentioned project has been widely recognized by Government agencies as an important contribution to SAICM implementation efforts. This has been demonstrated by the fact that the NGO's has obtained information and feedback on the relevance and impacts that the project has shown.

A third QSP project is now under a mid-implementation phase through a multi-country and NGO effort for legislative reform and capacity building for sound management of chemicals. While the general project coordination is based in Tanzania, simultaneous activities are being developed in two more countries, Kenya and Uganda.

Initial project findings in Tanzania are considered highly relevant since the national policy review has identified several shortcomings. For example, several existing laws include considerations for the management of chemicals in different ways, depending of the uses. This is a situation that creates confusion when it comes to decision-making and enforcement tasks. An important contribution resulting from this project is a series of recommendations to fill in gaps in the legislation and address the identified shortcomings.

A key product of the project is the development of a Report on the National Policy and Legislation related to Chemicals Management. This document identifies good practices, gaps and builds consensus for priority regulatory reforms aimed at promoting the principles of sound chemicals management. The main findings indicate that the existing legislation is fragmented, overwhelmingly sectoral and sometimes conflicting while implementation, monitoring and enforcement are weak. Considerations in this report have been made to assess the national regulatory regime and institutional arrangements in relation to SAICM objectives.

The report has been made available to relevant stakeholders and is invaluable to policymakers as it provides a number of recommendations for legislative and policy reforms to address the gaps identified. The impact of those recommendations is yet to be seen as the report is now undergoing a consultation and discussion process.

c. Challenges and sustainability

Several challenges have been identified through the implementation of the various projects, not only from the perspective of completing pending activities, but also when taking into consideration the implications that particular achievements could have at the political level.

The outcomes from the various projects have provided a good indication of some of the main areas of opportunity that need to be addressed while pursuing the implementation of SAICM. For instance, capacity strengthening is still required at the institutional level, particularly on improving the legislation of chemicals and waste. Awareness-raising activities and materials need to be further disseminated to wider audiences, including actors at higher political levels.

Sustainability efforts made through the QSP projects are of high interest, but also represent one of the major challenges. When considering follow up actions that are specific to the individual projects, funds often seem to be scarce and not always easy to access. Projects that need co-funding are often the ones that tend to slow down, although the willingness to follow up on previous successes is always there.

A highly beneficial aspect from the QSP results at the country level is that projects have been an eye opener for the Government, and one which has permitted to recognize the key importance of chemicals management as a broader issue, that needs to be part of a national development strategy. Indeed, this is also taken as a call for attention that could facilitate major involvement from stakeholders with decision-making power.

A good indication that a positive response has been achieved can be illustrated in the establishment of budgetary lines that have been allocated for regulatory making activities and to complement activities that have been under the umbrella of the QSP projects. However, these funds are not always allocated to the higher priority issues. An important next step at the national level that is considered of high relevance is the establishment of an Inter Ministerial Coordination Mechanism, which is now under a planning phase.

2.1.2 UGANDA

Representatives from the following sectors participated in the interview sessions.

- National Environment Management Authority (National SAICM Focal Point)
- Pro-Biodiversity Conservationists in Uganda (NGO)
- United Nations Development Programme, Country Office
- National Associations of Professional Environmentalists (NGO)

a. Overall relevance of the QSP

Stakeholders recognize the importance of the QSP as an ideal platform to establish a baseline from which the national chemicals situation can be assessed. The QSP provides stakeholders with clear guidance that also facilitates the establishment of domestic practices for chemicals management linked toward achieving SAICM objectives.

The timing to make use of the QSP could not be better. Indeed, it came at a moment when stakeholder engagement and political will were in place to initiate efforts in this area.

b. Project impact and achievements.

The first project in the country consisted of a partnership initiative for the implementation of SAICM, with a focus on mainstreaming, which is now in its final stage of completion. A major impact on mainstreaming has been the inclusion of the sound management of chemicals and waste in the 2011-2015 National Development Plan (NDP). In this respect, the Uganda NDP incorporates specific objectives and strategies to address hazardous waste management issues and incorporate chemicals into sectoral policies, plans and programmes. This has been a key success, which has placed chemicals management as a priority environmental issue at the national level.

Interviewees recognized that this important outcome has been the result of initial actions carried out through the QSP project. A collaborative and consensus building process among members of a National steering committee supported by Inter-ministerial coordination facilitated those actions. Those actions were later converted into concrete achievements, which included the following: a cross-sectoral increase in awareness on chemicals management issues; a report on the situation on the sound management of chemicals, which was followed by a national action plan on sound management of chemicals. The development of the plan was also instrumental in catalyzing efforts directed at promoting greater awareness at the highest political level.

The project triggered the preparation of a National Environmental Act that is currently under a review process to identify gaps. Covering those gaps in the chemicals management sphere is important in order to comply with the existing mandate to make regulation.

Additionally, the project yielded another important product by means of an economic analysis of actions proposed for strengthening governance of chemicals. At an initial stage, this analysis has focused in the agricultural sector. Significant outputs of this analysis highlight the risks arising from the current (baseline) policy regime on chemicals management in the agricultural sector, with the intention of highlighting the costs of inaction; the study also estimated where possible, the costs of improved chemicals management, and determined the benefits expected from strengthening the governance of agrochemicals management with a monetary value whenever possible.

The lessons learned through project activities have been of great benefit and the stakeholders involved have appreciated the impacts that the outcomes have in moving forward with chemicals management in the country. However, stakeholders also recognize that the time established for its implementation is unrealistic in terms of completion and deliveries and that better planning should be made in future projects.

With the coordination of PROBICU, a well-established environmental NGO in Uganda, the country has benefited from the implementation of a QSP project aimed at promoting chemical safety at work in rural agricultural communities. Although this project is currently in an initial stage, capacity building and training activities have been established. For example, workers in the field have been trained on chemical safety and pesticide uses. The first evident impact of this initial effort is seen in the increased awareness for the handling of pesticides. Additionally, trade union leaders in the agricultural sector have also been trained on chemical safety uses with a more managerial emphasis.

From an NGO perspective, the successful implementation of the project is expected to influence environmental regulators to develop improved legislation to address the sound use of chemicals and establish acceptable best practices for the handling of agrochemicals.

Uganda is currently participating in a multi-country QSP project to review the legislation on chemicals. The NGO NEPA is coordinating national efforts for the implementation of activities.

Gaps have been identified in the existing legislation for chemicals. This is seen as a core problem that needs to be resolved in a timely matter to move forward in alignment with the national policy for chemicals management. Other identified gaps through project activities include the insufficient institutional capacity to monitor chemicals in a more rigorous way. When it comes to civil society,

shortcomings are still visible regarding the level of knowledge and awareness on chemicals and waste.

These initial findings are of major significance, and seen as complimentary to other QSP projects in the country. For example, the gaps identified have provided a good indication of where the needs to enhance capacity are, and what sectors should be targeted first. It has also raised attention on the importance of updating relevant legislation to have a better control and management of chemicals.

c. Challenges and sustainability

Several challenges were identified through the implementation of the various projects, such as difficulty in convincing stakeholders and policy makers about the relevance of chemicals management at the country level. Bringing stakeholders to a discussion table on chemicals was also a difficult task that took considerable time to complete successfully. This is due to the fact that chemicals management is an area that is not clearly identified as an area of work in several agencies of the public sector.

Translating science and technical information into economic terms was a complex issue to discuss, but efforts were made to convert sound chemicals management into a monetary language.

There is still pending work to increase awareness in several sectors of society, and the implementation of outreach and communication programmes is often limited by the lack of funds. To assist in this aspect, efforts by NGOs have helped in mapping other civil society organizations that could multiply efforts in outreach and education campaigns at the community level.

There is commitment to follow up with medium and long term actions to move forward with SAICM implementation, but these need to be clearly linked to the current objectives of the National Development Plan. One of the major challenges to continue with efforts and sustain the work is related to the orientation of Government expenditures in the environmental agenda. This is due to the fact that several environmental issues are always competing for limited resources and the distribution of public funds. To tackle this challenge, a Cabinet paper has been prepared to bring the issue of chemicals management to a higher level of political attention while stressing the urgent need to move forward with this agenda.

It also seems clear for stakeholders that the implementation of SAICM does not depend entirely on the QSP, and that other means of resource mobilization should be fostered and identified. In this regard, continuous efforts are being made in identifying funding opportunities through bilateral cooperation and other donors. A critical aspect to achieve success is to ensure that country priorities match donor-funding concerns. It was also recognized that resources also need to be mobilized at the National level, and the public funds should be allocated to work on chemicals management.

2.1.3 ZAMBIA

Representatives from the following sectors participated in the interview sessions.

- Zambia Environmental Management Authority (National SAICM Focal Point)
- National Institute for Industrial Research
- Agro-Cert Enterprises
- Ministry of Labor
- University of Zambia, School of Medicine
- Zambia Revenue Authority
- Ministry of Commerce
- Zambia Bureau of Standards
- Department of Maritime and Inland Waterways

a. Overall relevance of the QSP

The QSP is a mechanism that allows for easy access to resources and technical support for SAICM implementation. It is also a programme with a procedure that is easy to follow, both in terms of administration aspects and from a project implementation point of view.

The QSP provided opportunities to promote project ownership as a strategy to actively engage a wider audience of stakeholders.

b. Project impact and achievements.

Although this is the first QSP project currently under implementation, its planning was carefully executed and reviewed by stakeholders. Previous efforts through a bilateral cooperation project that dealt with initial SAICM enabling activities resulted in an assessment of needs to identify priorities. After a thorough consultation process, the implementation of the GHS was considered as the first step to complement ongoing work on chemicals management.

The structure of the project coordination and its related activities was a key aspect to deliver the expected products. Several thematic working groups have been established to target specific issues that relate to GHS priorities in the country (e.g. Industry, Agriculture, Consumer, and Transport). This approach has facilitated the planning of activities that are sector specific, while relevant contributions are later discussed among the different groups.

During its early implementation stage, the QSP project has already delivered important products. For example, the existing coordination mechanism has been strengthened and linkages with other stakeholders enhanced. Worth noting is the strategy that has been associated with six National development plans, where chemicals management has been incorporated as a cross cutting issue. The results of this strategy have triggered the involvement of other sectors (e.g. customs and transport).

Capacity building and training in GHS matters has raised interest among stakeholders in adapting the international GHS standard for domestic purposes. Project managers and staff from several sectors have already benefited from capacity-building programmes aimed at introducing GHS into their work plans and with the relevant technical terms. The first outcomes have also helped to look at the local context of GHS requirements for its future implementation at the National level. Given the implications on the trade of chemicals, the project has achieved the active involvement from the industrial sector, which is highly aware of the economic importance that complying with international standards has.

When it comes to the commitment of resources in support of the project achievements, the National customs authority has already assigned public funds for GHS-related work.

c. Challenges and sustainability

While no major challenges have been identified through the current implementation stage, several obstacles were identified at an early stage and efforts were made to address them in a timely manner, where feasible.

For instance, the level of involvement from several stakeholders was not initially adequate, while others came later in the process. Bringing these stakeholders together was a difficult task, but well worth the effort given the subsequent positive results. Another challenge has been identified through the time and funds allocated for capacity building sessions, as this has not always been enough to cover all the relevant sectors.

Future challenges include the implementation of laws and regulations. Although these are in place and specific for certain areas of chemicals management, they have not always been rigorously implemented. Another important aspect that has been identified as a national challenge is the

imperative need of creating awareness among consumers and users of chemicals products. The success of implementing a national strategy for GHS will also depend on how it is embraced by and passed on to the general public.

From the industry perspective, an critical challenge for this sector is the costing of implementing GHS on a larger scale (e.g. printing of labels). This particular issue has not been fully addressed nor discussed at the corporate level, although commitment was recognized as a critical aspect to ensure that resources are made available for this purpose.

To maintain the momentum that the QSP project has created, it needs to be further internalized in the daily work of all sectors. In order to support additional training budget should come from internal sources (e.g. ministries, industry, others.). From the trade perspective, the political support is very important to foster implementation, and needs to be there continuously in order to promote the commercialization of chemical products in a sound manner.

2.1.4 KENYA

Representatives from the following sectors participated in the interview sessions.

- Ministry of Environment (National SAICM Focal Point)
- National Environment Management Authority
- WHO office in Kenya
- University of Kenya, Department of Chemistry
- iLIMA Organization (NGO)

a. Overall relevance of the QSP

The QSP can be described as a window of opportunities to follow up advance and leverage the SAICM implementation process. It takes into account the complexity of many chemical issues, including their global nature, and that multilateral efforts and bilateral relationships are critical for successfully address these issues.

The QSP is further considered as the appropriate mechanism to demonstrate the benefits that enabling activities can provide to strengthening governance for chemicals management. The QSP has also been recognized as an effective enabling strategy to place chemicals management at a higher level in the political context. It deals with an integrated approach that incorporates education, synergies, awareness raising, and other issues that emphasize the importance of addressing chemicals with a lifecycle vision.

b. Project impact and achievements.

The progress made through the QSP has delivered outputs that have been used to develop a National Chemicals Management Policy. Project achievements have also placed chemicals management on the table for policy makers.

The development of a national profile and a capacity assessment provided much needed baseline information which has been used by stakeholders to identity priorities on chemicals management. This is considered an important achievement of QSP related actions, since it provided appropriate elements for discussion among stakeholders on the gaps in data and capacities that had to be prioritized. As a result of these findings, and wherever possible, several sectors were able to fill in data gaps to improve the information generated at the national level. The impact of collecting and having access to updated and reliable information on chemicals is an essential input for policy making in this area.

The information generated through the project enabling activities has been disseminated to all regions in Kenya; a needs assessment has also been carried out for each specific region. The first evident achievement is the continuous involvement of regional, district and municipal authorities in

actions related to chemicals management within the region, while taking into consideration the impacts of those efforts at the National level.

For all sectors interviewed, capacity building has been one of the key components of QSP projects in the country. For example, the inspection and control of chemicals coming into the country has now entered into a new phase with enhanced capacities for customs officials. In this sector, it has become clearer that criteria and tools can be used to control chemicals at border points in compliance with government regulations and internal standards.

The implementation of activities to initiate SAICM through enabling actions has fostered information sharing to the government and other relevant sectors. A strong awareness-raising campaign has been a major achievement by promoting work towards a comprehensive policy and an action plan to establish the appropriate framework and controls for the sound management of chemicals and waste. While this framework is still under development, it is expected to include considerations on national budget allocated for chemicals management.

The country has also obtained benefits through a multi-project effort, where the QSP has given an opportunity to work on strengthening the linkages between chemicals and health through the Libreville Declaration in several countries of Africa. This project has delivered important information through a situational analysis that describes the risk factors posed by chemicals, and how these should be targeted through preventive measures. Identifying and recognizing the linkages between major chemicals problems under the jurisdiction of either the Ministry of Environment or the Ministry of Health has also been a significant output of this project.

In addition, this project has produced the Kenya National Plan of Joint Action, which places a strong emphasis on multi-stakeholder participation. It has also identified several “grey areas” which do not fall under either of the two sectors mentioned previously, but for which joint efforts are needed. The National Plan is also intended to provide guidance and resource materials for relevant Ministries, with focus on the importance of dedicating resources and funds to implement joint actions.

This pilot project has been positive not only in terms of enhancing linkages between the environment and health sectors, but it has also shown its replication potential in the region. More than 20 countries have multiplied this initiative based on the work done through the QSP project carried out in Kenya and Gabon. The project has also achieved significant impact in assisting with technical support to other countries in the region to implement the Libreville Declaration. This is indeed a great example of how information and experiences can be shared through a pilot project that has shown success in its outcomes. Relevant credit for achieving these goals is given to the strong commitment and support of the National SAICM Focal Points in both countries.

The implementation in Kenya of a second multi-country project, together with Tanzania and Uganda, has also promoted additional efforts towards SAICM implementation. The first relevant output of this project came in the form of a meticulous legal review of the current national legislation that addresses chemicals and waste. Important gaps have been identified and these have been listed and informed to stakeholders, and recommendations have been developed on what is required to cover these gaps. Additionally, the project has produced a platform of information and awareness-raising with emphasis on the regulatory aspects for chemicals and waste.

c. Challenges and sustainability

Important gaps have yet to be covered, and this may have an impact in obtaining formal engagement from all stakeholders. Notably absent are a national policy for chemicals management and a national strategy to establish a mandated National Chemicals Committee. While a National policy has been developed, it is still in a draft stage and has yet to be reviewed at the highest political level before its approval.

A robust coordination mechanism is necessary to sustain the implementation of a long-term plan for chemicals management. Respective financial commitments are also expected to take time and may not take place before a national policy is officially endorsed.

Renewed and long-term commitment is still a major challenge, and it needs to be addressed with a vision that has a global perspective but with a clear consideration of the national context.

It is still difficult to assess the level of commitment of stakeholders at the national and regional level, but it seems that progress is being made by each sector to absorb the responsibilities that fall within its mandate.

2.2 Latin America and the Caribbean

2.2.1 COLOMBIA

Representatives from the following sectors participated in the interview sessions.

- Ministry of Environment (National SAICM Focal Point) - Chemicals Management Department, International Affairs Department
- *Red de Desarrollo Sostenible de Colombia* (NGO)
- *Consejo Colombiano de Seguridad* (Industry association)

a) Overall relevance of the QSP

The QSP is seen as a dynamic tool that facilitates an approach for a coordinated mechanism to address chemicals management in an integrated manner. The issue of chemicals management at the country level is broad, and coordination is still weak at the institutional level. The QSP has therefore encouraged stakeholders to launch a collective national effort to target chemicals and waste with a clearer vision in the context of the environmental agenda.

The relevance has also been clearly identified through the efforts that the country has made in the chemicals management agenda, and the implications that these could have on the political and socio economic agenda, including national development plans, and current initiatives to become a member of the OECD.

The implementation of a first QSP project focused mainly on enabling activities necessary to establish a baseline of information on chemicals. The relevance of identifying and having access to national data was seen as the first fundamental step for discussion among stakeholders.

b) Project impact and achievements.

The first evident impact of the project consisted in the conformation of a SAICM project Committee, which eventually became the National Table for Chemicals Safety. This is a technical working group with participation from 15 entities from all relevant sectors, which includes government agencies, industry and civil society. Planning and execution of the project was carried out based on a wide and open participation from all members of the Committee. Throughout the project, all those sectors represented in the SAICM Committee had an active participation and provided the available information that was necessary to develop project activities. The representation and participation of various sectors was much wider than that obtained for the development of the first profile on chemicals (1998). Empowerment was seen as a major characteristic of the Committee, where evident support and commitment was visible throughout the project.

One of the major outcomes of the project consisted in the development of the National Chemicals Profile, which was a big opportunity to update information related to the chemicals that are used in the country. This has been considered as a key improvement on the previous chemicals profile, which only addressed pesticides. Stakeholders were able to access official and reliable data and later categorized chemicals in seven groups, using relevant criteria such as the volume of use or

inclusion in Conventions or international treaties. Categorization of chemicals has also allowed identifying solutions and management options based on the type or category of chemicals. For example, an official and more reliable database with chemicals listed by categories has permitted the identification of those which are considered to be more problematic, and also to establish criteria and goals for future management action plans based on a life cycle approach.

Another relevant impact of the project is that it allowed stakeholders to identify existing gaps in information/data available and how this is reported in different sources. As a result, recommendations have been provided to improve the way in which the information on chemicals needs to be reported in order to develop a single and official database for chemicals. An initial corrective action in this respect consisted of ensuring that all data is reported in the same units and with reference to a Chemicals Abstracts Service number (CAS). This in turn has had an important impact when tracking and inspecting the chemicals that are imported or exported.

In addition, gaps in existing legislation and standards for chemicals management were clearly identified. Such findings have promoted open discussions to update and /or develop regulatory aspects that are consistent with national priorities.

The project has also produced significant contributions to policy-making and legislation, allowing for the drafting of a Project Decree (currently under discussion) to create a National Commission for Chemicals, which is expected to offer an integrated vision for chemicals management. The Decree provides a foundation to establish a regulatory instrument and initial considerations to formulate a National Policy for Chemicals Risk Management.

When discussing aspects relevant to partnerships between sectors, it was highlighted that several alliances were concerted between the public sector and several chemical industries, which is reflected in various activities that have been developed beyond the scope of the QSP project. For example, the industry representative interviewed mentioned that through an industry-led Programme on Integrated Responsibility, a group of over 60 chemical industries are implementing actions related to responsible care. Such actions contemplate an integrated risk management approach through the life cycle of chemicals. This sector looks at SAICM as a clear element at the national level to successfully implement chemicals management with clear and feasible directives. In addition, the responsible care initiative led by the chemical industry has incorporated relevant SAICM areas of work (e.g. GHS) into their training programmes, including an on line diploma course which is offered nationally to industry workers.

From an NGO perspective, the QSP has been successful in allowing a closer interaction between civil society and the public and private sectors. Input relevant to the project was made available and taken on board for document drafting and during discussions of the project's Committee. The major achievement seen from the perspective of this sector has been that reliable information on chemicals can now be made available to public society in a standard format. The strategy followed by the NGO consists of proving access to environmental information by means of free-access online platforms.

Stakeholders also agreed that the information contained in the National Profile can now be considered as the baseline to develop and implement management strategies sustained in reliable data. Seen as an important source of information, the profile has reached all relevant sectors of society through respective communication and awareness raising activities.

When addressing administration and other technical issues, positive feedback was obtained regarding the support and timely feedback obtained from the SAICM Secretariat, as well as from the Executing Agency.

c) Challenges and sustainability

Few challenges appeared to be identified regarding project implementation. Some of these were of an administrative nature, while others consisted of technical issues. The main barrier was to

actively engage all public agencies with attributions relevant to chemicals management. Also, when dealing with technical issues, it was evident from the start that the compilation and assessment of data relating to the different stages of chemicals management was not an easy task, due to the variety of public-sector entities having jurisdiction in this area. Obtaining information from other sources posed additional challenges, since it was difficult to obtain data in a standardized and systematic way.

Delays in responses from stakeholders to requests for information, was also seen as an important aspect that caused an impact on the timely delivery in certain stages of the project. Administration issues included the timely completion of activities due to coordination agreements still under revision with the Executing Agency.

Corrective actions mentioned by the project coordinator to address these challenges, included: continuous follow up with stakeholders, leadership, and continuous communication with the Executing Agency.

The achievements obtained through the QSP project are seen as a preliminary first step towards SAICM implementation. In addition, a plan with medium and long-term actions has been developed in alignment with national priorities and SAICM areas of work. To follow up on these results, the country is now initiating a second QSP project that will establish solid background and initial capacity for the implementation of the Globally Harmonized System (GHS).

Next steps include implementing mainstreaming activities, considering the country still faces several challenges both from a financial and political point of view. One of the main concerns is the lack of a global financial mechanism for SAICM, which raises doubts on the feasibility of successfully achieving the 2020 goals. There are also questions on how and where proposals should be developed and presented to obtain resources elsewhere (e.g. beyond the QSP Trust Fund).

Similarly, and although work has been accomplished in drafting an instrument which integrates the national priorities identified for chemicals management, the political support that it needs is still pending. In this respect, the decision making process is a key aspect that will be determinant to ensure that not only the political will come at the highest level, but also that it is reflected in a national strategy that allocates resources to target priorities and needs for chemicals and waste. Advocacy is seen as the main action that stakeholders have considered increasing awareness among policy makers. The approval and endorsement of the National Decree and the National Policy for Chemicals Risk Management are seen as key decisions to move forward at the country level.

2.2.2 GUATEMALA

Representatives from the following sectors participated in the interview sessions.

- Ministry of Environment, Unit of Chemical Products (National SAICM Focal Point)
- Ministry of Labor, Department of Safety and Hygiene
- Customs Authority, Unit of International Conventions and Treaties
- University of San Carlos, Faculty of Chemical Sciences and Pharmacology
- Ministry of Energy and Mines)

a) Overall relevance of the QSP

With the growing relevance of chemicals and waste management at the national level, and the broader agenda at the global level dealing with chemicals and waste, the QSP has come at the right moment to launch the first efforts at the country level. The QSP is regarded as instrumental in incorporating chemical issues into policy efforts with a life cycle perspective.

It is also a mechanism that guides stakeholders on project design and implementation through a user-friendly format, and with the necessary elements to raise awareness and build institutional capacities. The benefits of the QSP are further recognized when seen as an ideal starting point to implement SAICM as well as other programmes and Conventions

b) Project impact and achievements.

The QSP project to implement enabling SAICM activities not only delivered all expected outcomes, but exceeded expectations by implementing additional activities that were not originally planned. For example, remaining funds were utilized to strengthen the legal structure of the National Chemicals Committee; an additional output was the development of a diagnostic that was necessary to prepare a Draft Policy for chemicals management.

For stakeholders, a major achievement has been the creation of an Inter-Ministerial Committee, which clearly demonstrates that working in a coordinated and integrated manner, is possible and sustainable.

The national chemicals profile has been of significant relevance at the country level. It constitutes a living document that describes the different responsibilities on chemicals management across sectors. The capacity assessment has also been an important project output that identified the major institutional gaps. One visible achievement of these project products comes in the form of a list of priorities that have been agreed by major stakeholders.

Capacity building has been another relevant output that already has shown impact in several sectors. For example, the customs authority has acquired enhanced knowledge for the inspection of chemicals that are subject to regulation and for those that are included in MEA's to which the country is a signatory. Another case of success involves efforts made by the Ministry of Labor with improved tools to conduct inspection visits at industrial facilities where workers use chemicals. Outcomes of more rigorous safety and hygiene measures have an immediate impact in reducing the risk of exposure, and allow industries to improve on compliance aspects with the Ministry of Environment.

The project has also catalyzed further actions and efforts focused on the broader chemicals management agenda, including: i) a project proposal to develop a PRTR system; ii) a plan for an initiative on green customs; iii) preparatory work for the mercury INC process and, iv) a second project proposal (GHS implementation) for the QSP, which has been officially approved.

c) Challenges and sustainability

A number of factors, including problems finding local information on chemicals, are considered as important gap that still need to be addressed in order to have a better picture of the national situation. Awareness-raising is another key aspect that still remains as an area that requires stronger efforts, particularly at the decision making level. A step forward to adequately address this critical challenge is the strengthening of the existing inter-ministerial coordination.

A National Committee for Chemicals Management has been operating to discuss issues related to this area, but has not been officially established. This is a key challenge that needs to be solved if stakeholder commitment and participation is required on a regular basis.

The existing legislation still presents important gaps, and chemicals are not regulated with a life cycle approach. Appropriate updates are critical to improve efforts in enforcement tasks at the Governmental level.

On going activities for the implementation of various projects and initiatives on chemicals management are seen as a key opportunity to reach out for additional sources of funding including public funds in a more systematic way. There is need to increase the profile of chemicals within the national environmental agenda, and various stakeholders have made

significant work to achieve this. The major challenge to sustain these efforts continues to be political will.

2.2.3 COSTA RICA

Representatives from the following sectors participated in the interview sessions.

- Ministry of Environment (National SAICM Focal Point) – Vice Ministry for Environmental Quality, Environmental Quality Department, International Cooperation Department
- Ministry of Labor and Social Security- Department of Medicine, Hygiene and Occupational Health
- Ministry of Health – Department of Regulation

a) Overall relevance of the QSP

The QSP has helped in moving forward the national chemicals agenda, and has clearly marked the “before and after” in this field. The Programme has allowed for an increased knowledge of chemicals issues at the country level, while its projects have assisted stakeholders in identifying problems and the necessary processes to strengthen management efforts.

The QSP facilitated the coordination mechanism among national stakeholders, and also supported the establishment of baseline information by means of the national chemicals profile. The Programme has also provided with guidance to enhance capacities and to work on chemicals management with a strategic vision and cross cutting elements.

The implementation of a first QSP project focused mainly on enabling activities necessary to set a common ground for discussion among stakeholders. The main finding was the importance in improving access to reliable and up to date information on chemicals and waste with a life cycle approach.

The QSP allows within the framework of the SAICM objectives a degree of flexibility for the countries to adjust to the national priorities established by their organizations and/or environmental institutions.

b) Project impact and achievements.

The first QSP project consisted of an update of the original National Chemical Profile done two years earlier and contributed to significant improvements in collecting and analyzing data. Strong motivation encouraged stakeholders and institutions to participate in this process, which helped to obtain additional information to identify the main gaps and needs regarding data at the national level. The activities resulted in the identification of some legislative and regulatory reforms that should be implemented in support of the management of Persistent Organic Pollutants (POPs) and the implementation of the Basel Convention. The results were also taken into consideration in the elaboration of the National Development Plan. The project highlighted the need to improve information management among institutions, academia and final users.

The document with the updated chemicals profile has been a key deliverable of SAICM related activities since it allowed the identification of further actions and priority setting. For example, the profile showed that before implementing specific activities as set out in the Global Plan of Action, the country requires a chemicals information system that contains data on priority chemicals through their life cycle. Indeed, this was the way forward which the country had chosen and a second QSP project is supporting this initiative.

Another significant impact was the official establishment of a National Technical Secretariat for the Coordination of Chemical Substances Management. The members of this Secretariat meet

regularly at least once a month to discuss the progress made on activities related to chemicals and waste management at the country level. As a result of the QSP efforts, the country has also developed a draft document with a National Policy for Chemical Safety, which is now under discussion at the Ministerial level.

The second QSP project to design a national information system for chemicals is still under development but important progress has been made. The purpose of this project is to build a unified tool that contains information from different sectors. The expected output will consist of a set of data on chemicals which are under regulation and through the various stages of their life cycle, from the moment a chemical is authorized for import at the customs port of entry, until its final disposal or end of life management. The system is also expected to support regulation tasks and to track chemicals using an on line instrument with the latest data provided from official sources (e.g. Government, chemical industry)

When addressing administration and other technical issues, positive feedback was obtained regarding the support and timely feedback obtained from the SAICM Secretariat.

c) Challenges and sustainability

During the implementation of the first QSP project, one of the main constraints was the absence of information in certain sectors. This limitation catalyzed actions to propose a follow up QSP project to develop a comprehensive information system on chemicals. Stakeholders agreed that this was the right way forward to address this challenge. The current approach considers direct communication with the appropriate sources of information while justifying the importance of collecting data relevant to chemicals management.

There were two critical challenges identified during the planning stage to develop the information system for chemicals. The first one was to materialize a formal commitment from stakeholders regarding the project viability and value added. This was overcome after conducting visits and discussions with stakeholders to increase awareness. The result was positive and positive feedback was obtained when using this approach.

The second challenge at this point is related to the availability of technical information in the different institutions. For example, significant differences have been identified in the way that institutions collect and capture data, such as the type of units or the level of detail used for certain chemicals. In addition, the an IT consultant had to be trained on issues related to chemicals and their life cycle in order to improve his understanding of the requirements to develop the information system.

As it has been the case in other countries visited, one of the main concerns is the lack of a clear and sustainable financial mechanism for SAICM, which raises doubts on the feasibility of successfully achieving the 2020 goals. In the meantime, the QSP is seen as an adequate strategy to continue with project implementation towards achieving SAICM objectives. The Programme could be more flexible and allow for further access to funds for projects that go beyond enabling activities.

At the country level, one of the main challenges at the political level is to obtain the approval and endorsement of the National Policy on Chemical Safety. If efforts to raise awareness succeed with decisions makers, it is likely that policy actions will benefit existing programmes through the allocation of resources to target priorities and needs for chemicals and waste.

Summary of field assessments

Field visits were extremely useful for the preparation of this report, and allowed for easier access to information generated through national and regional QSP projects. The visits also provided an excellent opportunity to conduct face-to-face interviews with some of the more relevant actors involved in project implementation.

Several similarities were identified in some aspects of the QSP projects that have been implemented in the seven countries visited. For example, the relevance of the program has been commonly recognized as one that provides initial support to initiate SAICM enabling activities. This is of high importance at the country level since it has led to actions that have enhanced capacities for the management of chemicals. For these countries it is also clear that the QSP is a tool of easy access, flexible and instrumental in providing guidance to implementers to develop baseline information on chemicals and also to assess institutional capacities in this area.

Capacity building has been another relevant output that has been considered as a major impact of the QSP. For example, in all countries visited stakeholders have been able to apply tools and methodologies developed by IGOs or with technical assistance from implementing agencies to identify gaps and assess needs for chemicals management. Another significant output has been the establishment of national committees or multi-stakeholder working groups to discuss and implement actions targeting SAICM implementation. While in some countries this type of working group continues to operate on a regular basis, in some others this dynamic has withered after completion of project activities.

The QSP has also encouraged these countries to develop draft national policies on chemical safety or chemicals management. This is an outcome of critical importance since it has been designed to increase awareness at the highest political level. During the field assessments, stakeholders agreed that the endorsement of a national policy is likely to secure political and financial support. Although these documents have already been agreed through a multi-stakeholder consultation process, the time required to obtain political support is still uncertain. While this occurs, on going activities are still being implemented in all countries, either through additional QSP projects or through other national or regional projects.

The QSP projects have also been fundamental in catalyzing further actions and efforts focused in the broader chemicals management agenda, including: i) support in the implementation of treaties or conventions addressing chemicals and waste; ii) developing further proposals for the QSP Trust Fund; iii) preparatory work for the mercury INC process, among others.

Regarding challenges and sustainability of the chemicals management agenda, the common concerns expressed while conducting interviews were quite similar. The first challenge was to ensure the formal commitment from policy makers on a long-term basis, an issue that is usually subject to political will and the endorsement of national policies. Another important challenge consists on the current uncertainty to identify and establish a sustainable financial mechanism to move forward with SAICM implementation.

While there are still important challenges ahead, countries have acknowledged the significant progress made in the national chemicals agenda with the support of the QSP. Proof of that is the continuous effort of various sectors to advance the objectives of SAICM.

List of countries visited

COUNTRY	PROJECT TITLE	STRATEGIC PRIORITY	EXECUTING/ IMPLEMENTING AGENCY	PROJECT COMPLETED	FINAL REPORT SUBMITTED	PROJECT STATUS
Zambia Kenya (19-20 March, 2012)	Strengthening Capacities for SAICM Implementation and Supporting GHS Capacity Building in Zambia	A,B	UNITAR	No	No	The project is in its initial phase. A training session on GHS was held in December 2010 and is in the process of completing its national GHS standard and implementation of its national standard on the transport of dangerous goods. Awareness raising activities on sound chemicals management and training of the media personnel are underway. Delays have occurred due to problems on funds transfer
Tanzania (12-13 March 2012)	SAICM implementation is East Africa: Law reform and capacity building for sound chemicals management in Kenya, Tanzania and Uganda	B	NONE	No	No	The planned deliverables are well in line with the work plan. The training modules are under review by stakeholders. Common needs and legal gaps have been identified in the three countries and incorporated in the Regional synthesis report. Awareness on the regional report to media, NGOs and decision makers are ongoing to advance the legal reform agenda. A strategic plan for capacity development is developed
Tanzania (12-13 March 2012)	Capacity Enhancement for the implementation of the Stockholm Convention in the United Republic of Tanzania	B	NONE	No	No	No progress report was submitted to the secretariat since the start of implementation in April 2009
Kenya (22-23 March, 2012)	Country support for the Implementation of the Libreville Declaration on Health and	B	UNEP, WHO	Yes	No	The activities are all completed and once final reports are submitted the project will be closed

COUNTRY	PROJECT TITLE	STRATEGIC PRIORITY	EXECUTING/ IMPLEMENTING AGENCY	PROJECT COMPLETED	FINAL REPORT SUBMITTED	PROJECT STATUS
	Environment in Africa: Development of guidelines and capacity building for Situation Analysis and Needs Assessment in view of developing country plans for joint action					
Kenya (22-23 March, 2012)	Strengthening Capacities in Kenya for National SAICM Implementation	A	UNITAR	No	No	TORs for the inter-ministerial coordinating mechanism have been finalized. Kenya is currently finalizing the National Profile and Capacity Assessment. In addition, Kenya is developing a National Policy for SAICM Implementation, a National Chemicals Management Database and Action Plans and Partnership Projects. Final versions of the TORs for the inter-ministerial coordinating mechanism, National Profile and Capacity Assessment, as well as final drafts of the National Policy for SAICM Implementation, National Chemicals Management Database and Action Plans and Partnership Projects will be presented during the National Forum that is planned for Q4 2011
Uganda (15-16 March, 2012)	Uganda, UNEP and UNDP Partnership initiative for the implementation of SAICM	B, C	UNDP, UNEP	No	No	The project is in its final stages of completion. During the reporting period an action document on sound management of chemicals was developed and presented at the final multi-stakeholders' workshop. The printing of the different project documents and awareness materials are pending which will be done after the receipt of the final transfer of funds from UNDP country office. Delays were particularly because

COUNTRY	PROJECT TITLE	STRATEGIC PRIORITY	EXECUTING/ IMPLEMENTING AGENCY	PROJECT COMPLETED	FINAL REPORT SUBMITTED	PROJECT STATUS
						of challenge in convincing the policy makers and the sector-driven planning framework in giving priority to chemical management which is a relatively new issue.
Costa Rica (25-26 April, 2012)	Updating National Chemicals Management Profile, development of a National SAICM Capacity Assessment and holding a national SAICM priority setting workshop in two least developing countries and three countries in transition	A	UNITAR	Yes	Yes	
Costa Rica (25-26 April, 2012)	Design and implementation of National Information System for the Integral Management of Chemical Substances in Costa Rica	A,B,C	None	No	No	The project is in its preliminary stage. The national coordination work plan has been prepared and the selection of consultants to design the national information system is done. A budget revision has been granted to adjust costs for the information system. The need to present the project individually to officials at management level was highlighted. The extension for the project is in process.
Guatemala (12-13 April, 2012)	Strengthening national governance for SAICM implementation: updating the national chemicals management profile,	A	UNITAR	Yes	Yes	

COUNTRY	PROJECT TITLE	STRATEGIC PRIORITY	EXECUTING/ IMPLEMENTING AGENCY	PROJECT COMPLETED	FINAL REPORT SUBMITTED	PROJECT STATUS
	developing a national SAICM capacity assessment, and holding a national SAICM forum in Guatemala					
Colombia (6-7 March, 2012)	Strengthening National Governance for SAICM Implementation in Colombia	A,B	UNIDO	No	No	Delays occurred because the coordinator and technical expert had to be recruited twice. The work plan has been adjusted. The project steering committee has already been established and collection and analysis of data for the database has been completed. Updating of the national chemical profile has been completed



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**Implementation of the Strategic Approach to
International Chemicals Management:
Emerging policy issues**

Report on nanotechnologies and manufactured nanomaterials

Note by the secretariat

1. Resolution II/4 E of the second session of the International Conference on Chemicals Management, invited Governments and stakeholders to develop a report focusing on nanotechnologies and manufactured nanomaterials including, in particular, issues of relevance to developing countries and countries with economies in transition.
2. The secretariat, based on initial work undertaken by Switzerland and the United Kingdom, developed an outline for the report and invited comments from stakeholders. A consultant was commissioned to write the report using the inputs received including recommendations from Strategic Approach regional meetings.
3. The secretariat has the honour to circulate, for the information of participants, the report on nanotechnologies and manufactured nanomaterials contained in the annex to the present note. The report was considered by the Open-ended Working Group at its first meeting in Belgrade from 15-18 November, 2011 and is presented to the Conference as provided by the Working Group for information.

* SAICM/ICCM.3/1

ANNEX

NANOMATERIALS : APPLICATIONS, IMPLICATIONS AND SAFETY **MANAGEMENT IN THE SAICM CONTEXT**

This report has been prepared for the SAICM Secretariat and uses the inputs which the Secretariat received from stakeholders. It has been drafted by Rob Visser in co-operation with Georg Karlaganis, Vladimir Murashov and Seonghee Seo.

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Nanomaterials: Applications, Implications and Safety

Management in the SAICM context

Executive summary

Background

Nanomaterials have special characteristics which mean that they can be used in various new applications, some of which have already been marketed for decades. Much research on new uses for nanomaterials is ongoing and, while currently the production volumes for them are not very large compared to traditional chemicals, many other applications are foreseen in the near future and production volumes are expected to increase significantly over the coming decade.

These special characteristics of nanomaterials can, however, also be a challenge, because these materials might have different implications for human health or the environment than the traditional chemicals. At this point in time it is not yet determined to what extent the classical testing and assessment approaches used in toxicology, which are the basis for the safety management decisions regarding traditional chemicals, will apply to nanomaterials. Also in this field research programmes are ongoing.

SAICM pays attention to nanotechnologies and manufactured nanomaterials as an emerging issue with respect to chemical safety. The Resolution II/4-E of ICCM2, in its section 9, “Invites Governments and other stakeholders to develop a report that focuses on nanotechnologies and manufactured nanomaterials including, in particular, issues of relevance to developing countries and economies in transition, and to make the report available to the Open-ended Working Group at its first meeting and to the International Conference on Chemicals Management at its third session”.

This report has been prepared to address this invitation. Inputs from thirteen stakeholders have contributed to the report. Recommendations made at Regional SAICM meetings for the content of the report, based on an outline, have been taken into account.

Introduction

The report gives a brief overview of the current market situation, and of expected developments. It describes possible applications of manufactured nanomaterials for industrial and consumer uses, but also addresses their beneficial uses for health and the environment, and gives special attention to the situation in developing countries and economies in transition. The report then describes the state of knowledge regarding risk assessment and risk management. It describes where science is with regard to material characterization, human health (including worker related aspects), the environment, information management and risk management. The report also highlights uncertainties in the science and on which issues more research is needed.

Risk assessment and risk management

One of the conclusions regarding this subject is that on the one hand much knowledge is available regarding possible health and environmental effects of traditional chemicals and exposures, but that, on the other hand, such knowledge cannot all be transposed directly to nanomaterials. In many cases, however, the robust methods applied to and frameworks used for traditional chemicals, will provide an adequate basis for dealing with manufactured nanomaterials. A widely applied policy is to use available provisions as far as possible and follow a precautionary approach. At the moment therefore often a case-by-case evaluation has to be relied upon, and qualitative outcomes have to be used when risk quantification is not possible. Precaution is then applied in those cases where an unacceptable level of uncertainty or concern is identified. In this context issues related to waste management, specifically in developing countries and economies in transition, require special attention.

Policy Making

Currently no countries have specific legislation in place to deal with the safety of nanomaterials. Meanwhile existing legislations requiring a duty of care are used to cover nanomaterials. Several specific suggestions have been made for better addressing nanomaterials, such as the inclusion of nano-aspects in Safety Data Sheets, establishment of a government register for products including nanomaterials, a provision by industry of information about potential risks of nanomaterials and integrating a chapter about the management of nanomaterials in National Profiles for chemicals management.

Clearly, however, more research is needed to get a better insight into those aspects for which the methodology has to be adapted for nanomaterials risk management, and into the possibilities to quantify the risks. In general, civil society organizations are rather critical about the way the risks of nanomaterials are currently being managed.

Economic, social and ethical matters

The report also discusses the economic, social and ethical aspects of the introduction of nanotechnology, how public dialogue on this issue is being progressing and the work of international and intergovernmental organizations.

Capacity Building

The report further addresses the issues of learning, training and capacity building in relation to nanotechnology and defines in this respect two related, but distinct elements. One is ensuring that all countries have the capacity to undertake research in order to use nanotechnologies to help them to possibly better address a number of the societal challenges. Concerns that developed countries will benefit more from nanotechnology and that developing countries will suffer more from potential risks are highlighted and the need that this issue has to be fully considered in order to avoid that a nano-divide will be created, is emphasized. The establishment of research partnerships is mentioned as a way forward here. The second element is that all countries should have a capacity to assess the health and environmental safety aspects of manufactured nanomaterials in order to be able to make well founded and effective decisions on the use of these materials in their countries, while the

science regarding nanomaterial safety assessment methods is evolving. It is crucial to strengthen the capacities in this field in developing countries and in economies in transition. Suitable means to achieve this should be made available.

Recommendations on nanomaterials' safe management

The report concludes with a number of suggestions for actions which could be taken up in the SAICM context. The detailed recommendations are listed below:

1. Facilitation of information exchange on nanotechnologies and manufactured nanomaterials in order to improve global transparency and allow better decision making processes. Such information exchange could involve several aspects. For example it could be recommended that, possibly through the IOMC and its participating organizations:
 - an international "nano-portal" for safety information be set up;
 - a clearinghouse of ongoing research activities be set up;
 - a mechanism be established for sharing technical, legal and institutional information;
 - awareness raising activities in the SAICM regions be continued and deepened.
2. Development of internationally applicable technical and legal guidance and training material for the sound management of manufactured nanomaterials, possibly through the IOMC and its participating organizations. This could involve:
 - guidance material on the assessment and management of the safety of nanotechnologies and manufactured nanomaterials;
 - guidance material on the integration of nanomaterial safety in existing national chemical safety programmes, including the updating of National Profiles;
 - guidance material on the adaptation of national legal frameworks to include the sound management of manufactured nanomaterials;
 - training materials based on the guidance;
 - training activities;
 - pilot projects which could also be used to test the guidance material;
 - education materials for the public.
3. Supporting the development of Regional SAICM strategies concerning manufactured nanomaterials, which could include arrangements for cooperation on research and on risk assessment and risk management issues.
4. Facilitation of technology transfer, in particular related to applications which are beneficial for health and environmental protection. This could include various types of partnerships which should be financially supported in order to achieve their objectives. Partnerships could be among:
 - developing countries and/or economies in transition and developed countries;
 - public and private institutions in a country or region, including civil society organizations as they could contribute in various ways, for example by providing expertise, review and insights.
5. Updating the Global Plan of Action with a specific work area which includes activities on nanotechnologies and manufactured nanomaterials.
6. Including the possibility of financing projects related to nanomaterial safety in any possible future SAICM financing mechanisms in order to enhance the preparedness of countries to

deal with the safety issues when larger volumes of products containing nanomaterials will reach the market.

7. Inviting industry to step up their stewardship role and responsibilities in relation to nanotechnologies and manufactured nanomaterials, and to participate, including in financial terms, in supporting awareness raising, information exchange and training activities, as well as in public dialogue by providing, without major conditions, monetary contributions for such international work.
8. Recommending to the UN Committees of Experts on the Transport of Dangerous Goods and on the Globally Harmonized System of Classification and Labelling of Chemicals the urgent preparation of a work plan for the adaptation or development of GHS criteria to address the safety of manufactured nanomaterials.
9. Recommending to the Conferences of Parties of the Rotterdam, Stockholm and Basel Conventions to consider specifically addressing if it would be useful (and if so how) to consider applications and implications of manufactured nanomaterials which could fall under their respective mandates.
10. Continuing to support the public dialogues on all aspects of nanotechnologies and manufactured nanomaterials, for example by holding Seminars or a Global Conference with participation of all stakeholders in order to discuss progress on addressing issues related to manufactured nanomaterials which are of wide public interest.

1.INTRODUCTION

Nanotechnology is the understanding and control of matter at dimensions between approximately 1 and 100 nanometers, where unique phenomena enable novel applications. A nanometer (nm) is one-billionth of a meter. A sheet of paper is about 100,000 nm thick, a human hair is approximately 80,000 nm wide, a red blood cell 7,000nm wide, a strand of DNA is 2.5 nm of width and a single gold atom is about a third of a nanometer in diameter.

The fundamental properties of matter change at the nanoscale. The physical and chemical properties of nanoparticles can be quite different from those of larger particles of the same substance. Altered properties can include, but are not limited to, color, solubility, material strength, electrical conductivity, magnetic behavior, mobility (within the human body and within the environment), chemical reactivity and biological activity.

Such different type of properties mean that manufactured nanomaterials can be used in various new applications, some of which have already been marketed since decades such as in paints, coatings and cosmetics. Much research on new uses for nanomaterials is ongoing and, while currently the production volumes for them are not very large compared to traditional chemicals, many other applications are foreseen in the near future and production volumes are expected to increase significantly over the coming decade.

The same types of properties that give its practical uses to nanomaterials in these new applications, however, can also be a challenge, because nanomaterials might also have different types of implications for human health or the environment than the traditional chemicals. At this point in time it is not yet determined to what extent the classical testing and assessment approaches used in toxicology, which are the basis for making the safety management decisions regarding traditional chemicals, will apply to nanomaterials. Also in this field research programmes are ongoing.

One of the international events where the safety aspects of manufactured nanomaterials was discussed, was at the sixth session of the Intergovernmental Forum on Chemical Safety held in Dakar, Senegal, in 2008. One of the recommendations of the Forum was that the second session of the International Conference on Chemicals Management (ICCM2) to be held in 2009 in Geneva, Switzerland, would consider the outcomes of the Forum.¹ At the request of a number of stakeholders, the topic of “Nanotechnologies and Manufactured Nanomaterials” was included in the agenda for ICCM2 as an emerging policy issue. Discussions were supported by a background document.²

ICCM2 adopted a Resolution on “Nanotechnologies and Manufactured Nanomaterials”.³ The Resolution, in its section 9, “Invites Governments and other stakeholders to develop a report that focuses on nanotechnologies and manufactured nanomaterials including, in particular, issues of relevance to developing countries and economies in transition, and to make the report available to the Open-ended Working Group at its first meeting and to the International Conference on Chemicals Management at its third session”.

A draft of an outline for the report was prepared by Switzerland and the United Kingdom and put on the SAICM website in early 2010 with a request for comments by 1st May 2010. Reactions from five stakeholders were received. The SAICM Regional meetings of Africa⁴ and of Latin America and the

Caribbean⁵ gave a number of recommendations for the content of the report, based on an outline. In April 2011 a revised outline for the report was put on the SAICM website and inputs to for the report were requested. Inputs were received from thirteen stakeholders: Egypt, EU, ICCA, IPEN, Korea, the Nano-Authorities Dialogue (Austria, Germany, Liechtenstein, Switzerland), OECD, South Africa, Switzerland, Thailand, UNITAR, US and WHO. The inputs can be found at the SAICM website.⁶ They have been used extensively in the drafting of the report, but are not further quoted in the text. Information from other sources than these inputs is specifically referenced.

2. NANOMATERIALS AND THEIR APPLICATIONS

2.a Applications

Consumers have been using manufactured nanomaterials for many years in the past in products used in their everyday life often without knowing it. But many more applications are envisaged. The specific properties of nanomaterials mentioned above, make them useful for many applications in a variety of areas. Many research efforts in industry and academia are ongoing, often organized through national or regional initiatives.^{7 8} Applications which lead to beneficial uses for health and the environment will be addressed in some further detail in section 3. In this section some examples of industrial and consumer uses of different types of nanomaterials will be highlighted. Overviews of the variety of recent applications are given in studies of the US National Center for Manufacturing Science⁹ and the OECD.²¹

The light weight, mechanical properties of nanomaterials will result in uses in different kinds of reinforced construction materials like cement, metals, ceramics, wood, rubber and plastics. The conductivity properties will lead to applications in, for example, conductive inks in micro-electric applications to increase processing speeds. Nanomaterials consisting of metal oxides (aluminum, cerium, iron, zinc, titanium), silicon dioxide, metals (gold, silver), carbon allotropes (carbon black, single walled or multiwalled nanotubes, fullerenes or bucky balls) and nanoclays (layered mineral silicates) are mainly used in matrices for various applications.

Examples of product categories using nanomaterials are cosmetics, electronics, pigments, coatings, paper and pulp, textile and leather, food contact products, catalysts, semiconductive materials, drilling and cutting equipment, fillers and plastic additives. Some examples of specific products which can make use of nanomaterials are: various types of batteries, computer chips, paints, sporting goods like bicycle frames and tennis rackets, waterproof clothing, sunscreens and other creams, microfiber cloth, cleaning products, antibacterial agents (which can be applied in products like refrigerators, washing machines, kitchen ware or computer equipment) and antifogging agents (on car windshields, camera lenses). Low-cost photovoltaic solar cells (e.g. solar “paint”) and safe storage of hydrogen are applications which could be useful in the clean energy field.

In the health care domain a range of applications are envisaged: miniaturized diagnostics that could be implanted for early diagnosis and monitoring of illness, nanoscale coatings to improve the bioactivity and biocompatibility of implants, ultra-precise nanostructured drug delivery systems, sensors for labs-on-a-chip, and new materials for bone and tissue regeneration. Enhanced membranes for water purification, nanostructured filters for removing pollutants from industrial

effluents, improved remediation methods (e.g. photo-catalytic techniques) can be effective and efficient for environmental protection.

Nanomaterial applications can also address specific needs of disadvantaged people. Communities with no access to electricity are now lighting up their homes and schools with low cost printed nano-solar cells that power special lights made from nano-LEDs (light emitting diodes). Nanomaterials can also help to increase agricultural production by applications related to pesticides and fertilizers.

2.b Market situation

A recent RIVM report mentions a six-fold increase of consumer products in the European market with a claim to contain nanomaterials, growing from 143 products in 2007 to 858 products in 2010. Product categories which show the largest increase are personal care products and cosmetics like sunscreens, and various coating products such as anti-rain products for shoes and textiles.¹⁰ According to Soldatenko currently some 1300 products are in use.¹¹ In April 2011 the Woodrow Wilson Center Consumer Products Inventory included 1317 products with nanomaterials. These products were produced by 587 companies in 30 countries.¹² This number could be higher due to the difficulties of identifying the products which contain nanomaterials.

Governments and the private sector invest significant amounts in research and development of nanomaterials. The public sector in the US for instance invested \$ 12 billion since 2001. Germany, which is in this respect the frontrunner in the EU and ranks fourth on the international level (behind the US, China and Japan) allocated € 400 million to nanotechnology in 2010.¹³ A small part of the funding is allocated to research related to risk assessment and management. For example, Switzerland allocated SF 12 Million to safety research for the period 2010 to 2015 for the National Research Programme on Opportunities and Risks of Nanomaterials.¹⁴

The market situation of four classes of nanomaterials (fullerenes, carbon nano tubes - CNT, metals and metal oxides) was described in the 2009 ENRHES report:¹⁵

- the **fullerenes market** was worth around \$ 58 Million in 2007. The energy sector is the most prominent for fullerenes (fuel cells, solar cells, batteries).
- there is a great demand for **CNT**, especially in the electronics and polymers sectors. In 2006 the global CNT production capacity was estimated 271 tons per year (WTEC 2006). The price for 1 kg CNT used to be up to \$ 1000, but has been lowered due to research efforts. The market for CNT was approximately \$ 168 Million in 2008.
- **metals:** Nano- metals include cobalt, copper, gold and silver. Silver nanoparticles are applied most, because of the anti-microbial properties. It has been reported that in 2008 the silver nanoparticles production was 500 tons per year.
- **metal oxides:** Metal oxide nanoparticles are manufactured and applied worldwide for cosmetics, coatings, solar cells and plastics, such as cerium oxide for car catalysts and for diesel fuel additives; zinc oxide for metal work; ceramic nanoparticles for scratch-resistant automobile coatings; titanium dioxide for paints, plastic stabilizers and sun screens. The

global nano-titanium dioxide production was estimated between 5 000 and 64 000 metric tons for the year 2008.

2.c Expected market developments

While market demand has not matched the considerable hype that nanotechnology has generated in the last decade and a half, nanomaterials have managed to attain an appreciable commercial presence. Market information about manufactured nanomaterials has a commercial value; it is collected and sold by many private companies and is not freely available. This is one reason why there is no overview about the situation. Other reasons are the wide application of manufactured nanomaterials in all sorts of product categories and the absence of information in governments about which products contain nanomaterials. Many of the projections for the size of the future global market might therefore not be very accurate and will depend highly on the assumptions and definitions which were used in these studies. While there is an apparent general agreement on an important growth potential for the nanomaterial market, factors which make it difficult to estimate its future more accurately include: high processing cost; intellectual property issues; health and environmental regulations and safety concerns. A wide variety of numbers about the expected market size can be found, and these numbers are not always in accordance. Nevertheless, some of the information is provided below as an illustration.

One estimate indicates that the global market for pure nanomaterials to grow from \$ 413 million in 2005 to \$ 3.6 billion by 2010.¹⁶ In 2007 the global market was worth around \$ 1.6 billion. Azonano projects that this will reach \$ 10 billion by 2012, and there are projections which mention that the market will be worth \$ 20.5 billion in 2015.¹⁷ It has been reported that global nanomaterial demands will continue to rise by 20 % per year. Another estimate mentions that by 2025 nanomaterials are expected to reach over 34 billion in sales, having still only scratched the surface of the market potential.¹⁸ According to a Greenpeace report¹⁹, the market of nanomaterials is estimated to be over \$ 340 billion within a decade. The US National Science Foundation projected in 2001 that by 2015 the size of the nanotechnology market will be \$ 1 Trillion.²⁰ Breaking down this market size figure into nanomaterials, nano-intermediates and nano-enabled products shows that actual nanomaterials contribute less than 0.5 %. An OECD report lists numbers found in the literature for the global market forecast for nanotechnology enabled products in the range from \$ 750 – 3100 billion for 2015.²¹

It has been estimated that the area of nanoelectronics (semiconductors, ultra capacitors, nanostorage and nanosensors) will be worth around \$ 450 billion in 2015. The information and communication technology market is projected to see an increase due to the use of nanomaterials in displays, with a forecast of \$ 1.1 billion by 2015. Health care (nanobiotechnology including medical applications, drug delivery and microbicides) was the second largest market for nanomaterials in 2008, but is expected to overtake electronics as the leading outlet in 2013 and beyond.¹⁸ It has been reported that the total market for nanobiotechnology products was \$ 19.3 billion by 2010 and is growing to \$ 29.7 billion by 2015.²² The global market for nanotechnology products used in water treatment was worth an estimated \$ 1.4 billion in 2010 and is expected to grow at a compound annual growth rate of 9.7% during the next 5 years to reach a value of \$ 2.2 billion in 2015.²³

Currently the market is mainly focused on the fields of electronics and health care, but it is expected that the market will become much broader in terms of the variety of products and producers.

3. BENEFICIAL USES OF NANOMATERIALS FOR HEALTH AND THE ENVIRONMENT

Manufactured nanomaterials not only have industrial and consumer product applications. These materials can be also of use in the health area (nanomedicine) and in the environmental field. Some of them are already in use, while others are in a more or less advanced stage of research or experimental use. In many research programmes, especially in developing countries and economies in transition, these aspects get priority attention. In the NANOTEC research programme of Thailand, for example, six of the eight so-called flagship projects are directly related to health and environmental applications. Some examples of beneficial uses of nanomaterials for health and for the environment are discussed below.

3.a Health benefits

Most applications of nanomaterials in nanomedicine focus on the areas of drug delivery and diagnosis. Nanoparticles can be used to improve drug bioavailability. This can be done by nano-engineering the pharmaceutical in such a way that it can better reach those parts in the body where it has to act specifically, or in a way that makes it available in the body over a better determined period of time. For example, for cancer therapy certain functional groups could be attached to a nanoparticle, which then could target certain tumor cells. The size of nanoparticles also could allow them to preferentially accumulate at tumor sites. Such “tag and drag” approaches could improve the effectiveness of drug therapies in a major way and help to avoid unwanted side-effects. It has been reported that the main diseases for which health-related nanotechnology patents exist are cancer (35%), hepatitis (12%) and acne (4%), with a host of others in the 1 – 4% range.²⁴ The European Medicines Agency (EMA) has hosted the first international scientific workshop on nanomedicines in September 2010.²⁵ In view of the potential of nanomaterials to be of good use in health care, a lot of research is ongoing in nanomedicine. However, the number of clinical trials is still small. The European Foundation for Clinical Nanomedicine CLINAM reported 12 ongoing clinical trials in 2011.²⁶

Nanomaterials can also be used in various techniques to improve biomedical imaging, disease screening and health monitoring. For example, dyes using so-called quantum dot nanomaterials attached to proteins could be used to track cells or follow the distribution and metabolism of pharmaceuticals in the body.

Early diagnosis of a disease is often very important because it can increase the chances that a therapy will work. It is shown that nanoparticles can have the potential for detecting fragments of viruses, pre-cancerous cells, disease markers, and indicators of radiation damage. Nanoparticles could be nano-engineered with different types of bio-molecules such as antibodies, or fluorescent markers and this could be used for example to detect virus particles left after completion of a drug therapy or specific proteins, antibodies, and other disease indicators.

Poverty-related diseases are also being addressed and were the focus of Africa's first Nanomedicine Workshop. The five day workshop, titled "Nanomedicine for infectious diseases of poverty - perspectives and possibilities" took place in 2011 in South Africa.²⁷ It is estimated that approximately 14 million people die annually due to poverty related diseases including malaria, tuberculosis, sleeping sickness, chagas disease, as well as HIV/AIDS. Nanomedicine could also help to combat these diseases.²⁴

A UNESCO report mentions that nanotechnology can offer for developing country health care "safer drug delivery, new methods of prevention, diagnosis and treatment of diseases".²⁸ Another report outlines the top ten nanotechnologies which can contribute to reaching the Millennium Development Goals and addressing global challenges.²⁹ Reports explains that some of the benefits of more sophisticated nanotechnology based drug delivering systems, especially for developing countries, is that it has the potential to free up trained medical personnel which are currently engaged in administering pharmaceuticals for urgent other tasks. Nanotechnology based diagnostics could empower local health care auxiliaries in rural settings, thereby limiting the need for technical involvement of trained specialists, who could then attend more and better to patients requiring higher qualifications. Another benefit, especially in remote areas, would be the increased use of slow release drugs.³⁰

The use of nanomaterials for cleaning water is mentioned under the section on environmental benefits, but this can of course also be very important for preventing diseases. In particular if it involves purification of the supply for drinking water, this would be a great benefit for public health protection.³¹

3.b Environmental benefits

Manufactured nanomaterials are also providing critical technological advances that have the potential to help environmental clean-up, prevent or reduce pollution, promote cleaner production and improve energy generation, storage, and use. Some of these technologies are already deployed, while others are currently undergoing commercial development. A number of examples are discussed below. In 2009 an OECD Conference on the "Potential Environmental Benefits of Nanotechnology: Fostering Safe, Innovation-Led Growth," identified a number of potential technologies that might reduce impacts on the environment either directly or indirectly.³² For example, certain nanomaterials are used as light weight, strong construction materials. This has some generic environmental benefits compared to traditional materials in view of the facts that less material is used, because of the lower weight they require less energy for transport and in the waste phase they represent less material. Nanomaterials can also be used to replace chemicals known to be hazardous.

Nanomaterials can be used in environmental clean-up and remediation. Nanoscale iron metal can directly reduce environmental pollution, for example in remediating sites contaminated with organo-chlorine waste; this material can also be used for the cleaning up of waste water or of ground water which could be used in the supply of drinking water. In the provision and management of clean water, solar photocatalytic processes to disinfect water are enabled by nanomaterials.

With respect to pollution prevention or reduction, nanoclays can be used as a substitute for brominated flame retardants that have been targeted for phase-out due to environmental and human health concerns. A wide range of nanoscale materials can be used as coatings that provide alternatives to possibly more toxic chemicals, while simultaneously improving the durability and functionality compared to older technologies. Cerium oxide can be used as a fuel additive to reduce particulate emissions and increase fuel efficiency.

Cleaner production processes that could prevent pollution can be achieved through the use of nanoscale catalysts, and the bottom-up self-assembly of materials. This can result in processing efficiency, reduction of waste in manufacturing, and stronger materials with fewer defects. In addition, the ability to enhance and fine tune chemical activity can result from catalysts that improve, for example, the efficiency of chemical reactions in automobile catalytic converters, power generation plants, and manufacturing facilities. Nanoscale catalysts can reduce the waste generated and energy consumed from a wide range of industrial processes. Nanoscale iron can be applied to create self-cleaning surfaces to reduce urban NO_x levels. Nanomaterials can also be used in environmental sensing methods which can help to detect early on in processes releases of air pollutants or particles and make fast corrective action possible.

Solar collectors using fullerenes and lighter and stronger wind turbines that incorporate carbon nanotubes make green energy generation more efficient and more affordable. Improved batteries using nanoscale electrode materials like carbon nanotubes and nanostructured membranes are enabling the development of improved hybrid and electric vehicles with faster recharging, longer lasting charges, and more charge/discharge cycles, while reducing consumption of fossil fuels and generation of emissions.

While these environmental applications are of use to all countries, important environmental applications are specifically of practical use in developing countries. Up to 1.2 billion people are currently at risk of getting diseases caused by polluted water. Nanotechnologies are poised to enable water distribution and purification systems, for example by using nano-filters to sterilize water by removing and/or deactivating the infecting microorganisms.

4. RISK ASSESSMENT AND RISK MANAGEMENT

4.a Material characterization

The International Organization for Standardization (ISO) has been working on developing a vocabulary and core terms for nanomaterials and nanotechnologies since 2005; it was agreed to refer to the size range between approximately 1 nm and 100 nm. Questions have been raised about the scientific justification of single lower and upper boundaries for regulatory risk management purposes for all nanomaterials given that the boundaries of nano-specific phenomena vary with material composition and property under consideration. Nevertheless, it is widely recognized that size is universally applicable to define all nanomaterials and is the most suitable measurement parameter. Moreover, an understanding of the size distribution of a nanomaterial is essential and the number size distribution is the most relevant consideration".³³

Risk management of nanomaterials requires their extended physical-chemical characterization. A number of lists describing physical-chemical properties needed for different aspects of risk characterization have been developed by international organizations. A more comprehensive list includes seventeen physical-chemical parameters (agglomeration/ aggregation, catalytic properties, composition, concentration, crystalline phase, dustiness, fat solubility/ oleophilicity, grain size, hydrodynamic size/particle size measurement/ distribution, length, purity, shape, specific surface area, surface charge, surface chemistry, water solubility/ hydrophilicity, zeta potential), which have been identified as a necessary pre-requisite for risk characterization of nanomaterials.³⁴ Even though, only three of those seventeen properties (concentration, surface charge and catalytic properties) did not have standard measurement methods developed or under development by international organizations, more work is needed to further validate and refine physical-chemical characterization methods for nanomaterials for regulatory purposes. This need for standardization of methods for nanomaterial characterization is further highlighted by the strong dependence of measured values on the method used.

As stated by the U.S. National Nanotechnology Initiative (NNI), there are several issues that pose important challenges for the development of accurate, precise, and reproducible measurement tools for nanomaterials.³⁵ These tools are essential for comprehensive characterization of nanomaterials so that measurements are not questioned and specific studies are not unnecessarily duplicated. Requiring that measurements be performed in various media adds significant complexity to the design of instruments, the packaging and handling of reference materials, and the specificity of protocols. Determining the large number of risk-relevant properties of each nanomaterial-media system is time-intensive, and can only be made feasible through the development of high-throughput, high-content-generating instruments and protocols. Real-time, in-field testing of exposure media requires new instrumentation concepts and novel approaches to the development of protocols and reference materials. Significant efforts are needed for national and international harmonization and validation of measurement tools. Finally, greater collaboration between academia, government, and the private sector is essential to establish a comprehensive measurement infrastructure.

Lack of characterization could lead to different laboratories reporting discordant results on seemingly the same test material. For that reason good characterization, using a minimal characterization data set, should be applied in all studies.³⁶

Regarding measurement methodology, the needs for reference materials and protocols are perhaps of greatest immediacy. Because the time and cost associated with certification of reference materials is quite high, there is a short-to-intermediate need for “study” materials that are designed for specific applications and well-characterized and widely available, preferably in a centralized repository. A database that includes all available measurement tools would be a valuable resource for all environmental, health, and safety assessments of nanomaterials.

4.b Human health

The potential health risk of a substance is generally associated with the magnitude and duration of the exposure, the persistence of the material in the body, the inherent toxicity of the material, and the susceptibility or health status of the person.

Manufactured nanomaterials can have varying chemical and physical characteristics and may be structurally and compositionally homogeneous or heterogeneous or even be multi-functional. All these can affect release, transport and deposition of nanomaterials in the environment and, therefore, their exposure potential. As the size of the particle is made smaller, a greater fraction of the atoms is at the surface, which can affect the surface reactivity and toxicological properties of the particle. At the same time, nanoscale particles have a tendency to agglomerate and form larger structures, which influences their dynamics in the environment and deposition on biological surfaces. Few data about the effects which size, agglomeration state and other physical-chemical properties have on the deposition and fate of particles in the human body are available for nanomaterials. Some data exist on dynamics of nanomaterials in the air, less is known about their dynamics in other media.

Exposure

Even though a number of case studies looking at exposure assessment for specific nanomaterials to workers, consumers, general population and the environment are underway, so far only a few workplace measurements of nanomaterial exposures and a few modeling studies of consumer exposures have been reported. Exposure assessment studies that have been conducted are frequently constrained by the absence of having a defined exposure metric (e.g. mass, particle number concentration, surface area) to measure exposures that correlate with evidence of a toxic effect. Interpretation of exposure measurements is further compounded by the presence of unintentional (i.e. not manufactured) nanoparticles from other sources (e.g. diesel exhaust, combustion products, electrical motors, photocopiers). Since unintentional nanoparticles can exist in a variety of shapes, sizes, and compositions, their airborne presence often interferes with the quantitative assessment of exposures to manufactured nanoparticles. The lack of an understanding of the toxicity mechanisms associated with specific manufactured nanomaterials confounds the ability to identify a specific exposure metric (particle dimension, size, and surface area) that can be used to assess the potential hazard of many nanomaterials. Therefore, multiple parallel measurements are recommended to characterize exposures to nanomaterials.

Exposure to nanomaterials can occur primarily through inhalation, skin contact and ingestion routes. The inhalation route is of most concern, especially in the workplace. In addition, some nanomaterials have the potential to cross biological membranes and distribute from exposure site systemically to interact with cells, nucleic acids and proteins in internal organs such as the liver, brain, spleen and kidneys. However, it is not well known how this translocation process may be influenced by the chemical and physical properties of the nanomaterials. It was shown that smaller nanoparticles which are deliberately stabilized to remain non-agglomerated in dispersions can penetrate intact skin, while mostly agglomerated and aggregated nanomaterials were unable to penetrate intact skin.

Potential effects on human health

Due to the relative novelty of many nanomaterials, biological dose-response data necessary for quantitative risk assessment is lacking for most nanomaterials. However, a large body of research

linking exposure to unintentional nanoparticles, which are often called “ultrafine particles”, can be used in the hazard assessment of manufactured nanomaterials. For example, the nanoscale fraction of air pollution was associated with lung and cardiovascular diseases. Experimental animal studies have shown that at equivalent mass doses, insoluble ultrafine particles due to their higher surface area per mass are more potent than larger particles of similar composition in causing pulmonary inflammation, tissue damage, and lung tumors. It is also believed that some respirable, biopersistent, long and rigid nanofibers may penetrate in the lungs which may ultimately result in mesotheliomas. This physio-pathological mechanism is commonly named the fiber paradigm and was derived using data for microscopic fibers such as asbestos fibers.

Despite a relative wealth of in vitro toxicity data for broad range of nanomaterials, paucity of data on actual human exposure levels, inadequate physical-chemical characterization of study nanomaterials and lack of validated and standardized toxicity testing protocols are an important limitation to the use of those data for hazard assessment. A comprehensive testing program for thirteen representative nanomaterials aims to fill in the gaps in our understanding of the nanomaterial hazard potential³⁷

Initial experimental studies in cell cultures and laboratory animals have shown that the biological response to certain nanoparticles can be greater than that of the same mass of larger particles of similar chemical composition. In addition to the particle number and combined surface area, other particle characteristics may influence the biological response, including solubility, shape, charge and surface chemistry, catalytic properties, adsorbed pollutants (and other intentional and unintentional surface changes), as well as the degree of agglomeration.

In regards to mechanisms of biological activity of nanomaterials, a review of toxicological studies suggests that some nanomaterials could potentially:

- pose hazard due to dissolving ions (e.g. the toxicology of nanoscale silver due to silver ions) and due to their physical shape (e.g. toxicity of long, rigid fibers);
- act as carriers of other material due to high adsorptive properties, and therefore can deliver hazardous chemicals present in the ambient air to biological compartments which would otherwise not be accessible to those chemicals;
- exert biological activity through protein parts deposited on nanomaterial surface in biological environments; and
- exhibit immunological functions, genotoxic action, or catalytic potential.

Airborne particulate research involving sensitive and vulnerable populations has demonstrated differences in the uptake, metabolism, and excretion components of the exposure–response relationship that could shift risk management guidelines for particular populations. Therefore, human health research should examine impacts not only to healthy individuals, but also to vulnerable populations with acute and chronic disease, and developmentally sensitive populations such as embryos, fetuses, children, and the elderly.

A 2009 summary of available general national and international guidelines shows that under the conditions of the paucity of hazard and exposure data, most published guidelines adopt precautionary measures aimed at minimizing exposures to the extent technologically and economically feasible.³⁸

Several tools have been developed which utilize generic risk evaluation and management frameworks and apply them to nanomaterials throughout their life stages. One such tool developed by the International Organization for Standardization (the Nanomaterial Risk Evaluation technical report) covers potential occupational, environmental and consumer risks during manufacture, use and disposal of nanomaterials.³⁹ This framework describes how a site specific risk management programme can be created by answering a series of questions aimed at identifying relevant information and therefore, it can be used as a tool to organize, document, and communicate what information the user has about nanomaterials.

While there has been progress in understanding human responses to nanomaterials, researchers have not yet achieved the critical data sets needed to understand fully the potential for exposure and develop science-based nanotechnology-related health and safety guidelines and support for regulatory decision making for all nanomaterials.

Understanding of physical-chemical property–response or dose–response relationships is essential for accurate, science-based decision analysis by regulatory agencies and development of robust predictive models that will improve nanomaterial design, maximize biocompatibility, and minimize adverse health and environmental effects. Activities in this area are underway.

Inherent in the life cycle concept and applicable to research on human exposures and health effects is the longitudinal examination of exposures to nanomaterials across life cycle stages from R&D to large-scale production, product incorporation, use, and disposal. Furthermore, research on human health effects often involves complex, interrelated concepts that are investigated most efficiently and effectively by research programs conducted in parallel rather than serially.

Development of Exposure Limits

Given the paucity of validated dose-response data for nanomaterials, presently there are practically no Exposure Limits (ELs) specific to nanomaterials that have been adopted or promulgated by authoritative standards and guidance organizations. The vast heterogeneity of nanomaterials limits the number of specific ELs that are likely to be developed in the near future, but ELs could be developed more expeditiously for nanomaterials by applying dose-response data generated from animal studies for specific nanoparticles across categories of nanomaterials with similar properties and modes of action.

Examples of this approach include occupational ELs for titanium dioxide and carbon nanotubes. Results from experimental animal studies show persistent pulmonary inflammation and lung tumors for both microscale and nanoscale TiO₂ in which the dose-response correlated best with particle surface area.⁴⁰ These findings of pulmonary effects were consistent with data from other poorly soluble, low toxicity particles of microscale and nanoscale sizes. NIOSH recommended two mass occupational exposure limits for the two size fractions of TiO₂: 2.4 mg/m³ for microscale particles and 0.3 mg/m³ for nanoscale particles. A standard risk assessment model is used in the development of

these exposure limits which relies on animal toxicity data and modeling to translate those data into exposure limits. Since this risk assessment approach relies on animal toxicity data rather than observations of adverse health effects in people, it is suited for proactive risk assessment of other nanomaterials and facilitates introduction of anticipatory risk control measures.

NIOSH has extended the approach developed for TiO₂ to carbon nanotubes and nanofibres.⁴¹ It uses benchmark dose modeling methods based on animal studies, which are translated into an exposure limit in the absence of data about adverse effects in workers. The proposed recommended EL for carbon nanotubes and carbon nanofibres of 7 µg/m³ is constrained by the limitations in the sampling and analysis and thus the mitigation of risk focuses on the control of exposure to as low as practical.

4.c Worker-related issues

Workers are often the first and most exposed population group to emerging hazards. This is also true for nanomaterials. At each stage of their life cycle, nanomaterials can have different exposure potential to workers thus changing their occupational risk potential. Therefore, it is important to identify the life cycle stages and sources of nanomaterials where exposure to workers may occur (e.g. during research and development, manufacture, processing, use, and disposal), the pathways and routes of potential exposure (e.g. direct and indirect exposures via inhalation, ingestion, and dermal exposure), the form during which exposure occurs (e. g. unbound particle, particles encapsulated in a polymer), and the hazards of materials to which workers are potentially exposed.

There are no guidance documents available for assessing personal exposures of workers to nanomaterials and only a few national and international guidance documents on assessing emissions of nanomaterials in the workplace. One guidance document describes a procedure for the initial assessment to identify sources of emissions, and includes information on identifying potential sources of emissions, conducting particle number concentration sampling, and conducting filter-based area and personal air sampling.⁴² This and similar techniques were used in several reported field studies, which demonstrated that nanomaterial emissions as well as exposures to workers do occur to varying degrees, and can be detected and quantified with this method. This technique was, for example, used to assess exposure to multi-walled carbon nanotubes (MWCNT) in several manufacturing facilities ranging in size from laboratory to large scale production. The study supports the notion that conventional exposure monitoring methods, such as personal and area sampling, combined with newly emerging nanoparticle measurement techniques can be very effective in measuring MWCNT exposure concentrations. Nanoscale and microscale particles were most frequently released after opening the reactor and during spraying, CNT preparation, and ultrasonic dispersion. In general, the highest potential for exposure exists when handling nanomaterial powders (especially spray applications) and friable nanomaterials or nanomaterial containing products. Some lower-cost real-time measurement techniques specific to certain nanomaterials have started to appear and will facilitate collection of exposure data. Emissions can be profoundly affected by many factors such as work practices and the presence/absence/effectiveness of engineering controls.

In the absence of occupational exposure limits for most nanomaterials, qualitative techniques aiming to facilitate the development of site-specific risk mitigation programs (often referred to as control banding) have been developed and are available as web-based tools.⁴³

Precautionary measures aimed at minimizing exposures to nanomaterials in the workplace are widely adopted. For example, a 2010 compilation reviewed and summarized twenty specific nanomaterial guidelines relating to laboratories working with nanomaterials, fourteen general nanomaterial guidelines applicable to laboratories, and two general laboratory guidelines applicable to nanomaterials.⁴⁴ The surveyed guidelines agree on the majority of aspects of occupational risk assessment and management and exhibit only minor deviations. As an example, it is generally regarded as essential to use precautionary measures to minimize risk in laboratories. Further aspects, which are regarded to be essential, refer to the general application of risk assessment, use of safer manufacturing approaches, technical and organizational measures and personal protective equipment.

Research on designing out hazards and on the effectiveness of engineering controls and personal protective equipment to minimize potential risk of nanomaterials is increasing.⁴⁵ Specifically it has been reported that there are known methods to decrease toxicity, which can be used to modify some manufactured nanomaterials and which could lead to reduced risk in the workplace and to the downstream users. It has been shown that exposure mitigation techniques developed to reduce exposures to unintentional nanomaterials, such as those found in welding fumes and diesel exhaust, can be effective for manufactured nanomaterials. However, questions remain regarding the effectiveness of certain techniques for specific nanomaterials and processes. For example, dispersing nanomaterials in liquids does not necessarily reduce the potential for exposure to zero. It was shown that manufactured nanomaterials can become airborne when mixed in solution by sonication, especially when such nanomaterials are functionalized or in water containing natural organic matter. Most urgent research needs for protecting workers from potential risks of nanomaterials include developing real-time personal nanomaterial-specific exposure measurement techniques, collecting exposure data in workplaces, designing and implementing an epidemiologic strategy for studying nanomaterial workers, and validating the effectiveness of existing controls being applied to nanomaterial processes. Recommendations and guidance about prudent approaches to nanomaterial handling in the workplace aiming at low and medium-income countries are urgently needed.⁴⁶

4.d The environment

Environmental hazard characterization is the first step in a process which also includes the ecotoxicity and environmental exposure assessments and which should lead to a risk characterization. However, it still has to be determined to what extent conventional methodologies for toxicity and exposure assessment which are applied for traditional chemical substances throughout this process, can be used for nanomaterials. Mass may not be the most important parameter that determines how the material acts or reacts. For example, the size of the nanomaterial, its shape, surface properties and chemical composition will also play a role. This could have implications for establishing dose-response relationships, which form the basis of making a quantitative risk characterization.

As regards exposure, releases of manufactured nanomaterials can occur at any stage during the product life cycle. Like for human health, exposure measurement and calculation is dependant of the metrology used. The physical-chemical properties of materials are often the basis for understanding how they will move, deposit, accumulate, and transform in environmental matrices under the often-changing conditions in which they may be released. These properties differ for the different types of

nanomaterials, and therefore it will not be possible to make generic statements about nanomaterials. The well known models to calculate the distribution of a chemical over the environmental media may not always be applicable in a straightforward way. The behavior of for example fullerenes or nanotubes will be different than that of metals or metal oxides. Possible degradation of materials via biological and/or photochemical processes or contact with water may reduce environmental persistence and has to be taken into account in determining environmental exposure concentrations. Similarly the potential for bioaccumulation has to be considered. Much of the necessary information concerning these aspects is lacking.

For chemical substances there are generally more data available for human health than for environmental hazard assessment. This is also the case for nanomaterials. In a regulatory context, information on the effects of chemicals in the environment are most commonly derived from tests done with aquatic organisms (fish, crustaceans, algae) or terrestrial organisms (earthworms, plants, bacteria). Such effects again tie back to fundamental physical-chemical properties, as well as to a host of other factors such as exposure route, possible metabolism in the organism, and the sensitivity of the species. Testing for adverse effects should consider not only the parent nanoparticle, but also transformation products and other toxic chemicals associated with nanoparticles in the environment. Fate and transformation of nanoparticles can be assessed in microcosms and/or mesocosms. To understand ecosystem-wide effects, the sources (production/use/disposal), the pathways and the key environmental receptors need to be understood. Over recent years increasingly computer models involving (Quantitative) Structure Activity Relationships – (Q)SARs – have been used for traditional chemicals to estimate data on environmental effects, biodegradation or bioaccumulation. In 2004 was still not clear to what extent these (Q)SARs could be used to estimate similar data for manufactured nanomaterials.⁴⁷ However, since then much research in this field has been ongoing and examples of the use of (Q)SARs for making estimations regarding properties of nanomaterials have been published.⁴⁸

Technical barriers impede progress in research on environmental fate and effects of nanomaterials. Methods or approaches must be developed to identify, characterize and measure exposure to nanomaterials, and to follow their path and transformation through the environment and accumulation in organisms. Improved models for predicting environmental release and exposure to nanomaterials require more empirical data and mechanistic understanding of processes. Research on environmental transport is hampered by limited understanding of particle coating chemistries and formulations used for consumer product applications, and limited analysis of sources that may release nanomaterials, such as industrial point sources and consumer non-point sources.

A very extensive report entitled “Engineered Nanoparticles: Review of Health and Environmental Safety (ENRHES)” has been prepared by five European scientific institutes in the context of the 7th Framework Programme for Research of the European Commission was published in 2010.¹⁵ This report also addresses environmental exposure, fate and behavior and eco-toxicity. With regard to this area a main conclusion is that more research needs to be done to get full insights in the environmental safety on nanomaterials, particularly in the mechanisms of toxicological action. The report mentions that technical problems associated with testing in the aquatic environments, such as dissolving the materials which are to be tested, need to be addressed with priority. It also identifies a lack of knowledge about degradation and accumulation of nanomaterials. While on the one hand most toxicity tests which have been done are short-term tests, rather than long term tests, the

reports also notes that on the other hand the doses which are used, are often much higher than is environmentally realistic. Since the eco-toxicological testing of nanoparticles is only in the beginning, such type of information is, however, considered valid for risk assessment purposes in terms of ranking and benchmarking. It is also emphasized that no studies are as yet available to support extrapolation of effect levels from laboratory tests to environmental scenarios.

4.e Research on human health and environmental impacts

Much research on the applications for nanomaterials, including those with health and environmental benefits, is going on. Many countries have research programmes which receive considerable government support. In such programmes the part devoted to research on the health and environmental safety aspects of nanotechnologies ranges from 4% to 6%. The US National Nanotechnology Initiative has recently been increasing the level of research on health and environmental safety.⁴⁹ Also the European Commission, in the 7th Framework Programme for Research, addresses a wide range of issues related to health and environmental safety. An overview of research activities related to nanomaterial health and safety can be found in the OECD Database on Research into the Safety of Manufactured Nanomaterials.⁵⁰ This database includes over 800 current and past projects related to Environment, Health and Safety research in OECD member countries and in non-member economies. This database is connected to similar databases of the International Council on Nanotechnology and the US National Institute for Occupational Safety and Health.

As the use of nanomaterials increases rapidly, it is of vital importance that the risk assessment community understands the complexities of the issues surrounding the manufacture, use, and disposal of nanomaterials, the potential of environmental and occupational exposure to human populations, as well as potential adverse health outcomes. For this to happen, it is necessary for the scientific community to understand the needs of risk assessors for information used in risk characterization, and which research will provide that information; in addition, researchers need to know the decision contexts within which their research findings will be applied. Risk management of nanomaterials requires also more information about the human and ecological effects of exposure to a variety of nanomaterials.

The research needs in relation to health and environmental safety cover a variety of fields: metrology and detection, health impacts, environmental impacts, human and environmental exposure assessment and risk management methodology. An important starting point for the health and environmental safety management is the safety testing. It is at this moment not clear to which extent the classical tests which are carried out in this context for traditional chemicals can be applied to nanomaterials. A programme aimed at answering this question is organized by the OECD and is sponsored by its member countries and by non-member economies and industry.

A list of 13 representative manufactured nanomaterials has been selected for use in this programme. The list includes fullerenes, nanotubes, metals, metal oxides, dendrimers and nanoclays, and forms a set of reference materials to support research related to measurement, toxicology and risk assessment of nanomaterials. The manufactured nanomaterials on the list have a practical significance, because they are already on the market or will soon enter into commerce. These

nanomaterials will be studied with the current methods for testing for physical-chemical properties and material characterization (17 endpoints), environmental degradation and accumulation (16 endpoints), environmental toxicology (7 endpoints), and mammalian toxicology (9 endpoints). Details concerning this Sponsorship Programme can be found on the OECD website.⁵¹

A preliminary review of testing related to physical chemical properties (including material characterization) concluded that 4 of the 22 test guidelines for physical chemical properties are applicable to nanomaterials.³⁴ 16 guidelines might be applicable under some circumstances or to some classes of nanomaterials. Two guidelines are not applicable to nanomaterials or, if applicable, provide no useful information. 13 of the 22 guidelines require further assessment before modifying these guidelines. With regard to mammalian toxicity the preliminary conclusion is that most of the 52 test guidelines are applicable for investigating the health effects of nanomaterials, but that in some cases, a specific modification will be needed. In all cases, the test guidelines need to be modified to ensure that appropriate consideration is given to adequate characterization of the nanomaterial tested and also to the actual exposure of the test system. For 24 test guidelines related to ecotoxicity it was found that the guidance on sample preparation, delivery, measurement, and metrology is currently insufficient for testing of nanomaterials. Some of the test guidelines for degradation and accumulation were found not to be applicable for testing of nanomaterials. Many of them are applicable with limitations or specific conditions. In general it was confirmed that for toxicity testing the key issues are sample preparation and dosimetry; these need priority attention for development of guidance.

In many countries and on behalf of the European Commission, intergovernmental and international organizations, scientific committees or advisory groups are considering how best to deal with the health and environmental safety aspects of manufactured nanomaterials. An overview of these activities can be found at the OECD website under Current Developments on the Safety of Manufactured Nanomaterials.⁵²

4.f. Information management

Databases

Global exchange of information about hazardous properties of chemical substances is extremely important and is facilitated by a number of international and intergovernmental organizations such as WHO (the INCHEM database)⁵³ and UNEP.⁵⁴ In addition, many national governments and regional organizations have databases with hazard related information on chemicals. The eChemPortal allows the simultaneous search of 23 databases of the participating organizations and countries.⁵⁵ UNEP also supports the Chemical Information Exchange Network (CIEN), which builds on a UNEP/US-EPA partnership to provide electronic equipment and training to government agencies, thereby enabling access of chemical information on the Internet.⁵⁶

Improved data sharing is a crucial need to accelerate progress in risk characterization of nanomaterials for regulatory purposes. This would involve the removing of the barriers presented by the current “siloe” data environment and providing semantic search and sharing of data and models, and web-enabled tools for rapid initiation of collaboration across disciplines. This would

enhance the ability to gather information regarding similar and different nanomaterials, structures, environments, mechanisms, and pathways. One of the main outcomes of establishing such a collaborative informatics infrastructure would be the development of computational models of nanomaterial structure-property-activity relationships to support the design and development of nanomaterials with maximum benefit and minimum risk to humans and the environment. Such models would also facilitate anticipatory risk management of nanomaterials.

In light of this, an effort to ensure that information relevant for the risk assessment and management of manufactured nanomaterials would be worldwide easily available and accessible, would be of great use. This could be done by setting up a portal for such information, possibly organized in the IOMC context, maybe following the model of the eChemPortal. Similarly it would be helpful if an international clearinghouse function could be created where national and regional risk management measures would be collected.

It has also been suggested that, in the context of risk management, a government register of products containing manufactured nanomaterials would be useful as a precautionary tool. This is further discussed under section 4.g.

Hazard communication

Classification and labeling of hazardous substances is conducted according to the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).⁵⁷ The GHS ensures that information on chemical hazards – through labels and safety data sheets – is made available to workers, farmers and consumers in a harmonized and comprehensible format in countries around the world. It is an important tool that countries can draw upon as a basis for the establishment of sound national chemical safety programmes. The GHS covers all hazardous chemicals and also applies to nanomaterials to convey information about hazardous nanomaterials. At present nanomaterials should be classified based on available information of their hazards from manufacturer pre-marketing testing, the publicly available information from the sponsorship programme or from the literature using the current classification criteria of the GHS. Criteria which are specific for nanomaterials need to be developed as soon as possible.

The main tools of chemical hazard communication within GHS are labels and safety data sheets (SDS) that contain the hazard information in the form of hazard pictograms, signal words and other communication elements. The aim of these tools is to provide hazard information in a comprehensible form for chemicals that may constitute a health, property or environmental risk during normal handling or use. Safety Data Sheets communicate hazard information to take into account during manufacture, storage, transport or other occupational handling activities. With respect to their use, a precautionary approach is recommended until hazards of nanomaterials are fully known given that there is increasing evidence that some nanoscale materials have different hazard profiles from the bulk materials with the same chemical composition.⁵⁸ This precautionary approach would include a number of information items as additional (non-mandatory) parameters to be reported in Safety Data Sheets for nanomaterials. For example, a draft ISO Technical Report 13329 “Safety Data Sheet (SDS) preparation manufactured nanomaterials” recommends stating that the material is a nanomaterial, identifying the surface modification of nanomaterials, indicating risk

mitigation measures specific to nanomaterials and characterizing additional physical-chemical properties.

Given the progress in developing guidance for preparing SDS for nanomaterials in other international organizations, the Sub-Committee of Experts on the Globally Harmonized System of Classification and Labelling of Chemicals in its report of the 18th session held on December 9-11, 2009 stated that “...noting that work on different aspects of nanomaterials was currently being performed at international level (e.g. European Union, OECD, ISO Technical Committee 229), the Sub-Committee decided to postpone the consideration of this issue until more information about their intrinsic properties and characteristics was available” .⁵⁹

4.g Risk management across the life cycle

The term “manufactured nanomaterial” includes a wide category of nano-substances with very different structural characteristics, such as fullerenes, carbon nanotubes, metals or metal oxides. The structure plays, in addition to chemical properties, an important role in determining the hazard characteristics.⁶⁰ This is not a new finding, because it is well known that for asbestos its structure is the key factor in determining its hazards. In the discussion about the possible risks of nanomaterials, the resemblance in the structure between asbestos and carbon nanotubes has been one of the early concerns.

Risk assessment involves the application of analytical tools, data, and expert knowledge for the evaluation of the potential exposure of humans and the environment to nanomaterials and the hazards that exposure might engender. Risk management methods for nanotechnology identify and implement strategies to address potential hazards. Nanomaterials are produced through the use of a new technology, which means that at the moment there is still a lack of good quantitative information for each specific substance. This means that the spectrum of possible responses to controlling nanomaterial exposures ranges from, at one end, the full application of the precautionary approach, which could be considered as inaction with respect to advancing a new technology, to inaction regarding the management of the health and environmental safety aspects while developing novel materials, at the other end. The former is typified by an assumption that new materials are highly hazardous until proven otherwise, while the latter assumes the inverse: negligible hazards until proven otherwise. Both extremes disregard risks of conventional technologies such as existing chemicals that nanomaterials are replacing. Of course there are intermediate approaches within this range.

Precaution

Early indications suggest that biological activity of some types of nanoparticles might not be mass-dependent, but dependent on physical and chemical properties, such as chemical composition, size, shape, crystal structure, surface area, surface chemistry, surface charge, solubility, and adhesion. This makes it difficult to identify the key characteristics – or combinations of key characteristics – that are responsible for hazards described in (eco)toxicological studies of these nanoparticles. Additionally it remains unclear whether a ‘no effect threshold’ can be established, what the best hazard descriptor(s) of nanoparticles are and what the most relevant endpoints might be.

To be able to fully assess the potential impact of a particular nanomaterial, it is necessary to have information on the entire lifecycle of nanomaterials, for example, precise levels of nanomaterial production levels and nanomaterial-based consumer products on the market, air and water emissions of nanomaterials, the uses of nanomaterials for wastewater treatment, amounts and types of nanomaterials discharged into landfills, waste storage, and waste treatment facilities, size of accidental releases of nanomaterials, and intentional uses of nanomaterials for environmental remediation and treatment. Such information is not always available.

As a result of the lack of data, establishing dose-response relationships in risk assessment currently holds a number of important limitations; and moreover, different from conventional toxicology, a mass-based dose metrics might not be toxicologically relevant for many nanomaterials. In light of such incompleteness of information on possible hazards and exposure, it is considered that it is not possible to make a full hazard characterization and that therefore precaution should be applied. This could include considering concepts like:

- Prevention - a duty to prevent rather than to control;
- Polluter Pays - place the burdens on all parties responsible for, or benefiting from, polluting activities;
- No Regrets - favor options that simultaneously satisfy economic, environmental and wider criteria and consider the availability of technical alternatives;
- Clean Production - adopt only those technologies which are demonstrably of lowest impact;
- Biocentric focus - recognize the intrinsic value of non-human life and recognize the vulnerability of the natural environment;
- Limited knowledge - acknowledge the limitations of science, our knowledge and the possibility of surprise;
- Uphold the rights of those who are adversely affected by technologies.

Risk assessment and management methods in use

While precaution is one risk management concept, another approach is to apply to the extent possible the experience obtained with managing the uncertainties surrounding the application of any new technology through technology assessment and the knowledge and science obtained in dealing with the safety of traditional chemicals.

New technologies have been introduced in the past many times, and usually there are to some extent concerns about uncertainties regarding the safety of the technology. Technology assessment investigates the use of new technologies within their societal context. Analyses provide the basis for developing technological and organizational design alternatives and regulatory measures which may be required. The overall aim is to foster a development which is balanced for society and the environment, and which maximizes societal benefits from technological progress while avoiding negative impacts.⁶¹ Some of the major fields where technology assessment has been applied are : information technology, hydrogen technologies, nuclear technology, molecular nanotechnology, pharmacology, organ transplants, gene technology, artificial intelligence, the internet and many more. Well established methodologies for technology assessment exist and have been the basis of dealing with the uncertainties regarding the safety aspects which a new technology might bring with

it.^{62 63} Such methods could also be relied upon for addressing the possible risks of nanotechnology in a generic way.

There is a wealth of knowledge available regarding the assessment of possible health and environmental effects of traditional chemicals and exposures. While it is clear that this cannot all be transposed directly to nanomaterials, in many cases the robust methods applied for traditional chemicals will be of use and there is a lot of expertise available to consider when these methods can be applied and when not. For example, countries like France, Germany, Switzerland, the UK and the US, and the European Union have all published reports dealing with (aspects) of the safety of manufactured nanomaterials.^{64 65 66 67 68 69 70 71 72 73}

An effective risk management framework involves the use of all relevant information to guide science-based, risk-based management decisions. The risk assessment process incorporates the best available data on the potential health effects of a nanomaterial and the exposure potential to humans and to the environment. The quality of the results of the studies and data obviously determines the reliability of risk estimates. Risk management aims to quantify risk to the extent possible. It:

- employs basic scientific information;
- uses comparative risk assessments for different nanomaterials with different properties, applications, or intended uses that can affect effects and exposure, and result in different risk parameters and decision making;
- integrates life cycle considerations; and
- considers ethical, legal, and societal implications (ELSI) such as stakeholders' values, communication needs, and other aspects of decision analysis; risk research will play an important role in understanding these factors and integrating them into an effective risk management scheme.

Obviously further research is needed regarding the specificities which nanomaterials present compared to traditional chemicals. Several scientific bodies have looked at the applicability of the methods used for risk assessment and management of traditional chemicals to nanomaterials. For example, the Scientific Committee on Emerging and Newly-Identified Health Risks of the European Commission concluded with respect to nanomaterials:

“While risk assessment methodologies for the evaluation of potential risks of substances and conventional materials to man and the environment are widely used and are generally applicable to nanomaterials, specific aspects related to nanomaterials still require further development. This will remain so until there is sufficient scientific information available to characterize the harmful effects of nanomaterials on humans and the environment. The methodology for both exposure estimations and hazard identification needs to be further developed, validated and standardized. The highest risk, and thus concern, is considered to be associated with the presence or occurrence of free (non bound) insoluble nanoparticles either in a liquid dispersion or airborne dusts.”³³

An FAO/WHO Expert meeting on the application of nanotechnologies in the food and agriculture sectors concluded that:

“The current risk assessment approach used by FAO/WHO and Codex is suitable for engineered nanomaterials in food and agriculture, including the effects of engineered nanomaterials on animal health. FAO/WHO should continue to review its risk assessment approaches, in particular through the use of tiered approaches, in order to address the specific emerging issues associated with the application of nanotechnologies in food and feed.”⁷⁴

The Scientific Committee of the European Food Safety Authority considered that:

“The risk assessment paradigm (hazard identification, hazard characterization, exposure assessment and risk characterization) is applicable for engineered nanomaterials”, and it adds that “the specific properties of the engineered nanomaterials in addition to those common to equivalent non-nanoforms” should also be considered.⁷⁵

More information can be found in the OECD Report of the workshop on risk assessment of manufactured nanomaterials in a regulatory context.⁷⁶ In summary, as regards the application of the risk management methods used for traditional chemicals to manufactured nanomaterials, it is considered by many scientists that the current frameworks are in principle adequate and appropriate for dealing with manufactured nanomaterials, but that more research is needed to get a better insight into those aspects in which the methodology has to be adapted for nanomaterials risk management, and in the possibilities to quantify the risks. At the moment therefore often a case-by-case evaluation has to be relied upon, and on qualitative outcomes when risk quantification is not possible. In those cases where an unacceptable level of uncertainty or concern is identified, precaution is applied.

ISO has prepared a Nanomaterial Risk Evaluation Framework which builds on the Nano- Risk Framework developed by a Nano-Partnership of the Environmental Defense Fund and Dupont.^{39 77} It includes six steps:

- 1) Describe material and application
- 2) Material profiles
- 3) Evaluate risks
- 4) Assess risk management options
- 5) Decide, document and act
- 6) Review and adapt

Lifecycle and waste management

A life cycle approach involves the application of the cradle-to-grave life cycle perspective to chemical design, manufacture and use, with the aim to manage potential risks of exposure. It addresses the sustainability aspects of the chemical throughout the life cycle and analyzes at what points in the life cycle, what types of vulnerabilities to man or the environment can be identified, and what these vulnerabilities—when coupled with potential impacts— mean for the estimation of risks posed by a material.

To develop scientific information that leads to improved understanding of how to better create and manage nanomaterials, three important considerations must be addressed: the nanomaterial life cycle, inherent material properties, and sustainability. Changes in any of these three dimensions changes the potential of the substance to produce environmental impacts throughout its life cycle and affects sustainability metrics, such as eco-efficiency (i.e. the ratio of value delivered to resources consumed).

Investigating environmental sustainability involves three principal dimensions: what the nanomaterial is; how it is made; and how it is used. Two main aspects of sustainability can be identified: the consumption of environmental resources, including materials, energy, water, and other ecosystem services; and the effects of emissions, use and the generation of waste on human health and the environment. For example, one question could be whether the use of toxic starting materials is really necessary in making a particular nanomaterial if less-toxic starting materials are available. If alternative starting materials are not available, it could be investigated whether there are aspects of the current synthesis process that could be changed to mitigate the impacts of toxic inputs into nanomaterial synthesis and production. This is the approach known as green chemistry. Another question relates to the use of a raw material feedstock that requires a significant input of water and energy. Possibly an alternative feedstock could be identified which has a smaller environmental “footprint” in terms of carbon emissions and resource consumption.

A full understanding of sustainability requires accounting for these environmental impacts over the full life cycle of a nanomaterial, including resource extraction, transport, production, incorporation into products, product distribution and use, and eventual disposal or recycling of the product and its constituents. Moreover, it is important to understand the potential positive and negative social and economic implications of the nanomaterial life cycle, including issues such as environmental justice and competitive advantage.

Each point in a nanomaterial’s life cycle presents an opportunity to avoid or otherwise address concerns about possible impacts. One should consider the decision context for nanomaterials from the perspective of risk prevention for new nanomaterials and risk management for existing nanomaterial. Approaches such as green chemistry may be feasible for decision making on either existing or new nanomaterials, but they may have greater advantages during design or development phases. When green chemistry approaches are not viable, the only way to mitigate impacts from some existing and new nanomaterials will be through risk management and applying controls.

Risks for human health from exposures at the work place or during use, and risks to the environment resulting from direct releases during production and use, have been addressed above. The waste management of nanomaterials is an aspect that needs further consideration. During all phases of the lifecycle nanomaterials can end up in waste. For waste generated through research and production (industrial waste) often classification systems exist to indicate the degree of hazard such waste represents. Such a classification could be applied, where possible, to nanowaste and the waste could be treated according to the hazard category. For example, Switzerland divides the industrial waste into non-hazardous waste (which can be treated as municipal waste) and hazardous waste (e.g. CNT) which will be treated as special waste and will be exported only according the rules of the Basel convention.

The nanowaste resulting from disposal of products is very diverse and will normally end up in the municipal waste, unless, like is done for some types of waste, such as batteries, pharmaceuticals, pesticides, paints or electronic equipment, special collection regimes are established.

Characterization of products which would require such special collection regime because they contain a nanomaterial which is considered as hazardous, needs to be further developed. Several existing general environmental policy concepts, such as Environmentally Sound Management of waste and Extended Producer Responsibility, could also be applied to the management of waste containing nanomaterials.

Paying attention to the management of waste containing nanomaterials is particularly important for developing countries and economies in transition. According to a report from South Africa there are a number of challenges in this field, particularly for developing countries.⁷⁸ The first is that waste management practices in many developing countries are inadequate for conventional and hazardous waste streams generated from manufacturing, commercial mining, agricultural and domestic activities. This results from inefficient waste collection systems, inadequate waste transfer systems, institutional under-capacity and poor disposal practices. Secondly, there is often inadequate availability of human skills in the field of waste management. A third challenge the report mentions is that many developing countries have weak policy and legislative frameworks for addressing industrial and municipal waste.

In view of the fact that the infrastructure for waste management is different in each country, engaging at the national level in a pro-active policy approach, bringing together government, industry and other stakeholders, could help to avoid possible problems when the amount of products containing nanomaterials put on the market will be increasing. According the South African report this could involve investigating the potential risks of waste containing nanomaterials which are in use in the country, applying a classification system, and setting up effective monitoring mechanisms in a format that can be easily presented to policymakers, to allow them to take necessary regulatory action. For the international aspects it might be timely for countries to discuss what should be done in the framework of the Basel Convention.

Regulatory aspects

Currently no countries have specific legislation in place to deal with the safety of nanomaterials. An overview of how countries deal with the regulatory aspects can be found in the Report of the questionnaire on regulatory regimes for manufactured nanomaterials of the OECD prepared in 2010.⁷⁹ None of the countries in the survey reported to have legislation specific to nanomaterials. Dealing with these materials is integrated in the existing regulatory framework. Combinations of existing legislations are used as regulatory instruments. The general policy is to use available provisions, such as REACH in Europe, and the Toxic Substances Control Act in the US, and follow a precautionary approach. A variety of specific attributes to deal with the specific aspects of nanomaterials in these existing legislations has been developed. Countries are also considering integrating nanomaterial management in their National Profiles for chemicals management.

Many countries have voluntary information collection systems in place, whereby industry provides information relevant for the understanding of potential risks. Depending on the country, information is received from several of the players and concerning various stages of the life cycle. It includes: research and development, manufactures (in all cases), processors, importers, placing on the market, users and waste processors. Information on such schemes can be found in the Analysis of information gathering initiatives on manufactured nanomaterials, prepared in 2009 by the OECD⁸⁰, and in papers prepared for the Directorate-General of Environment of the European Commission for a project on Information from Industry on Applied Nanomaterials and their Safety.⁸¹ In the OECD report it is suggested that consideration should be given to supplementing voluntary initiatives with mandatory reporting.

At the 5th International Nano Authorities Dialogue among Austria, Germany, Liechtenstein and Switzerland, the establishment by governments of a “nanoproduct register” was discussed. It was considered that providing information to the government about the presence of certain ingredients in a product could serve, in case of an incident, to provide precise information about the formulation of a product; this information would not be publicly accessible. In this way uncertainties regarding potentially hazardous properties of products could be minimized at the level of risk assessment and risk management of the products or their ingredients. The dialogue was of the opinion that a nanoproduct register should not be used to establish particular hazard labeling for “nano”. The dialogue mentions that it should thus be ensured that the reason for a nanoproduct register is not because “nano” is particularly hazardous.

The workplace is the first place where people get into contact with manufactured nanomaterials and risk would be first met. The application of occupational risk management measures is considered by many countries (see section 4.c). Control banding might be a promising method to also use for nanomaterials. OECD has prepared overviews of what is in place regarding exposure in laboratories, the identification of sources and releases of airborne manufactured nanomaterials, exposure assessment and mitigation and selection of skin protective equipment and respirators.⁸² The inclusion of specific nano-related information in Safety Data Sheets is a further important tool to protect workers and industrial users from possible risks of nanomaterials. In the development of measures regarding the occupational health aspects of nanomaterials, it is good practice to consult with workers and their representatives.

As regards consumers, from the NGO side the use of a “nano” label on products containing nanomaterials has been proposed, in order to, promote transparency for the public. Others have argued, however, that the public is used to labeling which indicates hazardous properties and, because many products containing nanomaterials would not necessarily be hazardous, a label with such generic information would cause confusion. Because a Globally Harmonized System of classification and labelling of chemicals (GHS), which provides information related to hazards, is in use, the better option might be to ensure that the GHS is used to put hazard labels on products for which this is applicable. Obviously specific criteria to take into account the special properties of nanomaterials would be needed. It would therefore be good if the UN Committees of Experts on the Transport of Dangerous Goods and on the Globally Harmonized System of Classification and Labelling of Chemicals would consider initiating in the near future work to develop such criteria.

At the international level already a number of Conventions exist which address the safety of chemicals or waste (Rotterdam, Stockholm, Basel) or the provision of environmentally relevant information (Aarhus). In light of the national risk management practices, where consideration of the safety of nanomaterials is incorporated in existing frameworks, it might be more efficient for the Conferences of Parties of these Conventions to see how they can be used to incorporate, within their general mandates, elements about the safety of nanomaterials, rather than developing specific nano-related international instruments.

In general, civil society organizations are rather critical about the way risks of nanomaterials are currently being managed. They generally ask for initiatives aimed to deepen and answer scientific and technical issues and to clarify regulatory aspects of nanotechnologies. Some of them require the application of a strict precautionary approach. Their request is to require scientific evidence on safety, to have adequate regulatory instruments in place and to have possibly agreement on the way ethical and social concerns will be addressed prior to commercialization. This is elaborated in reports and at websites of civil society organizations such as ETC, Friends of the Earth and IPEN.^{83 84 85 86 87}

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5. ECONOMIC AND SOCIAL IMPACTS

New technologies have been coming to the market all through human history. This has always had economic implications in the market. Sometimes there are situations where all players win, but often there will, in addition to the winners, also be some losers. While on the macro-scale a technology could be beneficial for society, at a more micro-scale there are social implications to consider. This could for example concern changing employment perspectives, necessary training of workers and education of consumers. In view of the globalized economy, such issues will not only play at the national level, but impacts should be considered in a global context. Nanotechnology should not be seen alone, but as one of the elements of the so-called Converging Technologies which are widely seen as the vehicles for future improvement of human performance: information technology, biotechnology, nanotechnology and cognitive science.⁹⁰

The social context

With the development and introduction of nanotechnology, obviously similar considerations as for other new technologies will play a role, including the question of social utility. To answer that question the potential contribution of specific applications from nanotechnologies to solve specific socially relevant problems such as climate change, water shortages and increasing food production should be analyzed. Health and environmental risks and implications for society and economy should be taken into account as well as existing alternative solutions. The merits of particular options may be specific to particular countries or regions.

Technological innovations, including their implications for the labor market, are always difficult to forecast, especially in the current globalized economy. The creation of new companies, or the diversification of established ones towards businesses that incorporates nanotechnology, will eventually affect the labor market. An early forecast suggests that 2 million new nanotechnology related jobs could be created globally by 2015.²¹ More analysis will be needed to develop estimates

which can show a higher level of reliability. However, in any case a certain reallocation of jobs over different sectors can be expected; the exact extent of this has to be monitored carefully in order to develop the appropriate skills for responding to the adaptations in the labor market. In this respect short term as well as long term visions for an employment and education policy would be needed. There is a responsibility for government, employers and trade unions to establish and support a skills development system that is responsive to the needs of employers as well as workers. It should be ensured that training facilities have timely and adequate capacity.

Another social issue is related to the question is the extent to which a new technology will benefit all layers of a society. At the global level the same issue applies to the variety of countries with different levels of economic advancement. While overall arithmetic can show positive results, care should be taken that all can benefit from this and not selected groups. There is a concern that job losses which could be brought on by changes in the commodity market will hurt the poorest and most vulnerable, particularly those workers in the developing world who do not have the economic flexibility to respond to the demands for new skills. Public dialogue based on adequate communication will be an important element to help develop policies which will deal with the social aspects of nanotechnology introduction in a balanced way.

The economic context

Nanotechnology is often presented as having the potential to produce considerable economic benefits. However, potential risks for human health and the environment, if not adequately managed, might lead to hidden costs for society, which should be taken into account when considering the claim of potential economic benefits. On the other hand there is an expectation that technological innovations, including those resulting from nanosciences and nanotechnologies, can play a key role in promoting a more efficient use of our resources. Natural resources are an important factor in the economy and an important element of our welfare. The way in which we use available natural resources also has effects on our health and on the environment.

For the many developing countries, commodity production is the backbone of their economy. Historically, advances in science and technology have also had important impacts on commodity production and trade. There are concerns that nanotechnology will change the commodity markets, disrupt trade and eliminate jobs. Commodity dependent developing countries must gain a fuller understanding of the direction and impacts of nanotechnology-induced changes in the economy, and, where needed, be supported in determining how nanotechnology and other converging technologies could affect their futures, and in developing responses to sustain their economies.

Currently, nanotechnology innovations and intellectual property protection are being driven mainly by research undertaken in developed countries. The world's largest multinational companies, nanotechnology start-up companies and academic institutions are seeking intellectual property on novel materials, devices and manufacturing processes. The rate of nano-patenting has increased considerably. This has led to a concern which has also been voiced during the introduction of other new technologies, which is that in certain cases patents are sought which are unnecessarily broad, which hinders progress with further innovations for useful applications in fields close to the application for which the patent has been acquired. Avoiding such practices becomes particularly important when it touches on fundamental sectors like food, agriculture and medicine.

Socio-economic analysis and risk management

Integrating socio-economic analysis (SEA) in chemical risk management decision making has a long tradition. Socio-economic analysis can help to determine whether risk reduction measures which are under consideration, are necessary or desirable. It addresses questions such as:

- what are the different regulatory or non-regulatory options for reducing the risks identified through risk assessment?
- what will be the benefits of risk reduction?
- who will be impacted by the each of the options being considered?
- what will be the costs of implementing each of the options?
- how will such costs be distributed?
- what is the cost/benefit ratio of the options under consideration?

The principles of SEA developed for chemicals risk management can also be applied - mutatis mutandis – to manufactured nanomaterials. In the context of risk management of chemicals a number of methodologies for socio-economic analysis exist, and when adequate information is available, many of them can also be applied to manufactured nanomaterials. For example, SEA guidance documents have been produced for the implementation of the Stockholm convention⁹¹ and by OECD.⁹²

6. ETHICAL ISSUES

Ethical issues related to the introduction of nanotechnology have been widely discussed, for example by UNESCO in a report and a book on the ethics and politics of nanotechnologies^{93 94}, in the EU context⁹⁵ and in the US National Nano Initiative.⁹⁶

Avoiding a possible “nano-divide”

Nanotechnologies are expected to have considerable effects on economies and societies worldwide. However, there can be positive and negative effects and it has to be considered how the various effects will be distributed across the world. There is a concern that the distribution will be unequal and particularly, that developing countries may benefit much less from the achievements of nanotechnologies – just as they have not benefited in an equal way from other technological achievements. As a result, the technology gap between the advanced and less advanced economies may widen even further. At the same time there is a concern that developing countries will suffer more from potential risks of the introduction of nanomaterials (e.g. occupational health and safety standards may be lower, waste management and waste disposal infrastructure may not be adequate for nanomaterials and nanomaterials containing products). The potential for nanotechnology to widen existing economic inequities – a “nano-divide” - is a therefore a significant issue. This underscores the importance of carefully evaluating nanotechnology’s potential social and economic costs, alongside potential benefits.

Avoiding a nano-divide would be particularly important in the case of products containing nanomaterials that can help to meet basic needs. Basic need products should not be inaccessible to those in need because they are too expensive. An example could be nanofiltration systems for water purification that can help to address the need for clean drinking water. Every human being has the same justified claim to have his or her basic needs fulfilled. Justice here implies strict equality. Considerations regarding other types of products containing nanomaterials, for example those that are not used to address basic needs, could be different.

Nanotechnology research in developing countries may not be able to compete with research in fully industrialized countries. As a consequence, these countries may not be able to develop products such as nano-filtration systems that could be important in order to meet the basic needs of their population. They would then depend on those who do have the means to develop products of this kind. These products, however, may be put on the market at prices which are not affordable for all, not least because of licensing fees due to patents. If something like this would happen, it would be a step towards a 'nano-divide' that would be unjust. Excessive patenting of manufactured nanomaterials may have negative effects on the use of such products in developing countries. Nanotechnology research that could benefit the poorest, for example research on applications that could address the Millennium Development Goals, should be promoted and made available at affordable prices.

Application of precaution

In 1992, in the Rio Declaration, the application of precaution was laid down in Principle 15:

"In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation".

In the context of the risks of nanomaterials, two aspects could be considered, one related to generic risk acceptance, and another one specifically related to the state of science concerning the safety of nanomaterials. This would involve consideration of the criteria for the acceptability of risks of serious or irreversible damage, and of the kind of precautionary measures which would be sensible, given that there are gaps in our knowledge of the risks associated with manufactured nanomaterials.

As regards the criteria for the acceptability of risks, basically two risk criteria are often mentioned. In the first place, there is a duty of care according to which risks of an activity should be reduced to a point where the occurrence of harm is not to be expected (deontological criterion). Requiring zero risk, however, cannot be justified since this would make social life impossible. That is why societies agree on a normative threshold. Risks exceeding this threshold are prohibited, while risks below the threshold are considered acceptable. The main idea underlying the other criterion is that there is a duty to maximize expected net benefit (utilitarian criterion). There is an obligation to choose the activity with the highest expected net benefit. When following a utilitarian approach, there is no normative threshold.

There is an ongoing debate as to which criterion is the more plausible one. Depending on which criterion is preferred the risks associated with nanotechnology and manufactured nanomaterials may be regarded as acceptable or unacceptable, albeit for different reasons. However, these criteria are only applicable if the risks can be determined quantitatively or qualitatively. Here is where science is expected to provide insights for the political decision makers. Where possible a science-based approach could be followed, which would ensure a certain level of objectivity as the basis for risk management decisions, rather than for example political or trade interests.

As far as manufactured nanomaterials are concerned, following a full science-based approach will still not be possible in many cases due to a lack of sufficient scientific knowledge regarding the possible harm they may cause and the probability that this harm will occur. Yet there is not a situation of complete ignorance, either. Initial toxicological tests and the experience with the toxicological profiles of related materials can give certain indications about which manufactured nanomaterials may cause serious harm to humans and the environment, if inappropriately used through their lifecycle. In this situation the question arises what should be done with regard to the risk management of these materials.

Concerning this question one finds, roughly speaking, two opposing views in current literature:

- There are those who argue that, although some indications of the risks of some manufactured nanomaterials for humans and the environment can be recognized, there is no reason to assume that these risks are of a kind that would justify the application of the strong precautionary approach, especially the reversal of burden of proof. That does not mean that the production and utilization of manufactured nanomaterials for commercial or scientific purposes does not require any kind of precautionary measures. For instance, requiring producers of nanomaterials and products containing free manufactured nanoparticles to carefully analyze the risks associated with these materials or products and communicate the findings, and requiring them to reduce the exposure in the workplace as much as possible would be perfectly warranted.
- There are those who claim that for the time being at least the use of free manufactured nanoparticles in commercial products and the deliberate release of those particles in the environment should be prohibited. In order to justify this, they invoke the strong version of the precautionary approach. In particular they argue that the suspected risks associated with these particles warrant a reversal of the burden of proof: rather than proof of risk by the government, a product must be proved harmless by its producer. This does not mean that proof of zero risk is required; rather, depending on the selected risk criterion it must be shown, either that the risk is below a certain threshold, or that the risk is justified by the expected net benefit.

7. PUBLIC DIALOGUE AND WIDER ENGAGEMENT

Public dialogue and wider engagement are important to take into account when a new technology is being introduced. In this sense an important lesson has been learned from the way modern biotechnology has been introduced. It is clear that a one-way process where governments and

industry try to obtain passive acceptance is not sufficient for gaining public trust. More is needed in terms of public participation. The idea that the public will support new technologies provided they are given enough information and understand the facts has to be changed to a more participatory approach. Promotion of new applications without having the capacity to demonstrate their safety stands out as a very efficient generator of outcry, a sure recipe for commercial disaster. Business and industry have realized that they will benefit from integrating this empirical observation into their strategic thinking process. Stakeholder dialogue can be seen as an early warning system for governments and industry, enabling better assessment of the consequences of different courses of action for product development.

The report “Framing Nano”, which has been prepared by a consortium led by the Innovation Society and working under the 7th Framework Programme on Research of the European Commission, gives an in depth analysis of a number of the issues.⁹⁷ The study indicates that nanotechnologies are seen by many, on the one hand as an exciting new technological opportunity capable of revolutionizing entire industrial sectors and the quality of life. But on the other hand, their responsible development is considered fundamental for their success. The study found that concerns about potentially harmful effects of nano-related products are at present focused on the situation that no specific regulations yet exist to deal with their risk assessment and management. The fact that nanotechnologies are still at an early stage of development, can give the opportunity to tackle in a timely way the challenges deriving from their use, but the fact that nano-related products are already hitting the market in increasing numbers makes the solution of the problem urgent.

Governments and industry seem to have learned from the experiences with the introduction of biotechnology, because the public dialogue about the way nanomaterials are introduced has started a long time ago, when the technology was still mainly in a research stage. A number of national, regional and international public dialogue initiatives have already been initiated. In France the Special Commission for Public Debate organized a series of debates about the risks and opportunities of nanotechnologies, prior to amending the environmental code.⁹⁸ In Germany the Federal Institute for Risk Assessment, the Federal Institute for Occupational Safety and Health and the Federal Environment Agency are undertaking activities to understand public attitudes towards nanotechnology.^{99 100 101} The United Kingdom is establishing a website to provide balanced information for the public and provide ways of engaging civil society in the development of nanotechnology.¹⁰² At the EU level, the Directorate General for Health and Consumers and the Directorate General for Environment have held stakeholder dialogue events and the European Commission has engaged in other public dialogue activities.^{103 104 105 106}

In this context the International Center for Technology Assessment states that the processes for designing nanotechnology devices and systems should be driven by social needs that are identified through informed deliberation and open decision-making among affected people rather than beginning from the presumption that technological change is inevitable and always beneficial.¹⁰⁷ The Center identifies three key factors for full public participation. First, the process must be open, in the sense that it facilitates equal input from all interested and affected stakeholders, including future generations. Second, it must be meaningful and aimed at informing policy development and decision-making. A meaningful public participation includes requirements for governmental

commitment and sufficient funding. Third, public participation must be full, requiring democratic involvement in all processes and at all stages where nanotechnology development is influenced. It must also take place on a continuing basis, ensuring that public concerns, values and preferences inform and guide the development of nanotechnologies and nanomaterials

At the wider international level nanotechnologies and manufactured nanomaterials are discussed in many fora and conferences. After discussions at the Intergovernmental Forum on Chemical Safety¹ in Dakar in 2008, nanotechnologies were also dealt with in the SAICM context. ICCM2 recommended in Resolution II.4 – E in 2009 "to begin or continue public dialogue on nanotechnologies and manufactured nanomaterials³". UNITAR and OECD, in a partnership coordinated through the IOMC, held a series of regional awareness-raising workshops on nanotechnology as a follow up to this Resolution.¹⁰⁸ These workshops were held in four UN regions with developing countries and countries with economies in transition in conjunction with SAICM regional meetings, and an additional sub-regional workshop was held for Arab countries. UNITAR has then organized, in a similar way, in 2011 period a round of follow up workshops. This second round of workshops goes beyond awareness raising; the aims are to assist countries with preparations for the SAICM Open-ended Working Group meeting and ICCM3 and to facilitate dialogue and cooperation at the regional level among countries.

In the report "Nanoscience and nanotechnologies: opportunities and uncertainties", the UK Royal Society and the Royal Academy of Engineering identify a number of benefits that genuine public engagement may include.⁴⁷ It will serve to incorporate public values in decisions and improve decision quality and acceptability as well as ensure that socially desirable goals are identified and delivered. Public participation will also contribute to resolving conflict between stakeholders and better anticipate sensitive issues and potential areas of conflict. Lastly, public participation will also contribute to improving trust in institutions and inform and educate the public.

Key issues that emerge for consideration in any dialogue include risks, benefits, uses, evidence, exposure, social values, economic impacts and trust. In this context, transparent communication and effective education regarding scientific issues will contribute directly to the quality and usefulness of the dialogues. Therefore, scientists and science communicators have a crucial role to play. Well informed public engagement offers an effective means for policymakers to learn about community concerns and needs. It helps to find ways in which community priorities can be addressed effectively. Ultimately, a governance approach of nanotechnologies and manufactured nanomaterials which is guided by public preferences will be most sustainable.

Civil society has expressed its frustration on the one-way information model used in, and on the outcomes of certain of, some of the public dialogues. They consider that public engagement should go beyond such one-way processes in that it leads to consideration of the result of the consultation in the decision making procedures.

8. LEARNING, TRAINING AND CAPACITY BUILDING

With regard to learning, training and capacity building there are two distinct, but related aspects. One is ensuring that all countries have the capacity to undertake research on applications in order to

use nanotechnology to help to better address a number of the societal challenges. There are concerns as well that developed countries will benefit more from nanotechnology and that developing countries will suffer more from potential risks (e.g occupational health and safety standards may be lower, waste management and waste disposal infrastructure may not be adequate for nanomaterials and nano-enabled products). This has to be fully considered in order to avoid that a nano divide will be created which will widen existing economic inequities.

The second aspect is that all countries should have a capacity to assess the health and environmental safety aspects of manufactured nanomaterials in order to be able to make well founded and effective decisions on the use of these materials in their countries, especially for vulnerable groups such as children, pregnant women and older persons. While the science regarding nanomaterial safety assessment methods is evolving, it is crucial to strengthen the capacities in this field in developing countries and countries in transition. All countries need to be empowered to adequately manage, utilize, and direct the use of nanotechnology. This requires the establishment of cooperation, collaboration and partnerships (between countries and between the public and private sectors, and including civil society organizations) for building up of human resources and of institutional capacity, and encouragement dialogue, assistance in training, research and development, dissemination of information, and that appropriate means for this are provided.

8.a Research on applications

Both developed and emerging countries are devoting increasing resources to promoting nanoscience and nanotechnologies in an effort aimed at gaining a leading position in the field and reaping the benefits promised. Industry in many developed countries has initiated important research efforts on nanotechnology. In addition, many of these countries and the European Commission have set up major government supported research programmes. The focus of such research is often on finding new applications. Attention is also increasingly directed towards the environmental, health and safety implications and ethical, legal and social issues deriving from nanotechnology and its applications (see section 4e). Addressing these issues properly and responsibly will be of paramount importance for the success of nanotechnology.

As mentioned above, in many countries research on applications and implications of nanomaterials is ongoing and a number of these efforts have been referenced already. Below some specific examples of ongoing research programmes in developing countries or economies in transition are given.

Brazil

In Brazil the market for nanotechnology products was \$ 115 in 2010. There were 115 companies undertaking research efforts on a variety of aspects related to applications and implications of nanomaterials. Also the Brazilian government is involved in a considerable number of research activities, spearheaded by the Ministry of Science and Technology Information, the Ministry of Labor and Employment, the Agency for Industrial Development and the Council for Scientific and Technological Development. Since 2001 the Institute for Nanoscience and Nanotechnology oversees 10 networks which cover all different research topics. Examples of ongoing activities related to applications are projects on nanophotonics, nanocosmetics, nanotube and molecular nanotechnology. As regards implications, projects cover impacts on workers health and the

environment, food and biofuels. Other research addresses questions related to environment and society, and regulatory frameworks.¹⁰⁹

China

China has three National Centers for Nanotechnology: one for Nanoscience and Technology, one for Promoting and Developing Nanotechnology and one for Nanocommercialization. Researchers from the Chinese Academy of Sciences initiated activities to study the environmental and toxicological impacts of manufactured nanomaterials already in 2001, including recognition, identification and quantification of the biological and environmental hazards resulting from exposure to diverse nanomaterials or nanoparticles. Currently, more than 30 research organizations in China have initiated their own research activities studying the toxicological and environmental effects of nanomaterials or nanoparticles, and techniques of recovering nanoparticles from manufacturing processes.¹¹⁰

Eastern European and Central Asian countries

It is also reported that in many of the countries in this region research programmes on nanotechnologies are set up. In the Russian Federation the RUSNANO company is active. In Belarus, Armenia, Azerbaijan, Kazakhstan, Kirgizstan, Tajikistan, Ukraine and Uzbekistan the National Academies of Science are organizing such research. The Commonwealth of Independent States (CIS) has set up in 2009 an International Innovation Centre of Nanotechnologies that will play the role of a locomotive for the formation of a common regional market for the nano-industry within the CIS area. It is an instrument for integration of the processes on nanotechnology development of the CIS countries. The centre should help create an integrated innovation, research and education areas within the CIS.¹¹¹

India, Brazil, South Africa - IBSA

The IBSA is a trilateral, developmental initiative between India, Brazil and South Africa to promote South-South Cooperation and exchange.¹¹² The IBSA nanotechnology initiative was initiated as a collaborative programme between the Departments of Science and Technology of three participating countries, with an objective of developing trilateral collaborative projects of common relevance and interest. The objective of the IBSA initiative is to formulate tri- and bi-lateral collaborative programmes in the area of nanotechnology, of mutual interests to the participating nations. The accepted priority areas of common national interest to all three countries under this initiative include advanced materials, energy systems, sensors, catalysis, health (tuberculosis, malaria and HIV), water treatment, agriculture and environment. Education and human resource development in nanotechnology has also been identified as one of the major focus areas of the IBSA programme.

Nigeria

Nigeria has made progress in Science and Technology policy issues relating to Nanotechnology and Advanced Materials since the last two years. A Nigeria Nanotechnology Initiative was launched in 2006 under the coordination of the National Agency for Science and Engineering Infrastructure - NASENI.¹¹³ This involves a network of research institutes and university research groups in specific areas of nanotechnology. The initiative was geared towards those applications of nanotechnology

that will fast-track technology development relevant to developing economies. Some of the key areas of further interest are to: raise awareness on the subject matter, justify the relevance and importance of nanotechnologies to developing economies, identify any ongoing activities and expertise in this area, identify key stakeholders for capacity development, and develop programmes of action for public and private sector buy-in with the main considerations for accruing benefits to the environment and human health.

South Africa

In South Africa the implementation of the National Nanotechnology Strategy invigorated research and development activities towards synthesis and characterization of nanomaterials in different research centres and universities in South Africa.¹¹⁴ Nanosciences and nanotechnologies activities supported by the Department of Science and Technology focus particularly on addressing the country's socially-oriented problems such as health, water and energy security, and enhancing economic value of industrially-oriented aspects such as chemicals and bio-processing, minerals and mining, and advanced materials and manufacturing.¹¹⁵ A second element is a well targeted research programme towards understanding potential safety, health, and environmental impacts of nanomaterials on humans and other ecological organisms. The Council for Scientific and Industrial Research has also set up a research effort covering the applications as well as implications of manufactured nanomaterials.¹¹⁶

Thailand

Thailand founded the National Nanotechnology Center (NANOTEC) in 2003. NANOTEC is an autonomous agency under the umbrella of the National Science and Technology Development Agency (NSTDA), Ministry of Science and Technology.¹¹⁷ Afterwards, a National Nanotechnology Strategic Plan (2007 – 2013) and a Nanotechnology Roadmap were established as frameworks for sustainable nanotechnology development in Thailand. Nanotechnology development is expected to stimulate Thailand to leapfrog in key areas of science and technology. NANOTEC has the dual role of serving as a national research and development centre and as a funding agency to support universities and other research institutes and aims to be an international nanotechnology research center that drives national nanotechnology policy for sustainable results. The goals are to:

- conduct research and development in order to acquire advanced knowledge in nanoscience and nanotechnologies at international level, at the same time, built awareness to society and environment;
- drive national strategies and policies for nanoscience and nanotechnologies in ways that yield concrete and sustainable results;
- transfer the knowledge and know-how in nanoscience and nanotechnologies to the industrial sector while disseminating accurate information to the public;
- undertake capacity building of human resource development in nanoscience and nanotechnology development; and
- develop infrastructure that would facilitate nanoscience and nanotechnology development.

NANOTEC consists of 11 central laboratories located at the Thailand Science Park. These laboratories address: nano delivery system; nanomolecular target discovery; nano-cosmeceuticals; nano safety and risk assessment; nanomolecular sensing; organic nanomaterials; hybrid nanostructures and nanocomposites; nanomaterials for energy and catalysis; nanoscale simulation; bi-components; a spinning fiber pilot plant; and testing and service. NANOTEC has also realized the benefits of nanomaterials for health and the environment. Therefore it also includes flagship projects related to health and the environment. They are: drug delivery systems; water treatment and remediation; food processing and storage; disease screening, diagnosis and health monitoring; vector and pest detection/ control (e.g. nano coated anti malaria mosquito nets); energy and production, conversion and storage; nanocatalysts for agricultural wastes; agricultural productivity enhancement; and textiles.

Thailand considers that it is emerging as a key player in the arena of nanotechnology in Southeast Asia and expects that this will contribute gaining investors' interest in nanotechnology investment in the country. NANOTEC is also initiating a training program for South-East Asian countries in nanotechnology and nano-safety.

Nano-related research and development in other countries

Important national research initiatives on nanotechnologies have in addition be reported for Chinese Taipei, India, Indonesia, Iran, Pakistan, Philippines, Singapore and Vietnam, while in at least ten further developing countries or economies in transition nanotechnology research is known to be ongoing.¹¹¹

Building up research capacity related to nanotechnology in developing countries and economies in transition, for the applications as well as for the implications, is crucial in order to avoid that a "nano divide" will be created between these countries and developed countries. In the publication "Why is Nanotechnology important for Developing Countries?" of the World Commission on the Ethics of Scientific Knowledge and Technology of UNESCO, it is mentioned that nanotechnology "becomes an attractive field for research and development in third world countries because it can be done with modest resources and relatively low funding".²⁸ It has been reported that setting up of nanotechnology research facilities is not extremely costly.²⁴ The SAICM Resolution on nanotechnology "Encourages Governments and other stakeholders to assist developing countries and countries with economies in transition to enhance their capacity to use and manage nanotechnologies and manufactured nanomaterials responsibly, to maximize potential benefits and to minimize potential risks".³ There are several possibilities to successfully set up local capacities in these countries. Providing direct financial support and transfer of technology, in particular concerning the beneficial health and environmental applications, are obvious options, but setting up partnerships between countries or public/private partnerships is another direction which could be an interesting win-win option for all concerned, because insights in a variety of needs and technological possibilities could be combined.

8.b Health and environmental safety

Education of the general public and professional training regarding nanotechnology are of course key elements in ensuring safety of nanomaterials throughout the lifecycle. Risk assessment regarding human health and environmental safety and risk management for nanomaterials require expertise and technical resources. Examples of education tools exist.

The Swiss federal government has supported the development of the " Nano-Cube".¹¹⁸ This is an educational platform for secondary schools and professional education. It could serve as an information and training platform for further training activities. It addresses professional education and vocational training, including "Nano-Basics, Products & Applications, Science and Research, Economy, Safety & Risks, Technology & Society, Nano at Daily Work". It also presents structured information which will be comprehensible to a large audience (while not being over-simplified).

Gathering and evaluating safety information on nanotechnology might pose special challenges to developing countries and economies in transition. The development of an international information clearing house or portal on the safety of manufactured nanomaterials might be an effective first step to improve information availability and accessibility. Such a mechanism for the sharing of technical and regulatory information would allow all countries to benefit from knowledge developed by the countries which are the most advanced in particular areas and would allow better decision making on safety issues. Enhanced information sharing on national and regional levels could also be helpful. In depth dialogue with industry associations and individual companies will also be useful, because industry holds many of the important information elements.

How to follow up on the outcomes of the evaluations in terms of risk management then also requires attention. As mentioned in section 4.f, a host of options can be selected. Support could be provided for incorporating the management of the safety of nanomaterials and nanotechnologies in the national chemicals management programme. As a first step, gaps in the existing framework could be identified and analyzed and then those provisions which are missing to ensure safe practices with regards to the production, use, transport and disposal of manufactured nanomaterials, could be developed.

Learning and training efforts will be needed in a variety of areas such as for environmental and health specialists, workers, industrial hygienists, waste handlers or customs officials. Elements of a generic effective training model, which could also be applied to training concerning the safety management of nanomaterials, could include¹¹⁹ :

- determining if training is needed
- identifying training needs
- identifying training goals and objectives
- developing learning activities
- conducting the training
- evaluating programme effectiveness: verification of understanding of the material or acquisition of desired skills
- improving the programme

Intergovernmental organizations could play an important role in providing national or regional

training programmes. The Guidance Document on integrating the risk management for nanomaterials into the general national chemicals management framework, which is being developed by UNITAR could be an important basis for such training. Workshops on implementation of best safety assessment practices and risk management procedures for chemicals have been a normal practice since many years. Building on this experience, methods like webinars could be put in place for such purposes and would reduce the resource needed.

9. WORK OF INTERNATIONAL ORGANIZATIONS

A number of international and intergovernmental organizations have worked on the safety aspects of manufactured nanomaterials or still have work underway.¹²⁰ An overview of the activities of those who are the most relevant in the SAICM context is given below.

FAO/WHO

In response to the accelerating developments in nanotechnology, FAO and WHO convened in 2009 an Expert Meeting on the “The application of nanotechnologies in the food and agriculture sectors: potential food safety implications”.⁷⁴ The major aims of this meeting were to:

- develop a common view of what the main food safety concerns are associated with actual and anticipated nanotechnology applications in the food and agriculture sectors;
- share lessons learned by those countries that have already initiated programmes to address such concerns;
- agree on priority actions that are needed to control possible food safety hazards associated with nanotechnology applications in food and agriculture; and
- develop guidance on the possible roles of FAO and WHO in promoting sound governance of food safety issues linked to nanotechnology applications.

A report of the meeting with conclusions was published in 2010. The experts agreed that FAO/WHO should continue to review its risk assessment strategies, in particular through the use of tiered approaches, in order to address specific emerging issues associated with the application of nanotechnologies in the food chain. A tiered approach might enable the prioritization of types or classes of materials for which additional data are likely to be necessary to reduce uncertainties.

ILO

At an ILO Meeting of Experts to Examine Instruments, Knowledge, Advocacy, Technical Cooperation and International Collaboration as Tools with a view to Developing a Policy Framework for Hazardous Substances in 2007, it was decided that the ILO should continue to monitor national and international activities related to safety in the use of new technologies, such as nanotechnologies and possibly contribute to them through ILO participation in relevant intergovernmental groups.

In 2010, ILO published a booklet entitled “Emerging Risks and New Patterns of Prevention in a Changing World of Work,” which summarizes new occupational safety and health issues, including those related to technical innovations such as nanotechnology.¹²¹

ISO

ISO has established Technical Committee 229 – Nanotechnologies. Currently the following four working groups have been established: Terminology and nomenclature; Measurement and characterization; Health, safety and environmental aspects of nanotechnologies; and Material specifications.¹²² TC229 published 12 standards and has 32 standards under development. Important documents address: Health and safety practices in occupational settings relevant to nanotechnologies, Terminology and definitions for nano-objects -- Nanoparticle, nanofibre and nanoplate.^{123 124}

Standardization in the field of nanotechnologies includes either or both of the following:

- understanding and control of matter and processes at the nanoscale, typically, but not exclusively, below 100 nanometers in one or more dimensions where the onset of size-dependent phenomena usually enables novel applications; and/or
- utilizing the properties of nanoscale materials that differ from the properties of individual atoms, molecules, and bulk matter, to create improved materials, devices, and systems that exploit these new properties.

Specific tasks include developing standards for: terminology and nomenclature; metrology and instrumentation, including specifications for reference materials; test methodologies; modeling and simulations; and science-based health, safety, and environmental practices.

OECD

In 2006 OECD established a Working Party on Manufactured Nanomaterials (WPMN) as a subsidiary body of its Chemicals Committee.¹²⁵ The objective of the WPMN is to promote international co-operation in human health and environmental safety aspects of manufactured nanomaterials among member countries and non-member economies, civil society organizations, industry and intergovernmental organizations. Currently, the following areas are covered by the work plan of the WPMN:

- development of an OECD Database on Human Health and Environmental Safety Research
- environment, health and safety research strategies on manufactured nanomaterials (including occupational health and safety)
- safety testing of a representative set of manufactured nanomaterials
- manufactured nanomaterials and test guidelines.
- co-operation on voluntary schemes and regulatory programmes
- co-operation on risk assessment
- the role of alternative methods in nano-toxicology
- exposure measurement and exposure mitigation

- environmentally sustainable use of manufactured nanomaterials

In addition, in 2007 OECD's Committee for Scientific and Technological Policy established a Working Party on Nanotechnology (WPN). The work addresses policy issues related to the responsible development and use of nanotechnology and the potential benefits nanotechnology can bring to society, taking into account public perceptions related to advances in nanotechnology and its convergence with other technologies, without forgetting legal, social and ethical issues. The following projects are in the work plan of the WPN:

- statistical framework for nanotechnologies
- monitoring and benchmarking nanotechnology developments
- addressing challenges in the business environment specific to nanotechnologies
- fostering nanotechnologies to address global challenges
- fostering international scientific co-operation in nanotechnologies
- policy roundtables on key policy issues related to nanotechnologies

Further information and publications of OECD's work on manufactured nanomaterials and nanotechnology, are available as free download.^{126 127}

UNEP

Within the United Nations Environment Programme (UNEP), the Chemicals Branch of the Division of Technology, Industry and Economics promotes sustainable development by catalyzing global actions for the sound management of chemicals worldwide. So far, UNEP has not taken a very active role with respect to nanotechnologies. However, since nanoparticles are being recognized as an emerging environmental issue within the SAICM context, UNEP will continue to address the complex implications related to the possible broad dissemination of nanotechnologies with a view to optimize their benefits and to minimize the environmental risks in support of sustainable development. The UNEP GEO 2007 Yearbook has a chapter entitled "Emerging Challenges: Nanotechnology and the Environment". The pros and cons of innovative medical techniques, the savings in materials and energy, as well as advances in detection and remediation of pollution are highlighted.¹²⁸

UNESCO

UNESCO has invited well-known experts in nanotechnology to discuss the state of the art of nanotechnologies, examine the controversy surrounding its definition and explore related ethical and political issues. A 2006 report "The Ethics and Politics of Nanotechnology" "outlines what the science of nanotechnology is, and presents some of the ethical, legal and political issues that face the international community in the near future."⁹³ UNESCO has also published a book on "Nanotechnologies, Ethics and Politics".⁹⁴ The aim of the book is to inform the general public, the scientific community, special interest groups and policy-makers of the ethical issues that are salient in current thinking about nanotechnologies and to stimulate a fruitful interdisciplinary dialogue about nanoscale technologies among these stakeholders.

UNITAR

In accordance with ICCM2 Resolution II/4-E, UNITAR and OECD set up a partnership, coordinated through the IOMC, to undertake a series of regional awareness-raising workshops on nanotechnology. These workshops, took place from November 2009 to March 2010 in four UN regions: Asia-Pacific (Beijing, China), Central and Eastern European (Lodz, Poland), Africa (Abidjan, Ivory Coast) and Latin America and Caribbean (Kingston, Jamaica). An additional sub-regional workshop for Arab countries was held in Alexandria, Egypt, in April 2010.

A second round of regional nanotechnology workshops was started, organized by UNITAR. Over the April – September 2011 period, this round included workshops in Nairobi, Kenya, in Panama City, Panama, in Lodz, Poland and in Beijing, China. The second round of workshops goes beyond awareness raising; the aims are to assist countries with preparations for the SAICM Open-ended Working Group meeting and ICCM3 and to facilitate dialogue and cooperation at the regional level among countries.¹²⁹

UNITAR also prepares in three countries pilot projects related to the integrating nanomaterials-related safety management into a pre-existing programme for the sound management of chemicals at the national level. Guidance is being developed by a group of experts from SAICM stakeholders. The guidance, which will be tested in the pilot projects, is intended for wider use and gives suggestions for a specific methodology for such integration. Pilot project deliverables and key activities include:

- undertaking preparatory activities, including identification of a lead agency and key ministries and other stakeholders involved in and interested in nanotechnology issues;
- updating of the National Profile for chemicals management to include a new chapter on nanomaterials;
- development of a national policy or action plan on the safety management of nanomaterials;
- identification of key health and environmental protection-related priorities concerning nanomaterial safety;
- targeted training; and
- including nanomaterial safety as part of the country's national programme for the sound management of chemicals.

WHO

WHO is developing Guidelines on "Protecting Workers from Potential Risks of Manufactured Nanomaterials". These Guidelines aim to facilitate improvements in occupational health and safety of workers potentially exposed to nanomaterials in a broad range of manufacturing and social environments. The guidelines development will involve preparing a background document outlining critical questions, systematic review of evidence for each question, and drafting recommendations. After the guidelines are pilot tested and their use and impact are evaluated, an Implementation Guide of user-specific guidance and recommendations will be developed as a second part of this project.¹³⁰

IOMC

The Inter-Organization Programme for the Sound Management of Chemicals (IOMC) was established in 1995 in order to strengthen cooperation and increase coordination in the field of chemical safety. The following are the Participating Organizations of the IOMC:

- Food and Agriculture Organization of the United Nations (FAO);
- International Labour Organization (ILO);
- Organisation for Economic Co-operation and Development (OECD);
- United Nations Development Programme (UNDP);
- United Nations Environment Programme (UNEP);
- United Nations Industrial Development Organization (UNIDO);
- United Nations Institute for Training and Research (UNITAR);
- World Bank, and
- World Health Organization (WHO);

The IOMC organizations hold regular meetings together to ensure co-ordination of the chemical safety activities of the participating organizations. Activities related to nanomaterials have also been discussed at these meeting. Detailed information on the IOMC can be found through their website.¹³¹

Chemicals related UN Conventions

Several existing multilateral environmental agreements, such as the Stockholm Convention, the Basel Convention, the Rotterdam Convention and the Aarhus Convention may have the potential to deal with certain aspects of governing the safety of nanotechnologies and nanomaterials. To date this topic has not been addressed specifically by these Conventions.

10. CONCLUSIONS AND POSSIBLE SAICM ACTIONS

10.a Summary of main issues

Manufactured nanomaterials are substances which have different properties from the traditional chemicals, which mean that they could be used in a variety of new applications. A number of products containing nanomaterials are already on the market for a long time, without being highlighted as such. It is expected that the markets for nanomaterials will develop rapidly in volume

over the coming years as much research is currently ongoing on further new applications. Such research includes also applications which can be used in the field of health and in environmental protection. Manufactured nanomaterials may therefore offer many opportunities for the society as a whole to benefit from the advances in such research.

Because of these different properties, however, manufactured nanomaterials also may have different implications for human health and the environment than traditional chemicals. This poses a number of challenges which have to be managed during all stages of the life cycle of these materials, taking into account the vulnerability of certain parts of the population and the environment. In addition, as with other new technologies, the development of nanotechnology raises ethical, legal and social issues.

There are currently a number of important unanswered questions regarding the assessment and management of the risks of manufactured nanomaterials. While much research is ongoing in this field, there are still uncertainties and gaps in knowledge with respect to issues like material characterization; metrology and measurement, especially for exposure; the extent of applicability of the conventional methods used for the testing for hazards; establishment of dose/response relationships; and quantification in risk characterization. This situation calls for the use of precaution, the extent of which has to be considered in a broader context.

There is more knowledge available to risk assessors and risk managers regarding the assessment of possible health and environmental effects of traditional chemicals and exposures, than presently exists for nanomaterials.. As stated by several national and international scientific committees, it is clear that, while this knowledge cannot all be transposed directly to nanomaterials, methods applied for traditional chemicals will be of use. There is expertise available to consider the extent to which these methods can be applied and when not, and much further research is ongoing on this topic.

Many scientists, however, consider that the current frameworks used for traditional chemicals are in principle adequate and appropriate for dealing with manufactured nanomaterials, although further understanding of specific toxicity mechanisms and testing procedures need to be developed. At the moment, governments are using available provisions as far as possible. In cases when risks cannot be quantified due to uncertainties in the hazard and/or exposure assessment, a case-by-case evaluation combined with qualitative analysis is relied upon. Precaution is then applied in those cases where an unacceptable level of uncertainty or concern is identified. In this context issues related to waste management, specifically in developing countries and economies in transition, require special attention.

New technologies have been introduced in the past many times, and usually there is a certain level of concern about uncertainties regarding the safety of a technology. There is a well established methodology for technology assessment which has been the basis for dealing in a generic way with the uncertainties which a new technology might pose. This knowledge can also be relied upon.

Clearly, however, in the case of the risk management of manufactured nanomaterials, more research is needed to get a better insight into those aspects for which the methodology has to be adapted for nanomaterials risk management, and into the possibilities to quantify the risks. It is therefore important that nano-research programmes devote a large part of the efforts, not only to developing applications, but also to clarifying health and environmental safety issues.

Currently no countries have specific legislation in place to deal with the safety of nanomaterials. Combinations of existing legislations are used as the main regulatory instruments. A variety of specific attributes to deal with the specific aspects of nanomaterials in these existing legislations has been developed, or is in the process of being developed or suggested. This includes the suggestion to include nano-aspects in Safety Data Sheets, establishment of a government register for products including nanomaterials and mandatory, rather than voluntary, provision by industry of information relevant for the understanding of potential of nanomaterials risks. Countries are also considering integrating the management of nanomaterials in their National Profiles for chemicals management.

At the international level already a number of Conventions exist which address the safety of chemicals or waste (Rotterdam, Stockholm, Basel) or the provision of environmentally relevant information (Aarhus). In addition the Globally Harmonised System for classification and labelling (GHS) is being implemented world-wide. While the Conventions do not appear to be very well suited to address comprehensively the safety of nanomaterials, it would be relevant for the Conferences of Parties of these Conventions to consider, within in their general mandates, either to extend their scope to nanomaterials, or to further investigate how the Conventions could be used to deal with the applications and implications of nanomaterials. In light of the national risk management practices, where consideration of the safety of nanomaterials is incorporated in existing frameworks, it might be more efficient for international chemical safety management to see how these Conventions could contribute, rather than to develop specific nano-related international instruments. With respect to the GHS, which is an important chemical safety management instrument in countries which not yet have a full legislation in this field, it could urgently be considered how criteria related to the safety of nanomaterials could be developed and incorporated into the system.

In general, civil society organizations are rather critical about the way the potential risks of nanomaterials are currently being managed. They generally ask for initiatives aimed to deepen and answer scientific and technical issues and to clarify regulatory aspects of nanotechnologies. Some of them require the application of a strict precautionary approach. Their request is to require scientific evidence on safety, to have adequate regulatory instruments in place and to have possibly agreement on the way ethical and social concerns will be addressed prior to commercialization.

With regard to learning, training and capacity building there are two related, but distinct issues. One is ensuring that all countries should have the capacity to undertake research in order to develop and use nanotechnologies which are potentially helpful to better address a number of the societal challenges.

The second is that all countries should have the capacity to assess and adequately manage the health and environmental safety of manufactured nanomaterials, whether they are producers or mere importers and users. This capacity is necessary to ensure adequate and effective decisions on the use of nanomaterials in their counties. While the science regarding nanomaterial safety assessment is evolving, it is therefore crucial to strengthen the capacities in this field in developing countries and in economies in transition. Failing to address these issues raises concerns that developed countries will be the overall beneficiaries of the technology while developing countries suffer most of potential risks. This needs to be fully considered to avoid the creation of a nano-divide will widen existing economic inequities.

All countries need to be empowered to adequately manage, utilize, and direct the use of nanotechnology. This requires the establishment of cooperation, collaboration and partnerships (between countries, between the public and private sectors, and including civil society organizations) for the building up of human resources and of institutional capacity. It also requires encouraging dialogue, assisting in training, research and development, dissemination and sharing of information, and that appropriate means for are provided this.

Governments and industry seem to have learned from the experiences with the introduction of modern biotechnology, and public dialogue about the introduction of nanomaterials has started when nanotechnology was still at an early development stage. A number of national, regional and international public dialogue initiatives have already been initiated principally in developed countries. Key issues that emerge from these dialogues include risks, benefits, uses, evidence, exposure, social values, economic impacts and trust.

When the introduction of a new technology is foreseen, a wide engagement regarding the management of the risks is critical, for example with respect to risk management issues. Civil society has expressed, however, its frustration on the one-way information model used in, and on the outcomes of certain of, some of the public dialogues. The idea that the public will support new technologies, provided they are given enough information and understand the facts has to be changed to a more participatory approach. A one-way process where governments and industry merely try to obtain passive acceptance is not adequate for gaining public trust. Public engagement should go beyond such one-way processes in that it leads to consideration of the result of the consultation in the decision making procedures. Stakeholder dialogues can be used as an early warning system for governments and industry and can enable better assessment of the consequences of different courses of action for research and product development.

Transparent communication and effective education regarding scientific issues will contribute directly to the quality and usefulness of the dialogues. Therefore, scientists and science communicators have a crucial role to play. A well informed public engagement process offers an effective means for policymakers to learn about community concerns and needs. It helps to find ways in which community priorities can be addressed effectively. Ultimately, a governance approach for nanotechnologies and manufactured nanomaterials which is guided by public preferences will be most sustainable.

10.b Possible actions in the SAICM framework

As the primary global forum for addressing chemical safety in an overarching way, SAICM has an important role to play in the safety management of manufactured nanomaterials. A number of actions could be envisaged in this context. An overview of such possible actions is presented below. They are to a large extent based on the outcomes of the Regional Awareness Raising and Capacity Building Workshops on Nanotechnologies and Manufactured Nanomaterials which were held in the SAICM framework from 2009 to 2011. A first round, supported by UNITAR and OECD was held between November 2009 and March 2010; and a second round was initiated by UNITAR in April

2011. Documents reflecting specific nano-related outcomes were produced and agreed in the African and Latin American Caribbean Regional meetings. Because SAICM is a voluntary mechanism, the recommended actions focus on facilitating cooperation, information exchange and mutual understanding among stakeholders and recommending other actors in the chemical safety field to undertake certain actions.

Overview of possible SAICM actions

11. Facilitation of information exchange on nanotechnologies and manufactured nanomaterials in order to improve global transparency and allow better decision making processes. Such information exchange could involve several aspects. For example it could be recommended that, possibly through the IOMC and its participating organizations:
 - an international “nano-portal” for safety information be set up;
 - a clearinghouse of ongoing research activities be set up;
 - a mechanism be established for sharing technical, legal and institutional information;
 - awareness raising activities in the SAICM regions be continued and deepened.
12. Development of internationally applicable technical and legal guidance and training material for the sound management of manufactured nanomaterials, possibly through the IOMC and its participating organizations. This could involve:
 - guidance material on the assessment and management of the safety of nanotechnologies and manufactured nanomaterials;
 - guidance material on the integration of nanomaterial safety in existing national chemical safety programmes, including the updating of National Profiles;
 - guidance material on the adaptation of national legal frameworks to include the sound management of manufactured nanomaterials;
 - training materials based on the guidance;
 - training activities;
 - pilot projects which could also be used to test the guidance material;
 - education materials for the public.
13. Supporting the development of Regional SAICM strategies concerning manufactured nanomaterials, which could include arrangements for cooperation on research and on risk assessment and risk management issues.
14. Facilitation of technology transfer, in particular related to applications which are beneficial for health and environmental protection. This could include various types of partnerships which should be financially supported in order to achieve their objectives. Partnerships could be among:
 - developing countries and/or economies in transition and developed countries;
 - public and private institutions in a country or region, including civil society organizations as they could contribute in various ways, for example by providing expertise, review and insights.
15. Updating the Global Plan of Action with a specific work area which includes activities on nanotechnologies and manufactured nanomaterials.
16. Including the possibility of financing projects related to nanomaterial safety in any possible future SAICM financing mechanisms in order to enhance the preparedness of countries to

deal with the safety issues when larger volumes of products containing nanomaterials will reach the market.

17. Inviting industry to step up their stewardship role and responsibilities in relation to nanotechnologies and manufactured nanomaterials, and to participate, including in financial terms, in supporting awareness raising, information exchange and training activities, as well as in public dialogue by providing, without major conditions, monetary contributions for such international work.
18. Recommending to the UN Committees of Experts on the Transport of Dangerous Goods and on the Globally Harmonized System of Classification and Labelling of Chemicals the urgent preparation of a work plan for the adaptation or development of GHS criteria to address the safety of manufactured nanomaterials.
19. Recommending to the Conferences of Parties of the Rotterdam, Stockholm and Basel Conventions to consider specifically addressing if it would be useful (and if so how) to consider applications and implications of manufactured nanomaterials which could fall under their respective mandates.
20. Continuing to support the public dialogues on all aspects of nanotechnologies and manufactured nanomaterials, for example by holding Seminars or a Global Conference with participation of all stakeholders in order to discuss progress on addressing issues related to manufactured nanomaterials which are of wide public interest.

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Note by the secretariat

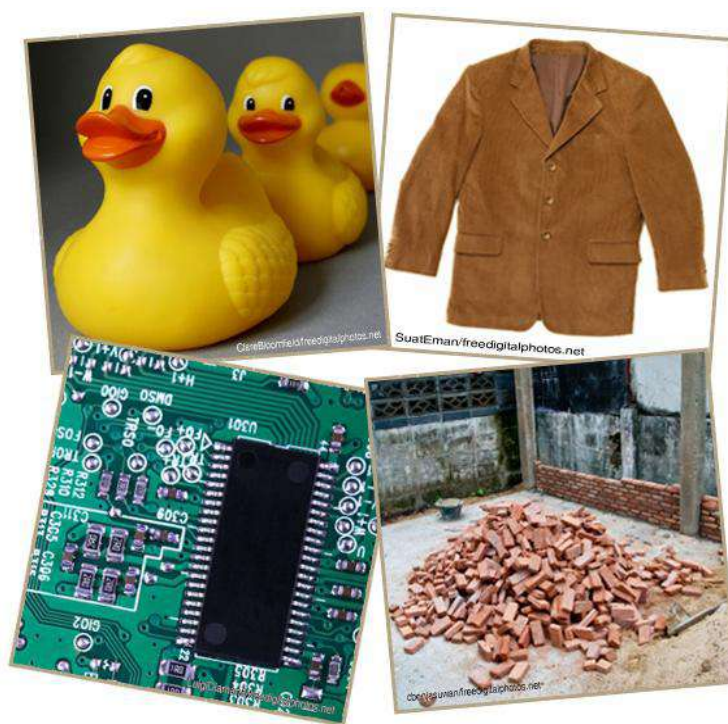
The secretariat has the honour to circulate, in the annex to the present note, the report of the International Workshop on Chemicals in Products Project, held in Geneva, Switzerland, from 16 to 18 March 2011 for the information of participants at the current meeting. The report was considered by the Open-ended Working Group (OEWG) at its first meeting in Belgrade from 15-18 November, 2011 and is presented to the Conference as provided by the Working Group for information.

* SAICM/ICCM.3/1



Report of the International Workshop of the Chemicals in Products Project

16-18 March 2011, Geneva, Switzerland



UNEP / DTIE
Chemicals Branch

IOMC

INTER-ORGANIZATION PROGRAMME FOR THE SOUND MANAGEMENT OF CHEMICALS

A cooperative agreement among FAO, ILO, UNEP, UNIDO, UNITAR, WHO, World Bank and OECD

This publication was developed in the IOMC context. The contents do not necessarily reflect the views or stated policies of individual IOMC Participating Organizations.

The Inter-Organisation Programme for the Sound Management of Chemicals (IOMC) was established in 1995 following recommendations made by the 1992 UN Conference on Environment and Development to strengthen co-operation and increase international co-ordination in the field of chemical safety. The Participating Organisations are FAO, ILO, UNEP, UNIDO, UNITAR, WHO, World Bank and OECD. UNDP is an observer. The purpose of the IOMC is to promote co-ordination of the policies and activities pursued by the Participating Organisations, jointly or separately, to achieve the sound management of chemicals in relation to human health and the environment.

Background

1. In May 2009, the second session of the International Conference of Chemicals Management adopted a resolution agreeing to implement a project on Chemicals in Products with the overall objective of promoting the implementation of paragraph 15 (b) of the SAICM Overarching Policy Strategy and requesting that specific recommendations be developed for further international cooperative action for consideration at the third session of the Conference in 2012. The Conference invited UNEP to lead and facilitate the project. The Conference agreed that the following tasks be undertaken:

- collect and review existing information on information systems pertaining to chemicals in products including but not limited to regulations, standards and industry practices;
- assess that information in relation to the needs of all relevant stakeholders and identify gaps;
- develop specific recommendations for actions to promote implementation of the SAICM with regard to such information, incorporating identified priorities and access and delivery mechanisms.

2. The resolution recommended that proposals for cooperative actions should take into account the Globally Harmonized System of Classification and Labelling of Chemicals and avoid any duplication of efforts under that system.

3. An investigation into existing systems and stakeholder needs and gaps was carried out in a report by Kogg & Thidell *Chemicals in Products - An overview of existing systems for providing information regarding chemicals in products and of stakeholders' needs for such information* that provided the current status of chemicals information exchange systems. The aim of the report was to conduct an international screening and overview of systems for information on chemicals in products and to describe stakeholders' needs for such information.

4. The first phase of the Chemicals in Products project also involved determining the scope of further project activities. As it would not be possible to work in all areas and on all chemicals at this stage of the project, a survey was designed to identify good examples provided through existing information systems, to collect thoughts and views from SAICM stakeholders on the focus and priorities for the upcoming assessment of stakeholder information needs and to determine which product sectors stakeholders deemed to be of highest priority. The results were considered at a Scoping Meeting in December 2009. Product sectors of highest priority were: *children's products/toys, electronics, textiles/clothing, construction materials*, food packaging and personal care products from which, due to resource limitations, the former four were selected for more in-depth examination. Case studies were carried out for these four sectors through different institutions and are available at (<http://www.chem.unep.ch/unepsaicm/cip/default.htm>). The case studies were carried out to:

- provide reviews of the state-of-the-art for Chemicals in Products information exchange in the sectors (also addressing differences among regions);
- identify the specific needs for Chemicals in Products information of the different stakeholders groups of the selected sectors, map out the information flows in the sector and perform a gaps analysis;
- identify obstacles in providing / accessing information and look for possible actions that could help overcome such obstacles.

5. The case studies made use of work already carried out under the project. Each case study described in detail the focus of the study, the methodology used and the sources contacted to obtain information.¹

6. As a part of this study phase a small Sector-expert Consultation for the Chemicals in Products Project was held on 9-10 December 2010 for discussions between the individual institutes and sector-experts. The goals of the Consultation were:

- to share the collective research results of the institutes as the case studies neared completion;

¹ Documents prepared during the development of the project can be found at the following site – (<http://www.chem.unep.ch/unepsaicm/cip/default.htm>)

- to exchange experts' experiences and knowledge from the different sectors on product chemical information;
- to identify critical issues with regard to exchange of information on chemicals in products, especially on the data provider's side; and
- to discuss possible measures or options that could help overcome obstacles for providing information.

7. The report of the Consultation can be found on the project website (see footnote below). Based on the principal findings of the four sector reports and other reports prepared during the project development, a synthesis report was prepared to identify some common concerns as highlighted by the case studies and to suggest a way forward for the project.

Opening

8. The International Workshop on the Chemicals in Products Project was held at the International Conference Centre, Geneva from 16 – 18 March 2011. The Workshop was opened at 9.10 a.m. by Mr. David Piper, Deputy Head, Chemicals Branch, Division of Technology, Industry and Economics, UNEP.

9. In his opening statement, Mr. Piper welcomed the participants on behalf of Mr. Per Bakken, Head, Chemicals Branch. He outlined the background and activities undertaken to date in the Chemicals in Products project. He noted that chemicals could be released during all phases of a product lifecycle and only slowly was there a growing understanding that those exposures were not always insignificant or benign. Studies had demonstrated that babies could be born with over 200 chemicals in their blood transferred from mothers not engaged in any particular chemical-related activities. He said the awareness of chemicals' potential to cause adverse health and environmental effects must be improved at all levels. Such awareness along with improved information exchange on the chemicals contained in products within the supply-chain will allow improved management of the chemical risks throughout the product life-cycle thereby improving protection of human health and the environment from adverse effects while, at the same time, benefitting from the positive properties of the chemicals. He highlighted the need to differentiate between systems that provided information on chemicals that were not contained in a product, or contained below a certain level, and those systems that indicated what was in a product. He also emphasized the differentiated needs for information by different stakeholder groups.

10. Mr. Piper said that the main goal of the Workshop was to identify elements to be addressed in the draft recommendations for cooperative actions to be presented at the SAICM Open-Ended Working Group, to be held in August 2011, and thereafter finalized for consideration by the International Conference on Chemicals Management at its third session in 2012. He stressed that the Workshop would also serve to raise awareness and understanding of the project and its outcomes among a wider audience of SAICM stakeholders and urged those present to fulfil an extended role by taking every opportunity to inform others about the project.

11. He concluded by acknowledging the continued support from Sweden and the Nordic Council of Ministers for supporting work undertaken to date on the project as well as the generous contributions received from Austria, Germany, Sweden and the Nordic Council that had enabled the current workshop to be convened.

Election of Officers

12. Mr. Babajide Alo (Nigeria) and Mr. Magnus Bengtsson (Institute for Global Environmental Strategies) were elected to serve as co-chairs of the Workshop.

Adoption of the Agenda

13. The provisional agenda was adopted without amendment.

Attendance

14. The meeting was attended by representatives of the following countries: Albania, Austria, Belarus, Canada, China, Congo (Democratic Republic of), Croatia, Denmark, Germany, Guatemala, Guyana, Honduras, Jamaica, Kenya, Macedonia, Madagascar, Mexico, Moldova, Nepal, Nigeria, Pakistan, Poland, St Vincent & the Grenadines, Serbia, Slovenia, Sweden, Thailand, United States of America, Uruguay, Vietnam, Yemen and Zambia.

15. The meeting was also attended by representatives of the following intergovernmental bodies: SAICM

Secretariat, Secretariat of the Stockholm Convention, United Nations Institutes for Training and Research and World Health Organization.

16. The meeting was also attended by representatives from industry and the private sector, research institutes, civil society and other non-governmental organizations as follows: Azeri Toxicologists Society, BASF, BASTA online AB, Center for Clean Products, Centro de Analisis y Acción en Tóxicos y sus Alternativas, Consumer Specialty Products Association, DEKRA Industrial Sustainability Management, Digital Europe, Ecological and Toxicological Association of Dyes and Organic Pigments Manufacturers, Everway Yarn Dyeing Ltd., Global Alliance for Incinerator Alternatives, Greenpeace International, Hasbro Inc., Hennes & Mauritz GBC AB, Hewlett-Packard EMEA, Intel Corporation, Institute for Global Environmental Strategies, International Chemical Secretariat, International Council on Mining and Metals, International Institute for Industrial Environmental Economics, International POPs Elimination Network, International Society of Doctors for the Environment, LEED AP ID+C Construction Specialties, Inc., Massachusetts Toxics Use Reduction Institute, Oko-Institute e.V Produkte and Stoffstrome, Research and Education Centre for Development, Rising Group, SGCI Chemie Pharma Schweiz, Siemens North American Healthcare, Sustainable Development Policy Institute, Toxics Link, Toy Industries of Europe, United States Council for International Business, University of Tennessee Center for Clean Products, Verband TEGEWA e.V. and Women in Europe for Common Future.

Introduction

17. To introduce some of the history leading to the chemicals in products project and set the scene, the coordinator of the SAICM Secretariat, Ms. Leonor Alvarado, made a presentation on the SAICM emerging issues process entitled “Overview of the procedures for reporting on the identified emerging policy issues at the Open-ended Working Group and the third session on the International Conference on Chemicals Management”. She described SAICM as a global policy framework to support efforts to achieve by 2020 that chemicals were manufactured and used in a way that minimized the impact on human health and the environment. She noted that SAICM was an instrument that was not legally binding and did not replace existing instruments. She provided a background to the adoption of SAICM and to the process of identifying new emerging policy issues recalling that at the second session of the International Conference on Chemicals Management in 2009 four new emerging policy issues had been identified: lead in paint, electronic waste, nanotechnology and manufactured nanomaterials, and chemicals in products. The need for increased availability of and access to information on chemicals in products in the supply chain and throughout the life cycle was identified, to be implemented through a UNEP-led project. She said the Open-ended Working Group (OEWG), to be held in August 2011 had several tasks assigned to it including modalities for reporting progress in implementation, guidance and preparation of reports. She said the OEWG was a key element in the decision-making process leading to the third session of the International Conference on Chemicals Management.

18. A representative of UNEP Chemicals made a presentation on the background of the chemicals in products project and overview of work undertaken to date. Mr. Aake Thidell, International Institute for Industrial Environmental Economics gave a presentation entitled “Overview of selected information systems targeting chemicals in products” in which he described examples of information systems and identified stakeholders and their information needs as well as the gaps and obstacles faced. He highlighted the value of knowing what substances were present in a product or able to migrate from it as well as interpretation of what chemicals content means. He concluded by noting the importance of such issues as information access, the format and technology platform, control and verification of information, full disclosure or restricted substances lists and the legal status of any information system.

Presentation of priority sector case studies

19. The Workshop heard presentations on the four case studies as follows: Toys - Ms Susanne Hartlieb (DEKRA), Textiles - Mr. Kevin Munn (UNEP Chemicals), Electronics - Mr. Nardono Nimpuno (ChemSec) and Building Materials - Mr. Jack Geibig (University of Tennessee). A representative of the Secretariat introduced the synthesis report that had been prepared taking into account the principle outcomes of the chemicals in products project to date, the overview report prepared by Kogg and Thidell,² the four sector case studies and the Consultation meeting held in December 2010 with an aim to identify major and common findings including suggestions for taking the project forward. Following the presentations brief question and answer sessions were held.

20. It was noted that the toys sector had been identified as a high priority sector by the greatest majority of

² Beatrice Kogg & Åke Thidell *Chemicals in Products: An overview of systems for providing information regarding chemicals in products and of stakeholders' needs for such information*, August 2010.
(http://www.chem.unep.ch/unepsaicm/cip/Documents/Kogg_Thidell_CiP%20report_final.pdf)

stakeholders during the scoping phase and was likely to generate much interest at the International Conference on Chemicals Management. The supply chain of the product did, however, pose a challenge to information flow. Awareness raising and manufacturers' capacity had been noted as key issues especially for smaller manufacturers. It was suggested that a platform to pool resources and build capacity would assist them in their engagement to improve chemicals management. Improving the ability of those already undertaking information exchange and transferring that experience could be an important step to meet the challenge. It was also suggested that some form of database that smaller manufacturers could refer to would be useful. Chemical analysis is currently a primary way of determining what is in a toy, which is quite expensive for what is a relatively inexpensive product.

21. For the textiles sector it was noted that, where there was information on chemicals in the product, it mostly concerned restricted substances that were not contained or contained below certain limits in the product. While that ensured that certain harmful chemicals were not present, consumers and other stakeholders were still left unable to know what was in the product. Several different restricted substances lists increased the difficulty of having a harmonized approach in the sector. Participants observed that governments were faced with the challenge of examining all restricted substances list to determine what was not in a given product and discussed differences between types of labelling. It was noted that despite most of the textile manufacturing being based in developing countries there was a significant gap between the knowledge base of stakeholders in developing countries and developed countries, the latter having a much higher awareness of the issue given the focus on retail and consumer concern.

22. For the electronics sector it was highlighted that significant work related to information exchange had already been undertaken by industry. The issue remained a priority, in particular for developing countries who were heavily impacted by the problem of waste disposal of electronic products. The study reported that companies were starting to see the benefits of appropriate information exchange but noted that there was a challenge with regard to both provision and protection of confidential business information. It was suggested that there be close collaboration between producers and governments to share information on chemicals in products that might facilitate implementation of regulations and increase producer responsibility. It was further noted that manufacturers must accept responsibility for damage and risks when sufficient information on chemicals in products was not provided. Reference was made to the SAICM emerging policy issue of electronic waste within which this area was considered a subsection given its focus on mobile telephones and computers and the need to work in tandem with activities under that emerging policy issue.

23. For the building sector the vast quantity of materials to be covered was noted. The complexity of the sector with regard to human health was highlighted, as was the challenge that most markets were national but the supply chain was often international. An added complexity in the sector was noting at what stage a product was being used, whether at the installation phase or the maintenance phase. The current trend towards green building was encouraging with the chemical nature of the product used determining what a green building was. It was noted that standards were difficult to apply for natural products such as wood and stone and were rather developed to address composite products. As in other sectors harmonization of information needs was important as was awareness raising to downstream users. It was suggested that emphasis could be placed on some priority substances.

Presentation and discussions on the synthesis report

24. A representative of the Secretariat presented the synthesis report that had been prepared taking into account the commonalities, gaps and obstacles from the four sector reports. The commonalities identified included that there were market leaders in all sectors, legal regulation was a driver to the provision of information, gaps existed in information exchange and all case studies saw potential for pilot projects. The synthesis report also provided an option for next steps in the chemicals in products project. Participants suggested that several options might be examined for next steps, including building on existing tools for provision of information on chemicals in products. The workshop expressed their appreciation for the report but noted that given the short time frame for comments it had been difficult to obtain a reaction from all constituents within industry groups. It was suggested that the synthesis report could at a later date be updated to take on board continuing progress in the project however for the present time it would be submitted as an information document to the SAICM Open-ended Working Group in August 2011.

Presentation on chemicals in products information needs, priorities, systems, issues and experiences from business and industry, inter-governmental and non-governmental organizations and countries

25. The representative of the United Nations Institute for Training and Research (UNITAR) made a presentation on "Experiences from UNITAR's training activities on the application of the Globally Harmonized System of Classification and Labelling of Chemicals".

25. The representative of BASF SE, ICCA Chemical Policy and Health Leadership Group made a presentation on ICCA activities to improve the availability of information. In the ensuing discussion, the importance of obtaining information along the entire value chain was stressed especially to determine the needs of stakeholders and the information necessary for undertaking risk assessment. Use and application data was considered vital to calculate exposure and to advance the interest of end users to pull the information they need from up the value chain. It was noted that formulators and distributors were not yet part of the ICCA activities to obtain information and there was difficulty to reach some regions and some small and medium size enterprises. UNEP's chemicals in products project and forging partnerships could assist in that. Participants highlighted the vast informal sector in some developing countries and noted the benefit of providing safety summaries in local languages particularly for end users and consumers. Companies were currently being encouraged to publish safety data in local languages and outreach activities were targeting government and regulatory authorities to provide guidance, if requested, and to promote buy-in. Participants stressed the importance of discovering grey areas along the value chain where information on chemicals in products was no longer passed on, why the situation arose and how to overcome that barrier. It was also observed that how to provide relevant information was as important as what information to provide in order to ensure optimum use for each stakeholder group.

26. The representative of Siemens made a presentation on the Electrical and Electronics Industry Material Declaration Standardization Activities and IEC 62474 the database on Material Declaration for Products of and for the Electrotechnical Industry. It was noted that the electronics industry had been very active and there was broad internationally agreed horizontal standard-based systems being adopted by the industry. The information provided was designed to work with the complex global supply chain to fit the global market place but was very focused and difficult to broaden. It was observed that broad utilization of the standards should be promoted and governments encouraged to reference standards that were developed. Good communication was vital in that regard. At present the IEC 62474, while applied globally, was meeting more success with European manufacturers. The current chemicals in products project might stimulate broader application. It was suggested that the difficulty of adapting the described system to other sectors was to do with the complexity and the large number of substances on which to report. Broadening the scope of IEC 62474 would also result in the inclusion of substances not applicable to individual industry sectors, necessitate clarification to different industry sectors as to why the information was needed and, importantly, maintaining the list simple was a means to encourage provision of data.

27. The representatives of HASBRO and of Toy Industries of Europe made a presentation on the perspective and activities of the toys industry on chemicals in products information, and described the new European Toy Safety Directive that covered over 300 chemicals. The difficulty of providing information in the sector was exacerbated by the fact that children cannot assess risks and there was sometimes a difference between intended use and actual use of a product. Further, the products covered all sectors from electronics to textiles to wood. Emphasis was placed on the potential benefits of sharing information and lessons learned with other sectors for which appropriate tools had been or would be designed. It was noted that some of the materials were not originally manufactured for toys and cross-sectoral information sharing would therefore be of great value. In addition manufacturers of toys formed a small industry with less bargaining power hence information sharing was crucial. The simplicity and availability of information was of special benefit for small and medium-sized enterprises. The first priority was to identify the chemicals to be regulated and the second priority to determine the tools that would protect consumers.

28. The representative of Hennes & Mauritz (H&M) made a presentation on H&M's Chemical information flow. It was noted that while most of the efforts to provide information on chemicals in products were done by individual brand name groups some joint work was being undertaken through AFIRM, the Apparel and Footwear International Restricted Substances List Management Group. It was also noted that there was a new coalition in the clothing industry aimed at targeting information to consumers but was currently limited to working on fibres and less on chemicals.

29. The Workshop viewed a video providing an interview with Mr. Howard Williams the General Manager of Construction Specialists, Inc. on his company's activities under its Safer Chemicals Policies and some of the drivers and lessons learned of these activities.

30. The representative of the Secretariat of the Stockholm Convention on Persistent Organic Pollutants (POPs) made a presentation on the new POPs-free initiative launched under that Convention and work being considered on POPs in articles. The initiative aimed at gathering information on products that did not contain POPs and on the availability of related substitutes and alternatives, as well as encouraging manufacturers and retailers to provide the relevant information. He recalled that articles 9 and 10 of the Convention called for information exchange on alternatives and substitutes including by industry and professional users through a broad range of differing means of communication. He noted that the POPs-free initiative had already been closely coordinated with the chemicals in products project and looked forward to continued and enhanced cooperation.

31. The representative of China made a presentation on Information Exchange of Chemicals in Products in China. He said that, in his country, there was a lack of capacity to collect relevant information and procedures to collect and exchange information still required development. He noted that, information on chemicals in certain products was collected and managed by relevant authority departments but that lack of information exchange that covered the entire supply chain as well as lack of an overall plan and capacity to test and monitor products were barriers to collecting information. He emphasized that developed countries were further advanced in the areas of scientific research, market development and knowledge on safe use of chemicals, but developing countries were in need of financial resources, technology and public policy.

32. The Representative of the International POPs Elimination Network made a presentation in which he emphasized the role of non-governmental organizations in raising consumer awareness and noted the forthcoming portal with union representatives on information on alternatives. The lack of information available to the informal sector in developing countries was emphasized, as was the need to ensure the same standards for products from developing countries and developed countries. It was suggested that publicly accessible databases be established for information on chemicals in products in all sectors. Additionally, certification systems for recycling, international consumer awareness campaigns, extended producer responsibility, guidelines for safe use and disposal and mandatory labeling of products with hazardous substances were all suggested as positive steps to increase information on chemicals in products. Finally it was noted that chemical safety was not yet a priority at the country level and efforts should be made to work with all stakeholders to increase political attention to the issue.

Breakout groups and subsequent plenary discussions

33. A representative of the Secretariat introduced the questions to be addressed by the breakout groups. It was suggested that the workshop be divided into four breakout groups, each discussing the same questions. The focus was to try and make use of the work done so far and to look for a way forward for the project bearing in mind that the main issue was to develop key elements to include in recommendations to be put forward at the third session of the International Conference on Chemicals Management through the SAICM Open-ended Working Group. To assist the breakout groups in their discussions, a matrix of general information flow for different stakeholder groups was provided. The questions to be addressed by the breakout groups are attached to the current report as Annex 1.

34. The outcome of the four breakout group discussions was presented to plenary and some common elements drawn from those discussions. Suggestions were made to identify additional stakeholder groups that had not yet been included in the documentation prepared during the development of the project such as research and development institutes, the media and other civil society organizations.

35. With regard to stakeholder information needs and gaps it was suggested that governments lacked regulatory framework and tools to perform active surveillance of goods on the market and sometimes failed to adopt international best practices; consumers lacked awareness of the issues at stake; product manufacturers needed occupational safety and health data including on impurities and, as far as possible full disclosure of chemicals content; waste handlers and recyclers needed to be aware of the impact of waste on health and the environment, and also on the methodology for dealing with some waste products. It was observed that there was a need for information about products that did not correspond to standards and regarding alternatives and substitutes for harmful substances and products.

36. Additional gaps identified were the upstream flow of information between the chemical manufacturer and the formulator / downstream users including what the chemical was used for, what was the condition of use for workers along the value chain and what was the end application. Further, full disclosure of information, chemical combinations, ingredients, health effects, producer details, different needs of users, hazards and risks, occupational health and safety data were all considered as gaps in information provision. Participants reiterated the importance of providing relevant information to the end-of-life actors and to provision of information in an easily usable form. Other barriers cited included a reluctance to share information; complex value chains that hindered smooth flow in information; and information access, interpretation and use.

37. All four breakout groups suggested during their deliberations that a policy framework could be developed and that pilot project(s) could be undertaken in a next phase of the project. Principles for what information to provide would be based on stakeholder needs. The framework should be voluntary and there should be capacity building for effective implementation. An analysis could be undertaken to examine the possible creation of a platform for provision and communication of information between different stakeholders, taking into account national and international perspectives. Guidelines for implementing the framework could be developed, and these could be both general and sector specific. Governments at the national level could endorse such guidance and the framework. Pilot

projects could include options for industry to implement principles of information transfer to stakeholders. There should be a clear and articulated need for any pilot study to build on existing systems, have a mechanism to transfer information, identify values and drivers to involve industry and take on board best practices. The pros and cons of single versus multiple systems of information sharing could be elaborated, successful initiatives could be transferred to other sectors, partnerships should be developed and existing systems should be supported to maximize success.

38. It was suggested that a pilot project should propose actions to overcome barriers, including through identifying reasons for which information on chemicals in products was not flowing. To this end existing information of relevance should be identified and access to and understanding of existing information facilitated. Other suggestions made to bear in mind during the development of a possible project included developing common methodologies or guidance to improve market surveillance; developing standards for disclosure of information; and for minimum information requirements. Any framework should be designed to assist developing countries and countries with economies in transition to meet their information requirements and take into consideration the concerns of the informal sector.

39. It was noted that a step-by-step approach was valuable given the heterogeneous state from which the project was being initiated. One database to serve all stakeholders in all sectors was not likely to be possible but there was potential for harmonized approaches on certain levels. Knowing which ingredients were being used at the outset was important as a basis for all other information on chemicals in a given product. Participants noted the value of appropriate frameworks, including regulatory measures, and platforms for communication between different stakeholders and sectors that were conducive to increased accessibility to and use of information on chemicals in products. Development of partnerships with owners of existing systems, stakeholders actively seeking information systems, and funders or investors were actively encouraged.

40. It was reiterated that no one information system would adequately address the needs of all sectors; there were, however, important lessons that could be learnt from all. The sector specificity of information provision was stressed. It was also stressed that legal requirements as well as internal standards and initiatives and external factors (e.g. consumer demand) were important drivers. The need for capacity building and awareness raising was stressed. It was suggested that a regional demonstration project could be undertaken and that specific focus should be placed on developing countries and countries with economies in transition. It was also suggested that any pilot project could be carried out under the leadership of UNEP.

41. It was noted that some discussion had taken place in the breakout groups on the relative roles and responsibilities of the different stakeholders. A question was raised as to whether efforts to improve provision of information on chemicals in products should be government or industry driven. It was noted that governments should create information disclosure requirements that would impel industry to collect the necessary information. Pooling such information into databases could be undertaken either by governments or industry. The importance of industry taking ownership for information provision was stressed.

42. Based on the outcome of discussions in the breakout groups, the Steering Group of the chemicals in products project and the chairs of the break-out groups prepared a draft paper on elements to be included in recommendations to be submitted to the SAICM Open-ended Working Group for its consideration and transmission to the International Conference on Chemicals Management at its third session. The timeline for action on the paper were as follows:

Development of draft recommendations on cooperative action (Drafting Group)	present to early June 2011
Review of recommendations and possible request for revision (SAICM OEWG)	August 2011
Revision and finalization of recommendations (Drafting Group)	Sept. 2011 – April 2012
Presentation to International Conference on Chemicals Management	mid-2012

During the ensuing discussion various suggestions were made for amending the draft elements paper. There was general support for the final draft text revised following discussions during the plenary session, however it was emphasized that the paper did not imply negotiated text but rather formed an input to the drafting group on elements to be included when drafting recommendations to the SAICM Open-ended Working Group. That text is attached to the current report as Annex 2.

Conclusions

43. The representative of ICCA made a presentation in conclusion of the Workshop. She said the current meeting had been a positive experience for industry and interest from other sectors was increasing. Such forums provided a valuable framework to raise awareness in all stakeholders and afforded an opportunity to discuss progress and evolution and to inspire and improve systems. The suggestion to develop a voluntary framework was a positive one. She noted that protecting intellectual property was essential but that where information was available it was necessary to provide that information when there was a need. She noted that the need for information and the type of information differed. It would be useful to have one system but a single system might not meet all needs. Common elements, however, could be extracted and used to provide guidance for all sectors. She said industry could make a contribution to engage small players in the supply chain that were currently unaware of the benefits and advantages of providing information. Industry could provide expertise, arguments and models to inspire others.

Closure

44. Following the customary exchange of courtesies, the Workshop was closed at 3 p.m. on Friday, 18 March.

ANNEX 1: Questions suggested to be addressed by the CiP Workshop breakout groups

The Workshop of the Chemicals in Products Project 16-18 March 2011, Geneva

Suggestions for questions for the break-out groups

Background reports for the CiP project:

- *The Synthesis report, including outcome from the sector-expert consultation*
- *“Chemicals in Products – An overview of systems for providing information regarding chemicals in products and of stakeholders’ needs for such information” (Kogg/Thidell)*
- *Case-study reports on building products, electronics, textiles and toys*

1. What conclusions can be drawn regarding information needs and gaps?

The resolution of the ICCM2 mandated the CiP project/UNEP:

- *To collect and review existing information on information systems pertaining to chemicals in products including but not limited to regulations, standards and industry practices,*
- *To assess that information in relation to the needs of all relevant stakeholders and identify gaps;*

Based on the findings in the background reports and referring to the matrix based on previous work under the project, participants are asked to discuss and conclude:

- a) Who are the major stakeholder groups requiring information on chemicals in products and what are their main needs in terms of the SAICM objectives?
- b) Which types of information systems does the group consider do provide relevant information on chemicals in products, in full or partly.
- c) Considering a and b, what are the main gaps in relation to the current state of information access for the major stakeholder groups?
- d) Considering the gaps and existing systems. Are there lessons to be learned from the different sectors? Which systems does the group think could or should be built upon for future CiP information exchange? Could there be different systems used for different stakeholder groups?
- e) Are there other conclusions or key findings that are important for further cooperative actions?

2. What next steps are suggested that would contribute to the implementation of SAICM regarding the information needs?

The resolution of the ICCM2 also mandated the CiP project/UNEP to develop specific recommendations for actions to promote implementation of the SAICM with regard to such information, incorporating identified priorities and access and delivery mechanisms.

- a) Based on the findings in the background reports, participants are asked to discuss and propose cooperative actions that could be suggested as next steps (e.g. pilot studies, design of an information system, etc.) including:
 - Main objectives, results and outputs of the proposed activities.
 - The main questions to be addressed (e.g. what information, which chemicals, what risk basis, in what format, etc.).
 - The key stakeholders involved and organization of the future process.
- b) Based on the four case-studies, which two product groups do participants feel should be targeted for demonstrating the adequacy and effectiveness of future cooperative actions?
- c) Based on your proposal above, what are the key elements that the recommendations to ICCM3 should contain and what steps/issues need to be taken/addressed before ICCM3 to pave the way for advancing on these future cooperative actions?

ANNEX 2

ELEMENTS TO BE CONSIDERED FOR INCLUSION IN AN INTERNATIONAL
FRAMEWORK TO IMPROVE ACCESS AND AVAILABILITY TO INFORMATION ON
CHEMICALS IN PRODUCTS

The framework could be generic and, consistent with the Strategic Approach to International Chemicals Management, voluntary in nature. The framework could stimulate activities in specific product sectors and allow flexibility to accommodate the different needs of those sectors.

The framework could identify:

- (a) The roles and responsibilities of the major stakeholder groups
- (b) Principles on what information could be transferred to different stakeholders and how that transfer could take place
- (c) Build on existing experiences of best practices

The development of the framework could base itself on an analysis of critical elements of best practices for chemicals in products information, draw on the sector case studies prepared for toys, electronics, construction materials and textiles, a document that had been developed entitled: An overview of systems for providing information regarding chemicals in products and of stakeholders' needs for such information, and presentations made during the International Workshop on Information on Chemicals in Products by all stakeholder representatives. It could also draw on conclusions from that Workshop and other meetings held during the development of the project.

During the development of the framework, the needs of stakeholders for information should be recognized and should be implemented in a balanced approach that at the same time recognizes and respects the important concept of intellectual property and protection of confidential business information.

When developing the framework the following could be taken into consideration:

- (a) Establishment of principles that determine what information could be provided to address stakeholders needs for example which chemical substances, types of information to address etc.
- (b) Provision and communication of information between different stakeholders:
 - Development of technical requirements for new information exchange methods including best practices of existing methods, and
 - Strengthening of existing information exchange methods to broaden the acceptance and implement their use
- (c) Encouraging partnerships across all the stakeholders, including public-private partnerships
- (d) Implementing actions to gain buy-in by industry and other stakeholders and ensure success; one possible activity could be "business cases" highlighting the benefits and added value of improved flow of information for key players in the value chain

- (e) Building on existing and on-going work on cost of inaction, capacity building, and technical and financial assistance for developing countries and countries with economies in transition that would assist governments to assess the costs and benefits related to information systems
 - (f) Awareness-raising of existing systems, in particular to governments, the informal economy, small and medium size enterprises and the public, and strengthening capabilities to implement those systems
 - (g) Addressing how to define and treat confidential business information
 - (h) Development of guidance documents and could consider the above-mentioned issues and focus on, for example:
 - (i) Best practices including lessons learned and successful systems
 - (ii) Using standardized languages
 - (iii) Transfer of knowledge
 - (iv) Policy guidelines consistent with paragraph 16 of the SAICM Overarching Policy Strategy
 - (v) Proposals for regulatory tools
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Strategic Approach
to International
Chemicals Management

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**Implementation of the Strategic Approach to
International Chemicals Management:
Emerging policy issues**

**Synthesis of findings under the Chemicals in Products
Project including draft recommendations**

Note by the secretariat

The secretariat has the honour to circulate, in the annex to the present note, a synthesis of findings under the UNEP/IOMC Project on Information on Chemicals in Products, for the information of participants at the current meeting. The synthesis report was presented to the Open-ended Working Group (OEWG) at its first meeting in Belgrade from 15-18 November, 2011 and is presented to the Conference as provided by the Working Group for information.

ANNEX



**A Synthesis of Findings Under the
UNEP/IOMC Project on
Information on Chemicals in Products**

**UNEP / DTIE
Chemicals Branch**

February, 2011

This publication was developed in the IOMC context. The contents do not necessarily reflect the views or stated policies of individual IOMC Participating Organizations.

The Inter-Organisation Programme for the Sound Management of Chemicals (IOMC) was established in 1995 following recommendations made by the 1992 UN Conference on Environment and Development to strengthen co-operation and increase international co-ordination in the field of chemical safety. The Participating Organisations are FAO, ILO, UNEP, UNIDO, UNITAR, WHO, World Bank and OECD. UNDP is an observer. The purpose of the IOMC is to promote co-ordination of the policies and activities pursued by the Participating Organisations, jointly or separately, to achieve the sound management of chemicals in relation to human health and the environment.

Preamble

1. There is a growing understanding that chemicals contained in products can cause adverse effects on human health and the environment. Taking into consideration the global trade of these products, the issue is one of global significance that requires global solutions. The Strategic Approach to International Chemicals Management (SAICM), that was adopted in 2006 at an International Conference on Chemicals Management and endorsed by UNEP and several UN agencies, has as its main objective to achieve the 2020 goal that chemicals are used and produced in ways that lead to the minimization of significant adverse effects on human health and the environment. Specific objectives of SAICM address a number of areas including knowledge and information.
2. The International Conference on Chemicals Management at its second session in 2009 agreed on a project to address the need for increased stakeholders' access to information on chemicals in products throughout the life cycle. Information on chemicals in products is a key to sustainability. Producers are central in collecting and making available such information, and retailers and consumers should have access to information for informed choices and for proper waste management. With improved information, products can be designed products in such a way that harmful substances are reduced or not present and can be better managed. As well designers can use recycled materials more safely. The majority of current efforts towards product safety are aimed at ensuring that harmful chemicals are not present in a product and legislation and control measures are designed to accommodate that. Few systems are developed to inform on what exactly is in the product. The current lack of information on chemicals in products is one of the obstacles to achieving a reduction of risks from these chemicals and a more sustainable handling of resources, which, with sufficient cooperative action, can be one of the keys to achieving sustainable development.
3. In discussing the issue, care must be taken to differentiate between general chemical information that will lead to product safety and management and systems that contain information on chemicals contained in products, which can also lead to chemical information exchange for given products.

Background

4. In May, 2009, the second session of the International Conference of Chemicals Management adopted a resolution agreeing to implement a project on Chemicals in Products with the overall objective of promoting the implementation of paragraph 15 (b) of the SAICM Overarching Policy Strategy. The project will include the development of specific recommendations for further international cooperative action for consideration at the third session of the Conference in 2012. The Conference invited UNEP to lead and facilitate the project. The Conference agreed that the following tasks be undertaken:
 - collect and review existing information on information systems pertaining to chemicals in products including but not limited to regulations, standards and industry practices;
 - assess that information in relation to the needs of all relevant stakeholders and identify gaps;
 - develop specific recommendations for actions to promote implementation of the SAICM with regard to such information, incorporating identified priorities and access and delivery mechanisms.
5. The resolution recommended that proposals for cooperative actions should take into account the Globally Harmonized System of Classification and Labeling of Chemicals and avoid any duplication of efforts under that system.
6. An investigation into existing systems and stakeholder needs and gaps was carried out in a report by Kogg & Thidell *Chemicals in Products - An overview of existing systems for providing information regarding chemicals in products and of stakeholders' needs for such information* that provided the current status of chemicals information exchange systems. The aim of the report was to conduct an international screening and overview of systems for information on chemicals in products and to describe stakeholders' needs for such information.

7. A first phase of the Chemicals in Products project involved determining the scope of initial project activities. As it would not be possible to work in all areas and on all chemicals at the initial stages of the project, a survey was designed to identify good examples provided through existing information systems, to collect thoughts and views from SAICM stakeholders on the focus and priorities for the upcoming assessment of stakeholder information needs and to determine which priority product sectors should receive first attention. The results were considered at a Scoping Meeting in December 2009. Product sectors of highest priority were: *children's products/toys, electronics, clothing, construction materials*, food packaging and personal care products from which the former four were selected for more in-depth examination. Case studies were carried out through different institutions and are available at (<http://www.chem.unep.ch/unepsaicm/cip/default.htm>). The case studies were expected to:

- provide reviews of the state-of-the-art for Chemicals in Products information exchange in the sectors (also addressing differences among regions);
- identify the specific needs for Chemicals in Products information of the different stakeholders groups of the selected sectors, map out the information flows in the sector and perform a gaps analysis;
- identify obstacles in providing / accessing information and look for possible actions that could help overcome such obstacles.

8. The case studies used *inter alia* relevant information from the above-mentioned Kogg & Thidell report, from *Toxic Substances in Articles: The Need for Information* by Massey et al., and from *Survey of SAICM Focal Points on the Need for Information on Chemicals in Products* by Becker & Associates. Each case study described in detail the focus of the study, the methodology used and the sources contacted to obtain information. The Executive Summaries of the different case studies are annexed to the current report.

9. As a part of this study phase a small Sector-expert Consultation for the Chemicals in Products Project was held on 9-10 December 2010 for discussions between the individual institutes and sector-experts. The goals of the Consultation were:

- to share the collective research results of the institutes as the case studies neared completion;
- to exchange experts' experiences and knowledge from the different sectors on product chemical information;
- to identify critical issues with regard to exchange of information on chemicals in products, especially on the data provider's side; and
- to discuss possible measures or options that could help overcome obstacles for providing information.

10. The report of the Consultation can be found on the project website (<http://www.chem.unep.ch/unepsaicm/cip/default.htm>) and the main outcomes are included in the general conclusions at the end of the current report.

Introduction

11. The current report aims to provide a synthesis of the principal findings related to information systems on chemicals in products from the activities referred to above and in particular the four sector case studies and the Sector-expert Consultation, to identify some common concerns as highlighted by those case studies and to suggest a way forward for the project.

12. Providing appropriate and complete information is a very challenging task given the various needs of the stakeholders along both the production chain and the product lifecycle. These range from meeting regulatory requirements, occupational health and safety, environmental and public health considerations, public health protection, end-of-life treatment and waste management. Each of these

aspects might be covered within each stage of the production chain hence the information transmitted must be user-friendly for each of the stages.

Identification of Stakeholders

13. The Kogg & Thidell report notes that stakeholders in all countries and at all points along the supply chain and lifecycle of a product perceive a need for information on chemicals in products. Further, stakeholders outside the actual value chains also need information, which includes policy makers, government agencies and non-governmental organizations. Information needs are generically described in the report and include:

Producer related information to enable traceability of products and also to ensure an ability to monitor and enforce compliance with customer requirements, regulations and liability.

Chemical related information including the content of chemical in the product and any potential hazards and risks association with that content.

Information needs regarding precautions for safe use, handling and disposal including issues related to storage, accidents, exposure, injury, recycling, remanufacturing, reuse and producer take-back schemes.

Categorization of information systems

14. The Kogg & Thidell report describes four different categories into which different systems of information exchange fall: within the production chain, from producer to consumer, from producer to end-of-life and from external stakeholders to consumers and the general public. Few systems convey information on chemicals in products from actor to actor throughout the supply chain. Consumers and end-of-life actors rarely have automatic access to that information however, such information could be made available to them. Producers might provide limited information to concerned consumers but that information might not cover the entire supply chain. Systems to provide information on product disposal from producers to end-of-life actors are usually simple and easy to use, consisting of symbols or short messages and sometimes indicating special treatments for selected products. These provide instructions on how to handle the product as waste, but usually do not transmit chemicals content information. External stakeholders, primarily non-governmental and private organizations, often have affiliated expert panels that gather and evaluate information, sometime even taking actual measurements on the products and providing that information to consumers and the general public.

Driving forces and stakeholder needs for exchanging information on chemicals in products

15. Meeting the requirements of regulation and product safety have been principal drivers to the development of existing information systems related to chemicals in products. Other driving forces include consumers and public interest groups who are increasingly concerned to have safe products both for human health and the environment and the media who are quick to spotlight any real or potential problems. Larger industry groups are concerned with health and environmental issues – not the least for good public relations - and keen to avoid adverse press and recalls, and are stepping up their product control actions to avoid such situations.

16. Information needs of stakeholders are very diverse and reconciling the need for a harmonized and user-friendly system with the need to adapt that information to different stakeholders is a challenge.

17. Government stakeholders state key needs for information that assist in their mandates for risk reduction from hazards to public and environmental health, scientific data for setting public policy, and compliance with international rules and treaties. In addition, government respondents have complex needs for chemical information for a variety of reporting needs. To meet any legal requirements or indeed to enact law that might protect human health and the environment governments must have the appropriate information on products even if they are not involved in the manufacturing process or not directly responsible for placing goods on the market. Governments are faced with multiple compliance issues such as ensuring proper occupational safety and health measures are in place, that only permitted chemicals are in use and that appropriate pollution control measures are used; ensuring the traceability

of products, proper labelling and product control; safe use for consumers; import of approved products; and exchange of information with other governments or international bodies.

17. Manufacturers are the first actors in the value chain that need to collect/transfer information on chemicals in their products be it upstream from their component suppliers or to pass on that information downstream to the next actor along the chain. They can affect change by insisting that chemical information is provided to them at the cost of changing suppliers. Larger companies purchasing high volumes or high values from a supplier will often get fast and clear replies to information requests; their suppliers see the value in investing to understand and respond to those requests to ensure retaining their customer. The larger manufacturers also often have full control over design, production and distribution and can exert pressure along the production chain to ensure provision of information on chemicals in products. Small manufacturers may face challenges in obtaining information and then verifying the claims their suppliers make about the content of materials. Some manufacturers interact mainly with the actor adjacent in the supply chain. Many do not have the necessary resources to verify the quality of data they acquire from suppliers, and, as well, many suppliers may not have the capacity to generate the desired data. Of note are that some manufacturers indicate that they try to stay ahead of global regulations and voluntarily restrict chemicals they expect will be regulated in the future. This proactive rather than reactive attitude makes good business sense and provides benefits at the market place.

18. Chemical manufacturers often provide directly to their customers information on their chemical products, although it is not clear how far down the supply chain this information might travel. The information provided by the chemical manufacturers should follow the criteria of the Globally Harmonized System for Classification and Labelling of Chemicals (GHS) and provide safety data sheets (SDS). Chemical manufacturers cooperating in the International Council of Chemical Associations (ICCA) has developed a database for public access including such information for their chemical products (today it contains information on over 1400 chemicals). Some chemical producers also have websites that customers can access for specific information on the chemical products they purchase.

19. Distributors and brand-name companies involve importers and delivery operators who disseminate manufactured goods to retailers or a point of sale. National chemical legislation can also govern what products are allowed for import in a country hence distributors must be aware of what chemicals are contained in a product they are importing or wishing to place on the market. Legislation typically also lays responsibility with the company that places a product on the market hence retailers and distributors need information on chemicals in products from the value chain. Responsible stakeholders can make active efforts to retrieve the information out of their supply chains. This can be considered part of due diligence and corporate risk management that accompanies sound business practice.

20. The consumer has been a driving force in the provision of information on chemicals in products. Typically, the consumer is not so much interested in specific chemical information but needs assurance that the product is not harmful and/or is handled in ways to avoid risks to human health and the environment – for example how to dispose of a product for proper waste handling. Public interest groups also drive demand for information on chemicals in products. Provision of specific chemical information to such groups can benefit the average consumer as the information can then be made available through public interest groups and the media within a more easily understood context. As consumers become increasingly aware of the dangers associated with certain chemicals, for example allergens, endocrine disruptors and carcinogens, more information is being sought by the discerning consumer to enable informed choices on which products to buy.

21. Stakeholders involved in the end-of-life of a product have a need for information for various reasons. End-of-life products can be reused, dismantled, recycled and finally will be disposed of by some method. The type and content of chemicals in the product can influence the way it is handled, if the recycler is aware of such information. It is clear that in many instances activity at this stage of the lifecycle of a product is being undertaken in developing countries (and frequently in the informal sector) where workers might have limited understanding of the implications of handling products with chemicals in them even if they did have access to such information. The responsibility lies with stakeholders further upstream in the production chain to ensure information is provided in a useful and easy to understand manner. In many situations the informal sector has to contend with a lack of

information on how to best dispose of or handle an end-of-life product. However larger formal waste management facilities also require information on chemicals in products in order to manage the waste in a safe and environmentally sound manner.

22. Certain stakeholders have external influence on whether manufacturers might modify chemical composition in a product. These include third party testing firms or independent laboratories that conduct chemical testing on behalf of another entity. Industry associations can also provide a resource for firms lacking chemical expertise and influence members to comply with information requirements.

23. Each stakeholder has a responsibility to pass on information to the next stage downstream. As mentioned before when a company has several of the players along the value chain within its purview it is easier to ensure that chemical information is passed along that chain, the company itself guiding the required flow of information up or down the chain. Larger companies have the means to test for chemicals within their materials and products and to train personnel in collecting that information.

Special concerns of developing countries

24. The majority, if not all, of the current systems for information on chemicals in products have been developed through initiatives of stakeholders in developed countries and often driven by their need to meet with legislative requirements. These have an impact on developing countries, especially in the production chain, and will increase in parallel with the trend to outsource manufacturing of products to developing countries. Developing country producers will be faced with the challenge of putting in place the financial and human resources necessary to comply with foreign market requirements. At the same time, developing country governments might face similar challenges when developing national legislation for protection of human health and the environment and as they become increasingly aware of the problems associated with chemicals in products. This increasing awareness is attested to by the results of the SAICM survey of stakeholder's priority concerns that showed that information on chemicals in products and associated capacity building is required in developing country regions.

25. Currently interest in obtaining information on chemicals in products is skewed towards developed countries however local public interest groups appear to be stimulating increasing awareness of environmental and human health issues in consumers of developing countries and countries with economies in transition. That in turn will affect to what extent developing countries and countries with economies in transition wish to adhere to or develop their own information systems on chemicals in products, nationally, regionally or internationally. In developing countries lack of capacity to test, monitor and control products results in little knowledge on chemicals in products although efforts were sometimes being made to develop control methods and legislation that might promote such knowledge.

Value chains

26. The product and the process generally follow similar steps throughout the lifecycle or the production/supply chain as follows:

Product lifecycle: raw material, processing, component manufacturing, packaging, distribution, consumption/use, disposal/recycling/reuse.

Product chain: raw material, chemical manufacturer, component manufacturer, product manufacturer, distribution/retailer, consumer, waste handler/recycler.

Supply chain: series of suppliers, usually upstream, that produce individual components that are combined to produce a final product.

The principle difference lies in the interaction between the different entities in the product/supply chain, which are both horizontal and vertical and that eventually result in the final product, as compared to the product lifecycle itself, which is usually linear. An exception to that would be reuse or recycling of the product on reaching the disposal phase, which can be true for either chain. While these chains are described quite simply from each stage to the next it is clear that within each stage there can be several entities that might need to interact with each other and similarly, depending on the production process or the product being manufactured, there might be a need to move back and forth

between different stages. The complexities of these chains are described in more detail in the Kogg & Thidell report. When considering the requirements for provision of information on chemicals in products for all of these stages and stakeholders one can begin to glimpse the intricacies of developing such information systems.

Legislative guidance

27. In the following paragraphs a short description is given of the principle legislative guidance referred to in the case studies. Where the same legislation is referred to in several sector studies these have been drawn out and included in a general section as they may be considered guidance for provision of information on chemicals in products in any sector. This should be illustrative and is clearly not an exhaustive list.

General controls

28. Legal requirements such as that of the European Union's Registration, Evaluation, Authorisation and Restriction of Chemical substances (REACH) that entered into force on 1 June 2007 promotes meeting the requirements for information. The aim of REACH is to improve the protection of human health and the environment through the better and earlier identification of the intrinsic properties of chemical substances. REACH obliges manufacturers and importers of all chemicals produced or imported in volumes above one metric tonne per year into the European Union market to register these, as well as provide basic information on their intrinsic properties. The information requirements increase with the volumes of the registered chemical. Furthermore, REACH identifies and controls the use of substances of very high concern, through its Authorisation system as well as through Restrictions. REACH has also established provisions on data sharing, through its publicly available database, as well as through mandatory flow of information on the presence of chemicals in the supply-chain as well as the intrinsic properties of these chemicals. Any supplier of a product also has an obligation to provide information concerning the presence of certain substances of very high concern in products to their professional customers and on individual requests also to consumers. The REACH regulation gives greater responsibility to industry to manage the risks from chemicals and to provide safety information on the substances. Chemical manufacturers and importers are required to gather information on the properties of their chemical substances, which would allow their safe handling, and to register the information in a central database. Retailers or importers who place products on the European Union market are obliged to ensure that they meet the requirements of REACH regarding certain restrictions and information requirements regardless of where their suppliers are based. Several product specific regulations exist in the European Union and prohibit or restrict the presence of certain chemicals in products being placed on the European Union market and for which information on the chemicals present is vital. These are identified within the sector case studies.

29. California Proposition 65, among other obligations, requires business to notify the people of California about significant amounts of chemicals in the products they purchase and currently covers a list of approximately 800 chemicals. The United States Consumer Product Safety Improvement Act (CPSIA) sets levels for lead in paint (printing on clothing). Similarly the United States Interstate Mercury Education and Clearing House (IMERC) requires producers of articles containing mercury to report that fact on a dedicated website.

30. The Japan Green Procurement Survey Standardization Initiative (JGPSSI) has co-formulated Guidelines for the Management of Chemical Substances in Products on the initiative of the industries concerned. These guidelines provide methods of sharing information on the chemical substances contained in products throughout the supply chain that would be required to comply with REACH.

31. The Japanese Law for the Control of Household Products Containing Harmful Substances provides for responsibilities of manufacturers and importers to secure safety of household products; those entities must, inter alia, study the chemicals that are contained in household products. The Japanese Act on the Evaluation of Chemical Substances and Regulation of their Manufacture includes a labelling requirement for products that contain certain chemicals.

Textiles

32. The European legislation in REACH (Regulation (EC) No. 1907/2006) contains information

disclosure provisions in relation to specific substances of very high concern (SVHC) many of which are relevant to the textile sector's different materials.

33. Numerous chemicals used in textiles processing are subject to European Union regulations. Examples are those regulations governing flame-retardants (emergency Decision 2009/251/EC and Decisions 2006/122/EC, 2003/11/EC, 2002/61/EC) or Directive 96/74/EC (and amendments) covering the fibre content naming and labelling requirements for textile garments.

34. The European Commission Decision 2002/371/EC established the European eco-label or the EU flower targeted at textiles, primarily clothing, and contains strict restrictions on chemicals that may be present in these articles as well as those that may be used in processing or as residue of impurities.

35. Some developing countries have more recently also developed special controls for chemicals used in textile products, for example China that has a Code limiting the content / banning some chemicals in textiles intended for babies, textiles intended for skin contact and textile not intended for skin contact. Kenya and Cameroon also have measures which restricts the presence of hazardous materials in textile products.

Toys

36. The world's largest toy markets have the more stringent toy safety regulations. For regulation of chemical content specifically, however, the scope has recently started to expand to address a larger number of chemicals. The new Toy Safety Directive of the European Union, that for example now includes fragrances, illustrates this shift. For the majority of other countries standards for chemicals apart from selected phthalates seem to be voluntary in nature. In some developing countries toy standards for domestic manufacturers are voluntary and in others non-existent.

37. Toys must comply with regulations that apply to many products. Determining which regulations apply depends very much on the intended use of the toy and the materials it contains. Within REACH for example, some substances are restricted for use in toys generally, while other substances are restricted for use, for example, in wood; the obligations for a wooden toy would differ from those for a textile toy. Regulations differ among the largest toy markets in terms of chemicals and allowable thresholds, as does scientific opinion on non-regulated substances. Achieving compliance and indeed working to go beyond compliance is complex even for scientific experts.

38. The new European Union Directive on Toys (Directive 2009/48/EC) that enters into force in 2011 (the chemical-content component of the Directive is to come into force in 2013) will govern and control risks of chemicals contained in toys being imported into and marketed in the European Union. The Directive requires technical documentation (including Safety Data Sheets which are to be collected and saved) and also that some allergenic fragrances must be marked on the products. The responsibility lies with the toy manufacturers and importers to ensure that the chemicals in the products they place on the European market meet the requirements of the Directive.

39. The Toy Safety Certification Program (TSCP) applies to toys that are produced for sale in the United States. The Toy Industry Association (TIA) initiated the public-private partnership and has the final responsibility for its administration. Producers are responsible for meeting the basic requirements of the programme which are to perform: 1) hazard analysis and/or risk assessment for toy product design, 2) factory process control audits and 3) production sample testing to validate that the factory is producing toys that meet the requirements of the Consumer Product Safety Improvement Act (CPSIA). The chemical risk is part of the overall assessment, in particular for lead, some other heavy metal, phthalates and other substances. The products or packaging may bear a toy safety mark. TSCP is designed to be an open and global system allowing any qualified organization worldwide to become accredited to be a toy certifying body, a factory process auditor and/or a qualified testing laboratory.

40. National non-governmental entities have also put in place guidance, websites and information sources based on information collected on chemicals in products. Some examples detailed in the case study are GoodGuide (United States), Healthy Stuff (United States) and Arnika (Czech Republic).

Electronics

41. European Union legislation has had an impact on how information on hazardous substances is generated and shared and similar regulations have been developed in other regions.
42. The European Union Directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE) imposes extended producer responsibility for a broad range of electronic products. It mandates producers to disclose information needed for end-of-life treatment. Producers must provide reuse and treatment information for each type of new equipment within one year of entry onto market. The information covers components and materials, as well as the location of dangerous substances and preparations in the product. The WEEE symbol must be placed on the relevant equipment informing consumers not to dispose of the product as unsorted municipal waste but to collect it separately. There are no specific guidelines on what information to include; rather it is driven by the needs of different recycling facilities.
43. The European Union Directive 2002/95/EC on the Restriction of Hazardous Substances (RoHS), restricts the use of six hazardous substances (lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls, and polybrominated diphenyl ether) in the manufacture of various types of electronics.
44. Voluntary certification systems in the United States such as the Responsible Recycle, R2, Practices and the E-steward Certification have been introduced to ensure the responsible recycling of electrical equipment and electronic devices. To comply, recyclers will have to increase their efforts to stay informed of the changes in composition of products and to develop appropriate and safe treatment methods. Goals include environmental worker health and safety, downstream tracking of materials, promoting re-use of materials and ensuring appropriate management at end of life. The standard Electronic Product Environmental Assessment Tool (EPEAT), a labelling scheme that currently covers only computers, includes criteria related to information disclosure for safe end-of-life treatment. These systems though developed nationally are international in their reach.
45. The Japanese industry Joint Article Management Promotion-consortium (JAMP) has developed an information system that facilitates the management of information on chemicals in the upstream part of products' lifecycles. JAMP uses JAMP Material Safety Data Sheets/plus for the purpose of information control in the upstream and midstream processes concerning substances and preparations contained in the products. An Article Information Sheet (AIS) is used for preparations in the downstream processes. The JAMP-Global Portal offers a means to share compiled chemical substance information between upstream, midstream and downstream parts.
46. In response to the Home Appliance Recycling Law, the Association for Home Appliance Recycling and other related organizations in Japan have established a system of assigning recycling marks that, through labelling, indicate the information on chemical substances used in the products and information on their disassembly. Similarly "J-Moss" communicates information provided from the downstream part of the supply chain to the consumption stage and then to the recycling chain. When the content of a specified substance in a product is at a level beyond the set criteria, a "containing" mark shall be indicated on the product, and the manufacturer shall provide information on the parts containing the substance, the level of content, and other factors on its website. Several other initiatives in Japan are described in detail in the case study.
47. South Korea has recently introduced legislation that is similar to the WEEE Directive containing similar information sharing requirements. The government also introduced the Act for Resources Recycling of Electrical and Electronic Equipment and Vehicles aimed at the effective utilization of resources and the sound management of valuable substances, and includes an environmental quality assurance system. The assurance system targets the systematic control of information on valuable substances and hazardous substances. The underlying information control and operational system is called the Eco-Assurance System.
48. In China the government has enacted laws regarding Administration on the Control of Pollution Caused by Electronic Information Products (China RoHS) in response to the RoHS Directive, and the Administration of the Recovery and Disposal of Discarded Electronic and Electrical Products (China WEEE) in response to the WEEE Directive, followed by a related technical ordinance, the Technical

Policy for the Prevention of Pollution from Waste Electrical and Electronic Equipment.

Building materials

49. Regulations affecting this sector include the European Construction Products Directive (Council Directive 89/106/EEC), voluntary agreements such as that of the United States preservative manufacturers voluntary agreement to ban the production of chromated copper arsenate-treated wood for most residential uses, market-driven certification and standards programs such as the Building Research Establishment Environmental Assessment Method (BREEAM), the Leadership in Energy and Environmental Design (LEED) system, and the Comprehensive Assessment System for Building Energy Efficiency (CASBEE). In addition, public databases developed by government and environmental organizations, such as BASTA and Pharos, are helping to improve availability of information about chemicals in products. The International Standards Organization declaration, ISO 21930:2007, for “Sustainability in building construction – Environmental declaration of building products” establishes a methodology to ensure transparency in developing environmental product declarations for building products.

50. While these regulations and agreements enhance the potential for collecting and exchanging information on chemicals in products, there are still information gaps and needs going unfilled.

Information systems relevant to chemicals in products

51. The systems described below are drawn principally from the case studies. Within the case studies themselves they sometime serve solely as examples. The section aims at providing illustrative examples of existing information systems that have relevance to chemicals in products and is not meant to be exhaustive. It describes more general findings and types of systems as well as systems that are more common to all or many sectors and findings specific to individual sectors studied. In some instances information systems may span several countries and continents but for the most part they are still limited to a number of different systems or lists of controlled/restricted substances in different areas with little or no standardization or harmonization.

General findings

52. While currently there is no single global information system for management of information about chemicals in products, the Globally Harmonized System for the Classification and Labelling of Chemicals is an international standardized system for communicating chemical hazards. It addresses classification of chemicals by types of hazard and proposes harmonized hazard communication elements, including labels and safety data sheets. Its limiting factor is that it applies solely to chemicals and chemical compositions and not to products in general.

53. Chemical companies and associations voluntarily provide information about substances that are marketed to the public on the Global Product Strategy (GPS) chemicals portal. The portal was launched by the ICCA in 2010 and contains more than 1400 chemical safety summaries. The data are presented in a user-friendly format and information on use and potential exposure is included. In this regard, information on the chemicals portal is a complement to Material Safety Data Sheets.

54. The European Union RAPEX alert system was noted as a means for alerting governments and consumers to products that were not in regulatory compliance and that had been identified to be of risk due to chemical content or other consumer or environmental concern. RAPEX is a rapid alert system for all dangerous consumer products, with the exception of food, pharmaceutical and medical devices. It allows for the rapid exchange of information between European Union Member States via central contact points and the European Commission regarding measures taken to prevent or restrict the marketing or use of products posing a serious risk to the health and safety of consumers. Both measures ordered by national authorities and measures taken voluntarily by producers and distributors are covered by RAPEX.

55. Material Safety Data Sheets (MSDSs) are a good source of information on, inter alia, chemicals in products, where they exist. However these safety data sheets are not always passed along the entire supply chain as is done, for example, in the automotive industry, as they are not requested or because they are considered too technical. MSDSs also have a set format for presenting data and are perhaps

not suitable for providing to some target audiences the information they contain. The chemical industry is beginning to develop safety summaries intended as an additional source of information on chemicals that is more user-friendly than the voluminous material safety data sheets. Material Safety Data Sheets are not considered to be comprehensive and may vary according to local regulations. Their use is also hampered by information gaps related to proprietary data.

56. The International Material Data System (IMDS) is another sound example of a system for information on chemicals in products that has been developed by the automotive industry initially in response to the European Union Directive 2000/53/EC on End-of-Life vehicles. It is a collective, computer-based material data system used primarily by original automotive manufacturers to manage environmentally relevant aspects of the different parts used in vehicles enabling them to reconstruct the complete material flow throughout the entire lifecycle of the vehicle. Documentation of compliance in answer to legal requirements is used for transferring information and in many cases this is the only information players are transferring along the supply chain.

57. Restricted Substances Lists are aimed at preventing the inclusion of certain substances in a given product or process and do not indicate what chemicals are actually present in the product. A supplier is provided with such a list and must assure his buyer that the substances on the list are not contained or not exceeding a certain threshold limit in the product he is supplying or must confirm that he will substitute the chemical of concern by a given deadline. Such lists are mostly company or individual product specific and a variety of lists therefore exist which can make it very complex for suppliers to implement. The downside of relying on a restricted substance list is that when new substances are regulated such a list does not allow a manufacturer to quickly identify whether that substance is in a given product which a positive information system, providing information on what chemicals are in the product, would. Restricted substances lists were noted for all sectors. A detailed description of how some of these lists function is given in the case study on electronics. Some companies have restricted substances list that they use to ensure legal compliance. In addition restricted substance lists are used to manage non-regulated substances. This may include identifying the presence of substances of emerging concern.

58. Environmental Product Declarations and Eco-labels, in contrast to restricted substances lists, provide information to the consumer or purchaser that the product adheres to the legal / environmental requirements that the label or declaration represent.

59. An Environmental Product Declaration is a Life Cycle Assessment (LCA) based tool to communicate the environmental performance of a product or system. The procedure builds upon existing standards developed by the International Organization for Standardization (ISO) and provides information about the environmental impacts associated with a product or service, such as raw material acquisition, content in terms of materials and certain chemical substances, energy use and efficiency, emissions to air, soil and water, and waste generation. It also includes product and company information. Certified Environmental Product Declarations are open for all products and services. There is no evaluation of the environmental information since no predetermined environmental performance levels are set but it is built on well-structured and quantitative data certified by an independent third party. Environmental declarations are primarily intended for use in business-to-business communication, but can also be used in business-to-consumer communication.

60. A wide variety of eco-labelling systems have been developed, in part to compensate for the lack of internationally standardized information systems. Eco-labels are a voluntary system and typically do not contain specific information on the chemical content of a product but might indicate what the article does not contain. Several types of eco-labels exist: those that indicate overall environmental preferability of one brand of product within a product sector and is based on life-cycle considerations; those that are self-declarations by manufacturers that mostly apply to a single attribute of a product; and those that provide quantified environmental data of a product under pre-set categories of parameters (including absence of or within specified limits for certain chemicals) set and verified by a third party and based on a lifecycle assessment.

61. There are cases where brand owners require full disclosure of all chemical substances in their product(s). One example of a positive list approach is found at Interface Corporation (described in more detail below). An example of a standard format that could be used for full disclosure is the

Institute for Printed Circuits (IPC)-1752 (Materials Declaration Management) allowing companies to receive and provide full materials disclosure data using one common system.

62. Many of the waste-related policies introduced over the last few years are based on the principle of extended producer responsibility. The producer responsibility can also include a requirement for the manufacturer to disclose information needed for safe use, handling, recycling and disposal. This makes producers responsible for providing information on the product or its effects at various stages of its life cycle and could thus include information on chemicals in products such as hazardous material contained or risk management measures.

63. Public databases include published lists of information regarding chemicals in general. These may include any regulatory lists of hazardous chemicals or those of concern often referenced by product-specific databases. These lists are mostly produced by government agencies, industry associations and public interest groups and are made publicly available.

Textiles

64. In the textile sector many forms of labelling exist but few are related to chemical information. Some major import markets require labelling of fibre content and sometimes care instructions of their textiles and garments. The sector is known for company specific restricted substances lists applicable to the company's suppliers. Companies obtain information from their suppliers and manufacturers upstream; when they put in the effort to get the information, they "pull" the information they need.

65. Oeko-Tex® Standard 100 is a label of the International Oeko-Tex® Association that tests and certifies textiles for environmental and safety performance. Verification testing can be reduced when the manufacturer can supply reliable information on the composition of chemicals entering the production processes (e.g. they are using certified process chemicals). Another example of labelling that follows the restricted substances list approach of confirming that products are not containing certain chemicals is the Eco-label or the EU flower, a system of indicating that a product meets legal requirements regarding prohibition from use or restriction to maximum levels of certain substances in the final product or process chemicals. .

66. ChemicALL, although not a system providing information on chemicals in manufactured products, was specifically developed to address the needs of designers of textiles and later expanded to other products. It is an information system on what chemicals are used in textiles, the function they bring, what legislative restriction and known hazards are associated with them and on possible substitutes. It is targeted at designers of textile products to assist in making informed decisions and dialogue on chemicals in those products and is a constructive example of an information system for a specific section of the market chain that grew out of specific identified needs.

67. Interface Corporation manufactures carpets in facilities in North America, Europe and Asia and has an Environmental Performance Declaration that accompanies a product and includes many performance and sustainability information. Interface requires its suppliers to submit lists of chemical ingredients for all materials entering the Interface production processes. Non-disclosure agreements ensure confidential information is protected. A positive impact of collecting chemical information allowed for the substitution of problematic chemicals by those of less concern, however information on chemicals in the products were not used to market the products. Interface was examining ways of making their Environmental Performance Declarations more suitable in format and length than the current 20-30 pages but noted the difficulty of capturing all relevant data in condensed form. It was noted that buyers were not usually individual consumers and as such better able to digest the information provided.

68. The Ecological and Toxicological Association of Dyes and Organic Pigments Manufacturers (ETAD) are fully aware of the need for their members to control chemicals in their products. Members are required to test their products and transmit the results to ETAD, which maintains those results as confidential business information. The Association works on the basis of a restricted substances list by ensuring members products comply with relevant legislation, restrictions required for eco-labels and the chemical industry's Responsible Care initiatives.

69. TrueTextiles, a United States manufacturer producing furnishings, has instituted an internal

company policy of environmental performance for their products including a requirement that all suppliers of raw materials disclose the composition of their materials. The system includes a method to compare the material composition list against a company “acceptable” (ed.) list and for them to accept or reject the raw material accordingly or, on occasion, to substitute to a chemical of less concern. Suppliers adhering to the system do so with the knowledge that their composition list or proprietary information is securely protected by TrueTextiles.

70. One company (Patagonia) has developed a website that allows users to scan through the product line and review the characteristics of some of their products including chemicals content. Another company (Switcher) has a product information disclosure scheme called Respect Code in which manufactured products are labelled with a code unique to each production batch. The code is linked to a website that allows the user to access information on the given product along the entire lifecycle, although currently there is only limited chemicals related data.

71. As mentioned before, information on chemicals that are not contained in products is most often governed by restricted substances lists. An example described in detail in the case study is from the American Apparel and Footwear Association working with the Apparel and Footwear International Restricted Substances List Management Group. It was noted that significant and sustained efforts were necessary to ensure a company implements a restricted substances list throughout the supply chain.

Toys

72. While there is no one system used in the industry, information on chemicals in toys is exchanged in a number of ways, each of which could be considered an information exchange system. The most prevalent is information flowing between direct trading partners on the basis of restricted substance lists or according to requests for product composition or “recipes”. The next most prevalent is information flowing from external stakeholders to consumers, via product guides or compliance alert systems. Lastly, manufacturers provide consumers with information via product labels. The use of labels is highly prevalent if it indicates regulatory compliance (for example the CE mark in the European Union or the Etiquetado de Juguete in Mexico) but is nearly non-existent for voluntary eco-labels.

73. The Chinese toy-manufacturing sector is of special relevance for the entire toy industry with an estimated 2700 companies in 2008. Communication between China and their business partners in the rest of the world influences how information is exchanged in the toy sector. The case study noted that following toy recalls in 2007 the Chinese authorities invested in product safety measures and currently operates a system of toy export control, RAPEX-China, intended to assist Chinese manufacturers who currently do not have up to date, detailed knowledge of toy safety regulations. The Chinese authorities (AQSIQ) are supplied with information on consumer products originating from China, which have been identified as dangerous and consequently banned or withdrawn from the European market by the authorities of the Member States, and notified by these to the European Commission via the European RAPEX System.

74. While information may not flow uninterrupted from player to player in the supply chain, it is commonly generated by toy testing conducted by suppliers or manufacturers either through in-house laboratories or those of third parties. Some information systems were identified that covered parts of the supply chain. In addition to the restricted substances lists described in the general part above, some toy companies request information on product (or material) composition, recipe requests, used to design product testing or in their own risk assessments.

75. Consumer associations, non-governmental organizations and some companies operate various product guides, including Good Guide, Healthy Stuff and Stiftung Warentest although these are not only limited to toys. Information is targeted at interested consumers and disseminated through web sites or magazines. Products are assessed against standards developed by the programme operators. These databases or catalogues are usually initiatives with national outreach. There are also websites giving consumers guidance on chemicals in toys such as Toys Advice in the United Kingdom and an Australian government programme on product safety.

76. Toy manufacturers can use declarations to prepare their regulatory compliance documentation and in some cases may use such declarations to ascertain the use of other, non-regulated substances in

their toys. There are also other management measures to control chemical compliance information, such as databases on material stock-holding to trace any contamination of materials and consequently of toys. There are currently two pilot projects on using traceability systems for toys and the industry is also looking into systems to support new technical documentation requirements in the new European Union Toys Safety Directive.

77. Both Manufacturers and importers need to obtain compliance documentation and test results from manufacturers and sometimes also from pre-manufacturers, as they are responsible for demonstrating compliance to the authorities. Manufacturers also use information on chemicals potentially contained in toys to assess risks. Some manufacturers use information on chemicals to establish a database of approved materials.

78. Labelling schemes exist in the toy sector principally aimed at indicating product safety. Criteria can include product safety beyond toy regulation (GS label, Lion Mark), environmental concerns (eco-labels like Nordic Svan, Blauer Engel, not only limited to toys) or general toy quality including pedagogics, aesthetics, environment and safety (Spiel Gut). There are also voluntary eco-labels but of limited scope such as the Nordic Svan toys standard that lists a total of 4 products certified from 1 company. Two different approaches may be distinguished in labelling schemes. Firstly a mass market approach with information that confirms the toys comply with legal requirements and secondly an elite solution with information that confirms products comply with additional rules, either in terms of safety or in more general environmental criteria. Labelling schemes are often country specific initiatives.

Electronics

79. There are overarching, industry-wide systems developed to facilitate exchange of information in this sector that are international in scope. In addition, regional and national rules and policies regulate the flow of information on chemicals in electronics. However, as many companies feel that these systems are not sufficient to meet their particular information needs, they often develop their own approach, complementing the joint industry systems and regulatory frameworks with internal systems that include substance restrictions, information exchange and supply-chain management

80. The Joint Industry Guide (JIG) is a material declaration standard developed by and for the global electronics industry. It is a business-to-business communications tool that applies to products and subparts relevant for manufacturers in the electronics industry with the aim of facilitating reporting on material content information across the global electronics supply-chain. JIG lists materials and substances that may be present in the supplied electronic products, insofar as those chemicals constitute part of the finished product or subpart. The chemicals included are those that are subject to regulatory or market requirements. The guide lists substances for disclosure, threshold levels, regulatory requirements that establish those levels and a set of data fields for information exchange.

81. The Institute for Printed Circuits (IPC) is a global trade association servicing printed circuit board and electronics assembly industries. IPC-1752 (Materials Declaration Management) establishes standardized material declaration forms and electronic data exchange formats for the industry allowing companies to receive and provide full materials disclosure data using one common system. The system was originally developed in response to the European Union regulation on RoHS.

82. The International Electrotechnical Commission (IEC) is the world's leading organization for the preparation and publication of International Standards for all electrical, electronic and related technologies. Adoption is voluntary, although the standards are often referenced in national laws or regulations around the world. IEC is developing a material declaration standard that is based on the JIG and the IPC data exchange format.

83. The case study noted that consumers were often made aware of health or environmental concerns associated with electronic products through the media, more specifically electronics magazines. In addition, environmental excellence schemes such as the European Union Eco-label may provide a useful "shortcut" for consumers to make informed product choices. The appropriate eco-label on a given product will signal to consumers that they do not need to look for information about possibly hazardous chemicals in the product. However, there are concerns related to the current widespread problem of green washing, which can make a dependence on eco-labels less than reliable for identifying products without chemicals-related environmental or health concerns.

Building materials

84. There are many existing channels for information provision and use related to chemicals in building products, which provide a great deal of data. Including materials safety data sheets, public databases that often include restricted materials listings, information clearinghouses, standards and certifications, reporting initiatives, and trade association information. The proliferation of green building standards and certifications is providing a strong market incentive for manufacturers to offer more transparent information about their products, and the growing numbers of green building councils in countries around the world have the potential to provide a platform for the dissemination of better information on chemicals in products. A majority of stakeholders depend upon Material Safety Data Sheets as a primary information source.

85. In this sector, one set of standards certifies buildings through an assessment of various aspects of a building's sustainability. These standards generally address information on chemicals in products through a prescriptive approach in which certain chemical contents in materials are restricted or discouraged. Another type of standard or certification looks at individual building products to determine properties based on a predetermined set of parameters. Companies may then use the certification status as a way to validate claims about a product, and certifying organizations often provide a publicly available listing of all certified products. These types of certifications do not generally publish specific information about a product's contents, but limit reported information to a pass/fail approach.

86. Reporting initiatives include guidelines that are published to standardize the way in which information is conveyed or steps taken voluntarily by product manufacturers to disclose information on chemicals in products. Voluntary steps can take the form of an internally generated product data sheet or sustainability report. This information is most often made publicly available through a specific manufacture's website, and is limited to the level of information a company chooses to disclose. This system may not be specific to building materials.

87. Pharos is a web-based tool that seeks to provide transparent information and access to health and environmental data about the manufacture, use, and end of life of building materials and is targeted at building professionals involved in the specification and procurement of building materials but can be used by anyone who registers as a member of the system. It considers product impacts to human health and the environment as well as social and economic impacts.

88. BASTA is a non-profit database jointly owned by IVL Swedish Environmental Research Institute and the Swedish Construction Federation. It is free and publicly available with the goal of speeding up the phasing out of hazardous substances in construction materials and is focused on environmental and human health impacts. A product or material is included in the BASTA database once the product supplier performs a self-assessment of the material proving it meets BASTA criteria. The material supplier is responsible for declaring the chemical composition of the product. Suppliers must provide supporting documentation for the self-assessment.

89. The United States Green Building Council is a non-profit organization that addresses building products and alternative green building products and practices, primarily through LEED (Leadership in Energy and Environmental Design), an internationally recognized green building certification program. LEED assesses materials and resources from an ecological point of view. It is primarily geared toward building professionals, including architects, real estate professionals, facility managers, engineers, interior designers, landscape architects, construction managers and lenders. LEED 2009 offers several credit paths that address chemicals in materials in indoor air quality, flooring and wood and agrifibre products. Methods for addressing these chemicals include prescriptive guidelines for material selection as well as indoor air quality testing. Additionally "Pilot Credit 11: Chemical Avoidance in Building Materials" has been launched addressing chemicals of concern in building materials and includes a comprehensive evaluation of all interior finishing materials.

90. The European Plastic Pipes and Fittings Association (TEPPFA) is the European partnership of manufacturers of plastic pipe systems used in building, infrastructure and civil projects. TEPPFA plays a coordinating role in preparing its industry members for REACH legislation, supporting and providing guidance on new regulations of chemicals and their use in building products. Perhaps most importantly

for information on chemicals in products, TEPPFA has commissioned independent lifecycle assessments of several applications of plastic piping commonly used in building projects.

91. The Council of European Producers of Materials for Construction (CEPMC) is a European confederation of national umbrella organizations having a large number of national associations, which cover various types of construction materials and building products. CEPMC monitors European legislative, administrative and economic measures affecting the construction materials and building products industry and represents its membership's interest in the legislative process and has developed position papers such as "A harmonized approach relating to dangerous substances under the Construction Products Directive" and "Development of horizontal standardized assessment methods for harmonized approaches relating to dangerous substances under the construction products directive".

General obstacles to developing information systems

92. The complex and sometimes vast mix of ingredients within a given product exacerbates the difficulty of providing information. Such ingredients may be introduced at the beginning of the product manufacture from raw material providers or chemical suppliers and could be eliminated through the process of manufacturing at different stages or might incrementally accumulate in the product to remain with it throughout its lifecycle. Contamination of products might also occur. Complex mixtures of end-of-life materials can hinder safe waste management and disposal. The voluminous amount of information on chemicals in products that can be required for complex products is daunting both for the provider and the recipient. There are, however, private and government supported initiatives to support the private sector with services and information in complying with regulatory as well as environmental standards.

93. The weaknesses or deficiencies of an information flow, even where such an information flow might be initiated or requested, must be recognized. Some stakeholders might be unwilling or unable to collect the necessary information or transmit information they have received. Some might also be confused and overwhelmed by the different information requirements they might have to meet from different producers or manufacturers of the same product. Overcoming such obstacles requires education, awareness-raising and capacity building and the consequent necessary resources.

94. One of the main obstacles facing sound development of information systems for chemicals in products identified in the case studies was a lack of resources. Collecting information requires considerable investment both financial and human to be able to test and identify chemicals used along the value chain and in the final product. The textile case study stated that large companies with substantial restricted substances lists reported staff levels of around twelve persons to maintain those activities. In addition, to ensure the usefulness of the information provided, the system has to be constantly kept up-to-date as, for example, products change in composition, chemicals are restricted or banned and new chemicals introduced, or suppliers are changed. Depending on the size of the companies manufacturing a product, costs associated with developing and maintaining an information system can be considered of lesser priority. To be useful at the end-of-life stage, once information on chemicals in the product is collected there is the added burden of presenting that information in terms that are understood by laypersons in developed countries, developing countries and countries with economies in transition.

95. Another barrier to provision of information on a given product was that of proprietary and confidential business information. While there are several instances where business agreements exist between different entities of the value chain to ensure confidentiality of information exchanged, this seems to be undertaken on a case-by-case basis. Companies might be loath to release specific chemical information, especially at the component level, for fear they may lose their competitive advantage. There has also been some concern regarding the definition of proprietary information as that could, in some instances, preclude the provision of information that has no impact on the market for the product concerned. It can be used as a means to avoid provision of information.

96. A lack awareness of the need to exchange information is an obstacle. This is especially true among stakeholders who have no clear legislative responsibility regarding the chemical content of the finished product. In many instances both up and down the supply chain, stakeholders were unclear on what information was needed and for what purpose, particularly smaller companies who did not always know in what format to provide information and in some instances did not actually have the necessary

information. There is sometimes confusion attached to the type of information required or requested along different levels of the value chain. Language and competency barriers might exacerbate that confusion. The ability to interpret and use information on chemicals is an important obstacle to the flow of, or access to, information on chemicals. This lack of expertise impedes the demand for information and it impedes the supply of information. The case study on toys, for example, indicated that authorities did not have chemicals expertise necessary to know whether compliance documentation was complete and accurate and how to prioritize inspections.

97. The flow of information did not always move through several levels of the supply or production chain. Suppliers several levels upstream can be unaware of what product or application their chemicals are used for downstream. This is particularly true in large and complex sectors such as the electronics sector where many components already made of several different sub-components and substances are combined into one final product. Information flow along the supply chain must also be guided by downstream demand, coming from the brand owners, rather than suppliers. Facilitation of communication between brand owners and recyclers/waste handlers on information needs is crucial in the electronics sector. Communication of information must be an easy to understand format to address the largely informal sector with workers with limited education or organization. The reliability of the data provided sometimes comes into question requiring a need for data verification through testing or other means. That, in turn, puts smaller companies at a disadvantage given they often lack the resources to undertake that verification process.

98. During the consultation held in December 2010, the difference between “pull” and “push” systems of information access and provision, respectively, along the value chain was identified and a flow chart developed to illustrate that effect (see Figure below). It was noted that chemical manufacturers could only push information on chemicals being produced for a given chemical or chemical product/preparation along a limited number of steps down the value chain. Once chemicals were incorporated into more complex materials or components, manufacturers had to compile the relevant information and make it available to the next step along the chain for the information to continue to be available further down the chain. Manufacturers or importers of final products were forced to pull information on the presence of chemicals in their products from up the value chain. Often it seemed, data was simply not passed on or was not requested in between these “pushing” and “pulling” efforts, resulting in a break in the information chain, a form of “silent” area. This might happen at the level of the materials, intermediate or component manufacturer, where information is no longer being submitted or requested and where there is not a legal or market stimulus to exchange the data. It was suggested that in certain instances, where composition did not change in the middle level, information might be transmitted by-passing that level.

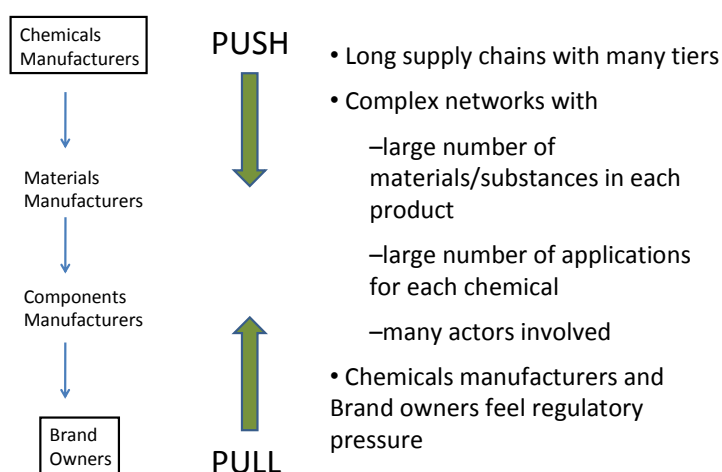


Figure 1: Illustrating efforts to “push” or “pull” chemicals information within the supply chain

99. Government personnel often had little or no information on chemicals in products. It would appear that while in general governments were aware that chemicals in products might pose a risk,

there was a lack of capacity to fully understand the issues and to take informed decisions. Gaps in information can affect government ability to ensure compliance, retailers' ability to ensure product safety and public interest groups' ability to ably inform consumers. It may be considered that lack of a world wide approach to information systems is an important gap. In some instances products containing materials categorized as toxic in one market are shipped to other markets with less stringent regulation. To avoid these cases a global view is important however the development of a single information system is unlikely to suit the different needs of all sectors. Whether information needs were imposed at the regional or the national level the importance of effective enforcement was stressed. To recall here is the GHS system that is expected to be adopted globally, and on which it therefore would be useful to build any future efforts related to information on chemicals in products.

Addressing the gaps and obstacles

100. It might be easier in some instances to take a step-wise approach to developing or improving systems for information on chemicals in products. It can be expected that in the future there will be an increase in the number of chemicals that are considered of concern and that should not be contained in given products. Knowledge of what is contained in a product would ease the otherwise heavy task of ensuring along the entire value chain that each new chemical of concern is not contained in a product. Suggestions to move forward are often built on systems currently in place in developed countries and larger manufacturers, however institutional infrastructures and capacities to exchange and process information on chemicals in products are often lacking in developing countries and countries with economies in transition even when there is an awareness of the issues at stake.

101. The development of harmonized standards and formats is a means to enable faster communication and efficient collection of information. Partnerships between companies and pooling of resources can promote collection of such information. Industry associations are best placed to assist in this domain. For example there could be a shared list of restricted substances that encompasses the strictest regulations worldwide or extends it to include substances not currently regulated. Although sector specific systems might be the most valid path there is merit in enabling cross-referencing for suppliers who are not limited to single sector manufacturers. Permissible or not permissible chemicals are often country specific and difficult to deal with for the global manufacturer. A common standard for chemicals information and information transfer would simplify the process but given the different needs of all stakeholders would probably require large efforts to reach a common understanding. A data pool or global system where companies can easily obtain all the needed and relevant chemicals-related information would be useful in addition to one listing those of concern, in particular for companies with little chemical expertise or other resources. Labels that identify materials meeting certain requirements could be used within but perhaps more importantly outside / after the production chain. It is important to bear in mind that small and medium-sized enterprises are less able to take on board the costs associated with setting up chemicals in products systems. Therefore the GHS and its safety data sheets information should be considered as a basis when developing any system for information on chemicals in products.

102. Suggestions for a harmonized restricted substances list focused around companies declaring that their products did not contain certain chemicals or contained them below acceptable threshold levels. Such a system could be simple and could allow companies to protect their proprietary information. It could also be developed on a global basis or by sector. A single system could avoid confusion over what information to provide and which lists to follow. Finally it could facilitate import/export, transport and, more importantly, compliance and enforcement. A common frustration amongst stakeholders was lack of knowledge about differing reporting requirements across various regulatory platforms that could be addressed by standardized reporting of environmental data.

103. Non-disclosure agreements are a means to overcome concerns on confidential information sharing. Additionally, third-party expert organizations could act as intermediaries to indicate safety of a product without providing the actual chemical information. Some manufacturers will not reveal the complete details of their formulations, but do share all risk information with customers. Standardization could allow actors throughout the supply chain to collect similar data and have better transparency and compliance as well permitting rapid transfer of information. Full materials disclosure, however, could be a very onerous task and serve little purpose if information on the hazards or risks of those chemicals in the given applications is not available. A suggestion for an alternative model, called a screening hub, is provided in the case study on electronics.

104. An important means of transmitting information on chemicals in products is optimal communication between different stakeholders along the entire lifecycle and manufacturing process of a given product. Such dialogue will ensure the correct information is requested and provided, the information is understood and the end needs are met both from human health and environmental protection perspectives. Improved communication between manufacturers at each level of the production chain could also improve information transfer. A specific need voiced by manufacturers in the construction sector was for timely information on chemicals that might trigger potential trade restrictions or barriers, so that they can appropriately communicate with importers.

105. A possible approach for increasing stakeholder's access to information on chemicals would be the introduction of a traceability system linking available information and making it accessible to all stakeholder groups in a way appropriate for their information needs, however this is quite a costly operation less likely to suit developing countries and countries with economies in transition at the current time. Details on how such an approach might work are outlined in the case study on toys. Another approach is that of escort information that is attached to a product, and then follows the product all the way down the lifecycle. With appropriate technology, information is added and updated as the product travels along different stakeholders in a product-chain. The aim is to gather and organize the information in such a way that all the necessary information is available during the whole product lifecycle. The escort information can be provided on an easily readable sticker, a Radio Frequency Identification Device or a bar code. The advantage is that anyone having access to the appropriate reader, even up to customs and government officials, can obtain information from the escort tag.

106. Standards could be developed for comparing products in a given sector, those with least harmful substances being given a mark of merit and include health and environmental safety factors, potential for recycling and good business practice.

107. In the textiles sector, the use of restricted substances lists is a common means to increase safety in products. Although generally not providing specific information on what is contained in a product, such systems can be promoted for use to those not currently participating in any scheme. The existing systems might also be further developed and expanded to include information on what is in the product. The complexity and cost of setting up a restricted substances list system has resulted in its mainly being adopted by larger manufacturers in the textile sector. In one instance discussions are underway to examine the possibility of a standardized system at the national level. Currently there are no international efforts underway. A sector wide approach could facilitate communication on chemicals in products to all stakeholders across the lifecycle of the product.

108. Eco-labels are currently mainly used to state what chemicals are not contained in a given product or to provide information on compliance with one or several parameters of environmental safety. Use of eco-labels to transmit information on actual content of chemicals in products would require a shift in what information was gathered, how it was exchanged along the value chain and what level of information should be provided to the consumer.

109. Environmental product declarations have the potential to carry information on chemicals in products. Currently the type of information carried is specific to a particular type of product group and is determined in product safety requirements drawn up by industry in full consultation with stakeholders and presented in a format that allows evaluation and comparison by the purchaser. In the long-term these could be considered for adaptation to include information on chemicals in products.

110. There is a need for more information on chemicals in products at the level of recycling, especially for small and medium sized enterprises and particularly with reference to the electronics and building sectors. To ensure that information is of use, recyclers need assistance and knowledge on how to interpret such information for it to be constructive. Recyclers' motivation to acquire relevant information and to take appropriate action for improving recycling practices needs to be stimulated. Motivation and incentives are needed (such as legal requirements and consumer pressure) to seek and use information on chemicals in products, and to use this information for improving recycling practices. Where such systems are impractical, particularly in developing countries, workers in the sector need education on how to handle the waste products safely and training in safer methods of dismantling and recycling. There is also need for improved communication between producers and the end-of-life sector.

111. Several manufacturers expressed the hope that full initiation and acceptance of the REACH legislation would make information on chemicals in products easier to track.

Sector Conclusions

The major conclusions regarding the information systems for the different sectors are summarized below.

Textiles

112. The textile sector has a long history of declaring the chemicals composition of fibres together with washing and handling instructions. With regard to other chemical components, there has been significant progress in recent years with many large brand name companies having established systems, primarily restricted substances lists, for controlling chemicals contained in their products. Some labelling systems are used which, like the restricted substances lists, are based on ensuring absence or “within-limit content” of a chemical in a product. These initiatives have involved several stakeholder levels in the production chain although mainly initiated by the brand-owners. The main driving force for these efforts has been meeting legislative requirements although some initiatives nowadays go beyond these and in at least one case the brand-owner require full disclosure. Supporting information systems and services provided through private and government supported initiatives to assist companies in implementing regulatory and environmental standards as well as for finding alternatives are available. Some companies are starting to provide data on chemical content of a given product, their motivation behind these efforts being stimulated, among others, by consumer demand for safe products and precautionary action related to future legislation.

Toys

113. Currently a primary approach of getting information on chemical content in the toy sector is lab testing. Testing information is generated at different stages in the life cycle rather than transferred or shared along the supply chain. In most cases testing is conducted once products (or prototypes) are finished and ready to be shipped. Information retrieved from these tests usually inform downstream actors in the supply chain and tend to be used for compliance purpose. It has been suggested that stricter control over existing rules, rather than a tightening of rules, was most important in the short term. It was suggested that export control would be facilitated if there were a restricted substances list for every product or a database of information on potentially harmful substances contained in commonly used material.

Electronics

114. Companies often created their own restricted substance list to keep undesirable chemicals and materials out of their products. A few companies required full materials disclosure from their suppliers. In this sector, too, most companies interacted with adjacent entities on the product chain although larger manufacturers were able to draw information along several levels. This sector highlighted the lack of an agreed definition of proprietary information. Development of a common list of chemicals to be avoided in supply chains and products, a common data collection format, software and systems for electronic data transmission, and platforms for open exchange of information were encouraged. Some manufacturers were designing the content of their products for the reality of waste handling operations in developing countries, for instance, by omitting chemicals that could create hazardous pollutants when burned inappropriately.

Building materials

115. There are many existing channels for information provision and use related to chemicals in building products, which provide a great deal of data, including materials safety data sheets, public databases that often include restricted materials listings, information clearinghouses, standards and certifications, reporting initiatives, and trade association information. Many considered that existing information systems did not currently provide balanced data across the lifecycle of most building and construction products. It was suggested that in the future additional information on chemicals in products should be related to the use, product and material manufacturing, and end-of-life phases. A

few information systems for specific building products exist that provide information relevant to environmental and human health impacts of chemicals and in certain cases also information regarding the chemical composition. Non-governmental organizations are performing a growing role in the provision of information on chemicals in products for building materials. Availability of relevant information is lagging behind the demand created by the green building marketplace. A sector such as building materials is almost too large to identify a “one size fits all” solution to information provision. It would be useful to conduct a study of a focused subset of building materials with specific chemical information needs.

General Conclusions

116. The Consultation held in December 2010 drew up a set of outcomes from discussions on the toy, textile and electronics sectors that are annexed to that report (<http://www.chem.unep.ch/unepsaicm/cip/default.htm>). General conclusions were also reached during the consultation as set out in the same report and from which some principle issues can be agreed. It is clear that commonalities exist among the sectors providing potential for cross sector exchange of experiences and learning. Information was often available from chemicals producers but did not flow easily through the value chains. Often information was lost mid-chain, between chemical production and final product manufacture. The engagement of mid-chain actors is a challenge but crucial to ensure a smooth and uninterrupted information flow. Companies placing the final products/articles on the market (“brand owners”) carried the responsibility for their products and needed to ensure that they had the information necessary for taking that responsibility.

117. Collection of information on chemicals in products in the supply chains is potentially the basis for other efforts to meet the objectives of SAICM. Evaluating the information available and tailoring that information to actors/stakeholders along the product lifecycle is a separate task. Access to product safety information has been improved for some actors and some products however current efforts are heterogeneous and existing information systems on chemicals in products are often not linked.

118. The Consultation suggested that a harmonized industry-wide effort (for example identification of data needs, awareness raising, development of formats and standards) by sector was likely to be more efficient and effective than individual company actions. Given that many sectors had common suppliers up-stream, efforts in one sector could have positive impacts also in other sectors. Regulation and voluntary initiatives were complementary and both played an important role. However it was noted that many of the existing information systems on chemicals in products had been developed in response to regulatory requirements.

119. It was clear that awareness in society on the dangers of chemicals in products was evolving and brand owners increasingly saw the positive business impact that improved knowledge, oversight and actions on chemicals in products would bring to them. Producers of products as well as retailers need information on chemicals in products, both to be able to comply with legislation, but also to fulfil the expectations from customers. Business risks include the need to protect the brand name and market shares. The markets of products are today global with products produced in one part of the world being transported, used and turned into waste in other continents; ultimately this also means a global transport of potentially hazardous chemicals.

120. Developing systems that indicate what chemicals are not contained in a given product has been a positive step to ensuring product safety as well as environmental and human health protection. It is also worth noting that the harmfulness of the chemical must first be established before controls are put in place to avoid its use in a product, which can be a very lengthy and onerous process. In many cases the provision of information on chemicals in products is a voluntary action sometimes stimulated by adherence to social responsibility or responsible care schemes. A unique set of objectives and operational parameters might help to shape a harmonized information system for chemicals in products.

Recommendation

121. The Consultation suggested that based on the work done to date in the project on chemicals in products, and information gained during development of the case studies, undertaking a pilot project would be the most useful and positive next step forward. Such a project would require commitment

from a few leading companies in the selected sector. If it is agreed, a pilot study could, for example, address the following issues. The scope and format of an information system on chemicals in products; the methods to promote widespread use of such a system; identification of systems that could be used as a basis on which build a new information system or further develop an existing one; methods to raise awareness and understanding among stakeholders to ensure an effective system is developed; special needs and capacity building for developing countries and countries with economies in transition; resource implications for different stakeholders.

122. The Kogg & Thidell report suggests a two-tier approach to information flow on chemicals in products. The two tiers aim to address a) the challenges of knowing what substances are present in the product and possibly also which ones can migrate from it and b) the challenge to interpret and evaluate the information to serve stakeholders needs. The December 2010 Consultation confirmed that the two-tier approach was an appropriate way forward with the information on chemicals in products being the first tier, and the interpretation and tailoring of information to final products' users and end-of-life treatment actors being the second tier. The case study on textiles takes into account the two-tier approach and provides some details on the first steps towards undertaking a pilot project in that sector. It suggests examining the possibility to develop such a pilot project with a view to preparing for the third session of the International Conference on Chemicals Management.

ANNEX

Executive Summary of the Textiles Case Study

The manufacturers of the textiles sector produce clothing and other textiles which enter into the lives of almost all persons on the planet. The sector is an important one for the global economy: in 2003 more than 140 economies produced clothing and textiles for export, and many are highly dependent on these exports for employment. The sector is also one of the most globalized: the series of steps in producing and selling a garment – fabric production, fabric treatment, cutting and final product assembly and transport to market – frequently involve international or intercontinental movements of products.

With the global movement of clothing and textiles comes the global movement of whatever they contain. In recent years increased attention has been given to the chemicals which are contained in textiles products. This could in part be explained by the existing knowledge of the intense use of chemicals by the sector – chemicals are used both for fiber production and during the manufacturing process.

This growing awareness and concern of real or potential safety issues related to chemicals in products, including those in textiles, has been driven by numerous factors; an increased knowledge of the hazards associated with chemicals used in the sector; legislation (such as REACH in the European Union and California Proposition 65 in the USA) which established requirements for disclosure on those placing items containing chemicals onto markets; and consumers' desire for greater product safety.

Through the global dialogue under the Strategic Approach to International Chemicals Management (SAICM), a Chemicals in Products (CiP) Project was initiated in 2009 to examine the information requirements for proper management of chemicals contained in products. SAICM has as its goal “that by 2020 chemicals are used and produced in ways that minimize significant adverse effects on human health and the environment”. In Paragraph 15(b) of the SAICM text it is recognized that information on chemicals, including chemicals contained in products, is essential if proper management of those chemicals is to be possible. In this context, the CiP Project is reviewing existing information systems pertaining to chemicals in products, assessing that information in relation to the needs of all relevant stakeholders and identifying gaps, and developing specific recommendations for actions to promote implementation of the SAICM goal. This report presents the results of the study carried out by UNEP on the textiles sector. The study focused predominately on clothing.

Information on chemicals as they relate to textile products

With respect to current methods of exchanging information on chemicals in textile products, this study found that except for fiber content essentially no information system exists for transmitting data on what chemicals are contained in individual products. There are efforts within the sector where companies require full disclosure of materials which are entering into production lines and which give full disclosure of the chemicals in the final products. This study found one or two companies where such activities are underway – which is encouraging in that full disclosure can be part of a viable manufacturing operation. However the sector as a whole does not practice full disclosure of its products' chemical composition.

What does exist within the sector is a rather well-developed set of activities aimed at ensuring that unwanted chemicals are *not* present in products. These activities generally grew out of companies' efforts to meet legislative requirements for ensuring product safety for their target markets. The activities often take place within the framework of individual companies' restricted substance list (RSL) programs. Ecolabels were also found which specifically address chemicals in textile products and one of these (the Oeko-Tex® Standard 100) has been adopted for use by some 90,000 textile products.

A RSL is a list of chemical substances which a company wishes to eliminate or to keep below a required concentration in their products. Generally it is the company who puts the products on a market, frequently a brand name, which specifies the RSL program parameters and mode of functioning. Suppliers to the company must put in place measures to ensure their manufactured products comply with the RSL's requirements. These initiatives often entail training of suppliers,

routine and random product testing, certification of compliance that suppliers further upstream are supplying appropriate chemicals and other measures designed to ensure the program's integrity are common features of an RSL program. It is notable that under an RSL program the information on what chemicals are not in the product – that is the product's "negative content" information – does not accompany the product itself, but is often made available through other channels (e.g. the company's web site).

Ecolabels can have many of the same features as a RSL program. Indeed, a chemicals-oriented textile ecolabel must derive the validity of its claim for 'safer products' from a rigorous set of requirements, including oversight and reliable testing. As ecolabels are generally attached to the finished article, the negative-content information does accompany the product.

Needs, uses and gaps for information on chemicals in textiles

The study investigated the wide range of needs of the numerous stakeholders involved in the life cycle of textiles and who would undertake management of the chemicals contained in textile products: it found the main driver for the great majority of these needs is product safety. Companies want to know the products they manufacture and sell are safe, consumers wish to be sure they are purchasing a safe article, governments require that only products achieving a prescribed level of safety are placed on the markets, etc. There are also needs related to technical requirements; e.g. a waste handler or recycler needs to know if his raw materials contain problematic substances. All these desires and requirements depend on information, yet the types of information needed vary widely: is it what is in the products or is not in the products; the level of expertise or knowledge of the person receiving the information affects how the information should be presented; in short, what chemicals content or negative-content information would best meet these varying needs, and what information exchange mechanism(s) would be effective?

Using the information on chemicals in (or not in) textile products for evaluating or assuring product safety was the common theme found amongst stakeholders. Their methods of achieving this and their priorities have led to some of the earlier mentioned systems (e.g. RSLs, ecolabels). These systems can be said to have achieved a number of significant gains: a global network of informed manufacturers and suppliers exists that is capable and practiced in ensuring that identified hazardous chemicals are not present in textile (primarily clothing) articles; the need for oversight on the identified hazardous substances has raised awareness of the hazards in the design phase and in some parts of the supply chain; and to a large extent these systems have achieved their goal of preventing hazardous substances from being present in the products.

The CiP project has as a part of its mandate to investigate chemicals in products information systems - that is systems which communicate information about what chemicals are present in products.

Conclusions

While systems communicating what chemicals are not in products (i.e. negative-content information systems) are not CiP information systems, negative-content type systems would be able to offer sector stakeholders (mainly within the production chain) the opportunity to improve their general awareness and specific knowledge of textile related chemicals issues. A widespread adoption of these types of efforts by stakeholders in the business and industry group could bring significant benefits by building up capacity to make informed decisions in the design and production part of the life cycle.

Without detracting from the significant gains brought about by negative-content methods of product chemicals controls, it must be recognized that one of the limitations of such an approach is rooted in its reactive nature. If manufacturers do not know what is in their products, they will need to investigate if a new substance of concern is identified. Looking at the example of a newly emerging chemical of concern (e.g. perfluorinated compounds used in textiles) the approach which a negative-content information system follows is to first investigate if the chemical is present in a product prior to considering suitable actions. It can take years until these controls are effective.

A CiP information system would help companies be prepared to take early action. Chemicals composition data would be available and could be used by e.g. manufacturers to practice substitution of less-desirable process or product chemistry on a planned basis, or by governments to assess the distribution paths and amounts of specific chemicals contained in products, or by researchers as a basic

data source, or by consumers in purchasing decisions, or by waste handlers to identify products requiring special handling, etc.

Recommendations

There are several initiatives in the textile sector such as RSLs, ecolabels and Environmental Product Declarations (EPDs) that to a certain extent address issues around CiP information but which do not fully meet the needs for CiP information. Taken together they are also very diverse in terms of scope, criteria, design and method.

Based on this and other findings of the case study, for future actions it seems wise to take a step wise approach and, as far as possible, to build on existing systems and initiatives. In any cooperative effort aimed at building up CiP information exchange, it is important to gain experience along the way, allowing for more informed decisions regarding particular steps and actions to be taken. Such experience may be best harvested through activities with a limited initial scope and it is suggested that a pilot project be undertaken. This is in line with the discussions at the Sector-Expert Consultation held in December 2010 and involving other case study institutions and sector experts. It is also recommended that the pilot should address the CiP issues in a tiered approach, similar to the descriptions outlined in the 2010 CiP project report (Kogg & Thidell), whereby:

- Tier 1 would address the CiP information flow to the end-producer / brand owner or other actor responsible for the products' safety, i.e. primarily occurring within the production chain and,
- Tier 2 would address needs for CiP information by actors further down the products life cycle and usually outside the actual production chain.

The objective of Tier 1 would at first be to find solutions for meeting CiP information needs of the end-producers/ brand owners/ importers and other stakeholders associated with the production chain. It should explore ways of overcoming the "interruption of data transfer" that occurs between the information that chemical manufacturers provide and attempt to "push" down the production chain and the information that the end-producer / brand owner tries to "pull" from the up-stream actors. Solutions should as much as possible build on existing information systems and communication structures, in particular the globally harmonized system of classification and labelling of chemicals (GHS) and safety data sheets provided by chemical manufacturers.

The objective of Tier 2 would be to explore ways of tailoring the information to the needs of the stakeholders involved in the products' life cycle, i.e. who are using or otherwise handling the product, including distributors, consumers, authorities, recyclers and waste handlers. The possibilities for making use of existing systems such as RSLs, Ecolabels and EPDs should be investigated as well as potential contributions from eventual partners, IGOs or other international institutions on which a future system(s) could be built, e.g. through international standards or codes or labeling requirements.

Questions that the pilot also needs to address would include but not be limited to:

1. What scope would the CiP information system have – which chemicals or type of chemicals would be part of it for the sector(s) investigated and what information should be provided? In what format should the information be provided?
2. How to promote a broad uptake of a future CiP information system? What are the processes and drivers that can be built on?
3. How to raise the awareness and understanding among different stakeholders that would be required for creating an effective system?
4. What are the special needs in developing countries and countries with economies in transition that need to be considered in the design of CiP information system?
5. What are the resource requirements – both initial and long-term – among different types of stakeholders if a proposed system is to be adopted

Executive Summary of the Building Products Case Study

This research is in reference to the current phase of CiP work for the undertaking of case studies on selected product sectors to provide a clear picture of the status of chemicals information exchange within each sector. In order for stakeholders to best manage risks from chemicals in products, there must first be clear knowledge of information availability and flows: who maintains what type of data? Which stakeholder communities need information based on that data? How is information shared? Does information get shared in a timely matter? This case study relates to answering such questions for a sector highly prioritized by SAICM stakeholders--building materials.

The 2009 survey of SAICM stakeholders to gauge interest for CiP product sector priorities identified construction and building materials as a highly ranked priority sector, with 37% of survey respondents ranking the category as a “top 4” priority.ⁱ Construction and building materials are an important priority sector for a number of reasons, including the fact that building materials are estimated to account for as much as 40% of global energy and materials use and 33% of carbon dioxide emissions.ⁱⁱ This volume of materials use, combined with the rapid expansion of the green building industry, argues for a critical need for availability of information about the potential life-cycle impacts of building materials.

Many regulatory and voluntary initiatives are driving greater information provision and exchange and are cited and discussed as part of this study. These include regulations such as the European Construction Products Directive (Council Directive 89/106/EEC) and the “REACH” Regulation on the Registration, Evaluation, Authorisation and Restriction of Chemicals (EC No. 1907/2006), voluntary, market-driven certification and standards programs such as the Building Research Establishment Environmental Assessment Method (BREEAM), the Leadership in Energy and Environmental Design (LEED) system, and the Comprehensive Assessment System for Building Energy Efficiency (CASBEE). In addition, public databases developed by government and environmental organizations, such as BASTA and Pharos, are helping to make information about chemicals in products more available. However, there are still information gaps and needs going unfilled.

This case study focuses on an assessment of how information on chemicals within the construction and building materials sector are presently provided, transferred, tracked and accessed by different stakeholders within the life-cycle supply chain. In addition, insights are provided about additional information requirements and gaps to be addressed to better meet the needs of stakeholders in both developed and developing countries.

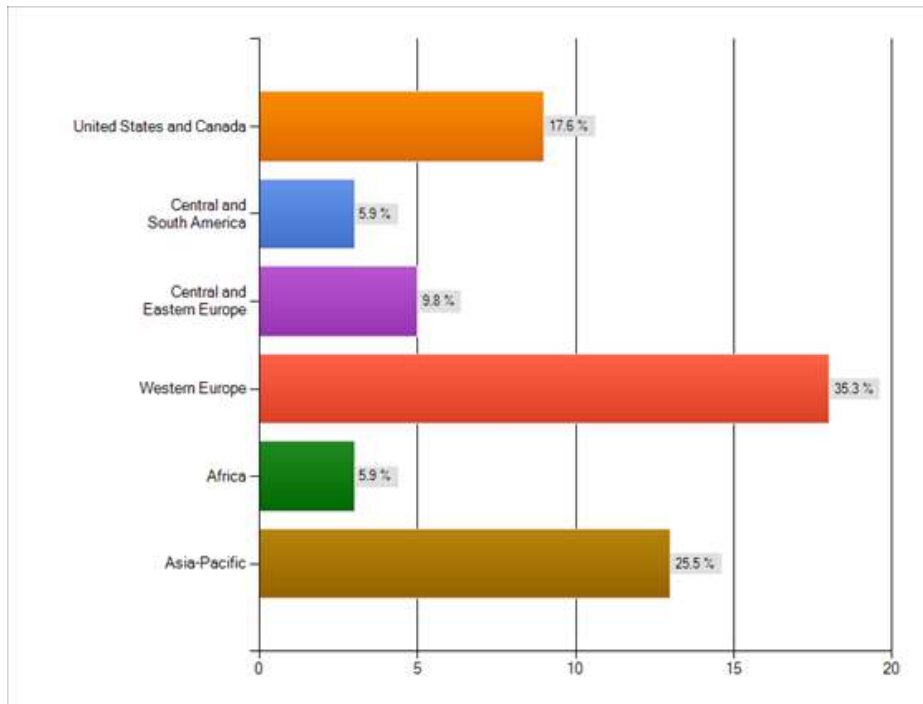
Survey Findings

As a key research component, an electronic survey was developed and distributed in mid-November, 2010. The survey was distributed to SAICM stakeholders, building and construction industry representatives, architects, deconstruction and demolition industry representatives, and applicable non-governmental organizations. In addition to the electronic survey, corresponding phone interviews were conducted with numerous stakeholders. The intended purpose of this process was to:

- 1) identify additional information systems being developed in regions and/or individual countries that may not have been identified through the literature search;
- 2) gain data and expert opinion on existing strengths, problems and gaps related to the flow of information related to building materials; and
- 3) identify obstacles encountered by different stakeholders throughout the production chain and product life-cycle in providing and accessing required information.

Fifty-two survey responses were received, with responses from all geographic regions (see Figure 1). Of those, thirty-five surveys were from developed countries and sixteen were from developing countries; there was one non-response.ⁱⁱⁱ

Figure 1: Geographic Distribution of Survey Responses



Summary of responses:

- There was excellent distribution of responses across stakeholder sectors, representing manufacturing and production, architecture and design, building and construction, demolition and recycling, trade associations, government and regulatory, non-governmental and non-profit, and academia and education.
- Approximately 68% of respondents report seeking/using information about chemicals in building materials to identify materials meeting regulatory standards set for their region or industry sector.
- Products ranked highest in terms of priority for chemicals information include interior finishing (including paints), flooring, structural materials (including wood, metal and concrete), insulation, and material feedstocks/raw ingredients for material production.
- In rating the trustworthiness of information sources, 43% of respondents ranked government/regulatory data sources as most trustworthy and unbiased, and 49% ranked industry/trade sources as biased, but accurate.
- Respondents rank a “high” or “very high” priority for additional information about chemicals in building products, specifically related to “scientific data on the health impacts of materials and chemicals” and “chemical and material content of products.”
- 38% of respondents report being able to find information about chemicals in specific building products when they need it. However, more than half of those respondents (54.5%) say that the information found is inadequate, and generally not specific enough.
- When asked for research priorities for chemical information across different life-stages of a building, the highest priorities are for use (occupation, performance), product/material manufacturing, and end-of-life (demolition, reuse, recycling).
- 77% of respondents do not feel that existing information systems provide balanced chemical information across the life-cycle stages of the product, largely because they feel that pertinent data does not exist.

Stakeholder Use of CiP Information: Needs and Constraints

In survey results, 72% of survey respondents reported regularly seeking information about chemicals in building and construction materials, with another 24% of respondents saying that, while they do not currently seek such information, they plan to do so in the future. Key reasons for seeking such information across the survey group included risk reduction for the protection of workers, policy

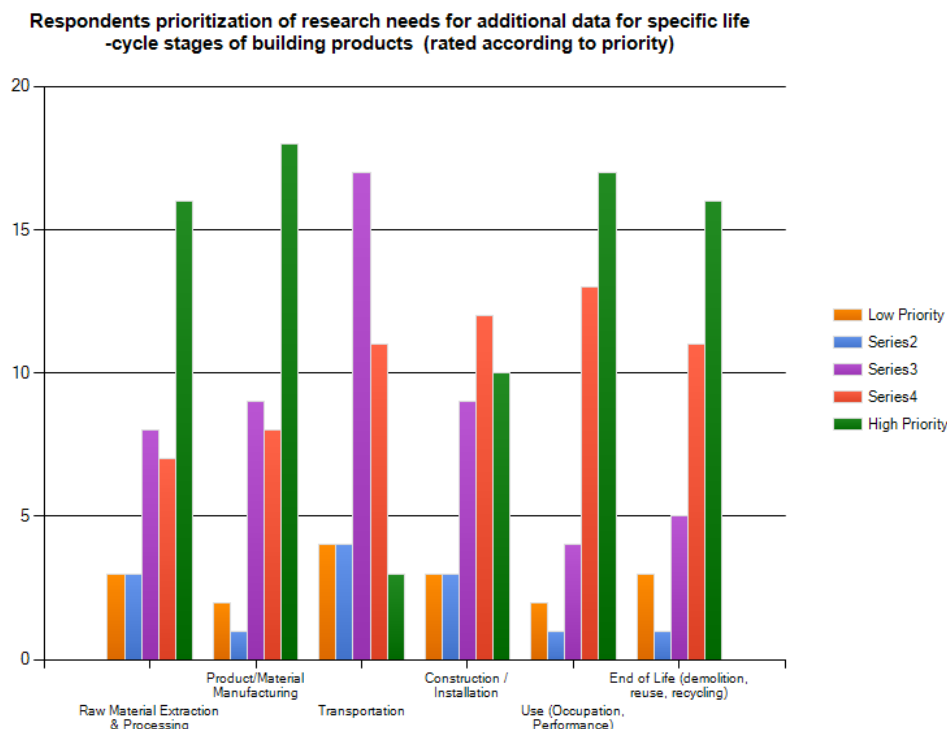
development, risk reduction for the protection of occupants, and public or consumer advocacy and protection.

In terms of the formats in which respondents commonly seek information, there were a few notable findings. While the most routinely sought sources of information were predictably from web-based systems (78.6%), this was closely followed by use of MSDSs (71.4%). The widespread use of MSDSs as a source of information, given their limitations, points to a need for better communication about what should be expected from such a report. In addition, information from manufacturers and trade associations (reports, product statements, marketing material, etc.) is often used as a key source of information (69%).

In responses related to seeking CiP information for specific products, 62% of survey respondents stated that they do not find information when they need it. Further, for those that do find pertinent information, more than half report that the information found is inadequate, largely because it is not specific enough.

Respondents were also queried about their needs for chemical information across the product life-cycle. When asked whether respondents felt existing information systems provided balanced data across the life-cycle of most building and construction products, 77% of respondents said they do not currently provide balanced data. However, 50% of those respondents felt it was because the data for such information does not yet exist. When asked which life-cycle stages should be prioritized for future research to yield chemical-related information about building products, the highest rated lifecycle stages were the use phase (occupation and performance), product and material manufacturing, and end-of-life (demolition, reuse and recycling) (see Figure 2).

Figure 2:



In addition, there were several common concerns that were echoed across respondents in multiple stakeholder categories. The most common concerns included:

- Limited global regulation of CiP or chemicals of concern: several survey respondents referenced hopes that the requirements of REACH will make chemical information more available, and that the resulting information will trickle down for those seeking product information anywhere in the world.
- MSDSs, which are broadly relied upon as a source of information, often include proprietary or trademarked names for substances. As MSDSs are one of the most routinely found and used sources of information, these potential gaps in information make reliance upon them problematic.
- For those who seek and need information about chemicals in building products, an oft-cited issue was that substantive information takes too long to gather. Information must often be gathered from multiple sources and lists, requiring an assessment of varying data quality. Respondents report that trying to identify solid data is time consuming and difficult.
- Several comments reflected a concern that existing data, often designed for markets in the North America and Europe, do not adequately reflect chemical and material issues for extremely humid or hot climates such as higher formaldehyde and VOC emissions that occur in hot climates.
- Data for the long-term reuse, recycling, and disposal implications for materials are often absent.

Potential ways to address the gaps and obstacles

Research results for this case study have identified significant background information on the types of existing CiP material available, as well as the use and perceived limitations of such information by those stakeholders seeking it. There are a variety of sources, of varying quality, that are commonly used, including eco-labels, reference lists of materials for green building certifications and standards, industry reporting initiatives, and so on. Existing resources such as BASTA in Sweden, NaturPlus, and the Pharos initiative were commonly cited as useful resources. However, in most cases, stakeholders find existing resources either inadequate for their needs or too time-consuming to use efficiently for their needs.

Many stakeholders stated a hope that pending regulatory systems or enhanced public databases would address some of these gaps. For example, many stakeholders referenced the intended information from REACH as a potential source which will reduce the time commitments for identifying pertinent chemical information about chemicals in building products. The recent ISO declaration, ISO 21930:2007, for “Sustainability in building construction – Environmental declaration of building products” establishes a methodology to ensure a transparent methodology for developing environmental product declarations for building products which will provide better consistency in EPDs. Similarly, stakeholders referenced the potential of information exchange from the European Construction Products Directive, as more harmonized product standards are developed.

In addition, numerous obstacles were cited in the exchange of chemical information in building products. Examples of reported obstacles, as discussed previously, include:

- Perceived lack of data and lack of data that is specific enough;
- Available information is more germane to European and North American countries;
- Time-consuming nature of finding CiP information, particularly amidst shifting regulatory requirements at local and regional levels;
- Time-consuming nature of cross-referencing performance data with CiP data;
- Potential gaps in data from existing chemical reporting mechanisms, such as MSDSs; and
- Poor CiP information for end-of-life disposition of materials.

As with many product categories, there was a perception that manufacturers of products are reticent to share chemical information. While this may sometimes be the case, especially with factors such as trademarked or proprietary substances, it was also noted by several manufacturers that sometimes they struggle to get adequate information on substances from their suppliers (this was especially a concern noted with recycled feedstocks). This admission indicates a potential willingness of manufacturers to provide more information to the market.

Stakeholders across all categories stated a belief that part of the problem with provision of chemicals information for building materials is that the information simply has not been collected or is not available.

Ultimately, the question of how to best facilitate the exchange of chemicals information in building products is quite germane. Stakeholders across all stakeholder categories reported limitations and perceptions of inadequate or non-existent information exchange. While existing systems are a laudable starting point, a number of opportunities and suggested collaborations have been identified for potential improvements.

Leverage the Role of Green Building Standards & Certification Programs

Given the growth in green building certifications and standards, as well as the growing network of regionally- and country-specific green building councils, an opportunity exists to leverage these as information exchange resources. Green building standards are continuously in the process of developing future versions with updated requirements, and can serve in a powerful supply-and-demand position. Many prominent green building standards have fairly open and transparent standard development processes; the managing organizations of such programs would likely be receptive to partnering to discuss enhanced CiP needs for the building product sector.

There are many types of needed CiP information identified through this case study that could be prioritized for inclusion in future versions of standards. An example includes requirements to maintain long-term CiP information for specific products within the reporting and maintenance requirements for building certification; this would mitigate EOL information needs when buildings are refurbished or materials are reused.

Another opportunity exists with the expansion of green building councils in various geographic regions; regionally-specific criteria can be defined that address unique materials and climate needs. Currently there are more than 70 national member councils under the World Green Building Council (WGBC); these councils are in various stages of membership. However, these organizations are an active and growing driver for green building information, including CiP information. In a recent survey conducted by the green building industry publication *Green Business Insider*, 47 WGBC councils were surveyed about the status and expectations for the green building industry in their countries; the survey shows expectations of 100 percent growth in council membership and at least a doubling of certified green buildings in the next five years.^{iv}

Promote Standardized Reporting of Environmental Data

A common frustration amongst stakeholders was lack of knowledge about differing reporting requirements across various regulatory platforms. One option for future discussion is identifying opportunities to better standardize reporting of environmental data. An example of one such “success story” would be the expanding use of the Globally Harmonized System of Classification and Labeling of Chemicals, or GHS; the GHS is now being cited in developing standards for products such as paints and cleaning chemicals.

Further, there may be opportunities for better outreach to stakeholders about what type of information they should and should not expect from certain reports. It may be useful to develop a common resource, akin to a “frequently asked questions” reference for the broad community of stakeholders to access as they determine whether a resource such as an MSDS, product declaration, or life-cycle study serves their information needs.

Support development of additional life-cycle research

While much life-cycle research has been done, an obstacle noted in this case study is the real and perceived lack of balanced life-cycle data for many building products. This was cited by many survey respondents as a need behind their belief that much of the scientific data for CiP information for this sector “does not exist.” An option for potential discussion might include identification of priority materials and building materials for which no life-cycle data has been developed. An important issue to consider for this recommendation would be the time and resource requirements of rigorous collection of life cycle data; this constraint would suggest a need to select key subsets of the building products sector for prioritization of data collection. Yet another opportunity may exist to commission a study of emerging or newer technologies, such as nanomaterials or antimicrobials, which are increasingly being used in multiple product sectors.

Another item for discussion would be to potentially provide a central funding mechanism to support broad reporting of information collected for other studies. In many circumstances, academics doing LCAs for specific projects have collected large quantities of data from the industry or market sector of interest for a particular project. Much of this data is not passed into publicly-available databases. This is often not due to confidentiality requirements, but rather is due to a lack of resources to organize the data into a publicly-useful format once the original project has been completed. A central funding mechanism could efficiently use relatively modest resources to provide grants to “mine” and refine these sources of valuable data.

Provide ways for architects, designers, and specifiers to cross-reference performance and application data with CiP information

When selecting a building material appropriate for specific applications, architects, designers, and specifiers must take into account myriad aspects of a material’s physical, chemical, and aesthetic properties. Materials must be selected to serve specific functional and aesthetic requirements while meeting health and environmental standards. This selection process requires constant cross-referencing of different types of data. Existing information sources do not adequately address the needs of this design process in a central manner. For example, a designer might be searching for formaldehyde free insulation. While existing sources may provide a list of formaldehyde-free insulation materials, a designer will typically still need to explore each product to determine its specific performance qualities including r-value per unit thickness, type of facing used, whether it acts as a vapor barrier, air barrier, or moisture barrier. These specific performance qualities are not addressed through broad categories of organization (i.e. “insulation”) often seen with CiP data sources.

Conclusions

This case study has established that useful information systems are on the increase for CiP information in building materials, yet there is a significant unfulfilled need for information. The need is global and spans stakeholder groups. But there are unique challenges faced by economies in transition and southern hemisphere countries, which are presently forced to rely on predominantly European and North American information resources, which often have limited applicability to both available products and regional climate pressures.

In addition to follow-up discussions about some of the recommended opportunities for bridging gaps in information sources and flows, there are also future research opportunities that may have value. While the analysis of broad product sectors is quite illuminating, a sector such as building materials is almost too large to identify a “one size fits all” solution to information provision. It would be useful to conduct a study of a focused subset of building materials with specific chemical information needs and outcomes, for example chemical information related to interior finishes, which can have significant indoor air quality implications. By conducting a study with a more constrained product scope, it might be possible to develop working relationships with key stakeholders in the product chain, and identify and test different methods for sharing information. Such a study would inform the creation of mechanisms for information sharing between stakeholders that could be modeled and replicated across products and product sectors.

Finally, the confluence of traditional drivers such as mandated regulatory reporting requirements and more recent voluntary certification and standards programs creates a timely opportunity for greater discussion and partnerships for provision of CiP information for building materials. In the past, the provision of CiP information in the building materials industry has been more of a struggle on the demand side, with government, NGOs and consumers desiring information and feeling the need to create it themselves. However, increasingly, manufacturers of building products want to provide more information to the market, in order to be a player in the growing green building industry. This suggests a brighter future for chemical disclosure if the market pressure of certifications and public policy can be efficiently harnessed.

Notes

ⁱ Becker, M. (2009). *Survey of SAICM Focal Points on the Need for Information on Chemicals in Products*, prepared for the UNEP Chemicals Branch. December.

ⁱⁱ U.S. Green Building Council. *Green Building Facts*. Retrieved from www.usgbc.org/ShowFile.aspx?DocumentID=5961.

ⁱⁱⁱ Designations of “developed” and “developing” countries were based upon the United Nations Statistics Division’s “Composition of macro geographical (continental) regions, geographical sub-regions, and selected economic and other groupings (revised 16 December 2010).” Retrieved from <http://unstats.un.org/unsd/methods/m49/m49regin.htm>.

^{iv} Green Building Insider (2010). “GBI Survey: Councils Expect Huge Increases in Green Building Certifications.” *Green Building Insider*. Accessed at <http://www.greenbuildinginsider.com/articles/20101>

Executive Summary of the Electronics Case Study

Background

Many chemicals used in the electronics sector have negative consequences for human and environmental health. Typical electronic waste handling practices in developing countries are detrimental to the health of workers, their environment, and their communities. There are well-documented problems associated also with formal recycling in modern facilities, and the production phase is often problematic as well. In addition, it is becoming apparent that recycling of valuable materials must be made more efficient as the prices of virgin materials, metals, and minerals increase and their availability decreases. All of these problems are exacerbated by the fact that there has been a rapid increase in sales of electronics products in the past several years, making e-waste one of the fastest growing waste stream today.

To address the problems associated with exposure to chemical substances, the Strategic Approach to International Chemicals Management, SAICM, was adopted at the first International Conference on Chemicals Management, ICCM1, in February 2006. The overall objective of this international framework is to achieve the sound management of chemicals throughout their life cycles so that, by 2020, chemicals are used and produced in ways that lead to the minimization of significant adverse effects on human health and the environment.

In 2009, the second session of the International Conference on Chemicals Management, ICCM2, agreed to initiate a project on the emerging policy issue of Chemicals in Products to promote the implementation of Objective 15 (b) of the Strategic Approach to International Chemicals Management, SAICM. The Objective states that “*information on chemicals throughout their life cycle, including, where appropriate, chemicals in products, is available, user friendly, adequate and appropriate to the needs of all stakeholders...*” UNEP was invited to lead and facilitate the project.

The present report on electronics is one of four case studies performed within the project on Chemicals in Products. The other case studies concern toys, textiles and building products.

The aim of this report is to describe to what extent existing information

systems meet the needs of different stakeholder groups for minimizing potential risks of chemicals in electronic products, to highlight the information gaps, and to identify obstacles and potential solutions to optimize flow of information. 38 interviews have been conducted with stakeholders surrounding the electronics sector. With regards to electronics manufacturers, a focus was put on mobile phones and Personal Computers, PCs, as these are product segments at the forefront of technological development and innovation. Due to consumer demand for new products with the latest technology there is a quick turnover of these products on the market. In addition, mobile phones and PCs are widely used in industrialized countries and prevalent in developing countries, and they are highly significant from a waste and recycling perspective.

Chemicals in electronics

Computers and mobile phones can contain over one thousand different substances. The main hazardous substances that could be found in electronic products are: lead, mercury, cadmium, zinc, yttrium, chromium, beryllium, nickel, brominated flame retardants, antimony trioxide, halogenated flame retardants, tin, polyvinyl chloride, PVC, and phthalates. In addition, electronic products contain valuable metals such as gold and copper that are valuable for recyclers to extract. In addition, plastics recycling is steadily increasing.

Volumes and e-waste flows

UNEP has estimated that consumers globally bought almost 900 million mobile phones in 2006 and over a billion in 2007. A considerable share of these products end up in household waste-streams, or are waste-handled through environmentally unsound practices. Up to 75 percent of the e-waste generated in Europe and around 80 percent of the e-waste generated in the United States goes unaccounted for. A vast amount of this e-waste is being exported to developing countries.

Typical electronic waste handling practices in developing countries are detrimental to the health of workers, their environment, and their communities. The lower costs for waste-management, or non-management of the waste in developing countries is a powerful incentive for this export. It is estimated that the waste-handling/recycling costs for PCs and mobile phones are ten times higher in the US or the EU than in e.g. India or Nigeria.

Release of Chemicals

Data is continuously emerging on negative consequences for human health and the environment of hazardous chemicals throughout the life-cycle of electronics products. Studies have demonstrated high exposure to carcinogens and reproductive toxicants during production, including solvents, heavy metals and epoxy resins among electronics workers. Other studies have demonstrated potential release of e.g. polybrominated dibenzofurans PBDF in the use-phase of electronics. PBDFs are breakdown products of PBDE which is commonly used as a flame retardant in e.g. electronics. Furthermore, studies on release pathways and exposure to workers in recycling facilities in developed countries have documented the release of hazardous chemicals present in recycled e-waste. Furthermore, the rudimentary informal sector recycling techniques common in developing countries coupled with the amounts of e-waste processed have already resulted in adverse environmental and human health impacts in developing countries receiving e-waste, such as China, India, Nigeria, the Philippines

and Ghana.

Overview CiP information systems

Information on where and how hazardous chemicals are used in electronics is key in order to tackle problems related to these products. Over the last few years a number of policy initiatives on chemicals in products and end-of-life treatment of electronics have been developed. Most notable is the policy development in the European Union where the RoHS and WEEE directives and the REACH regulation have had a strong impact on the way electronic products are designed, how they are collected and treated at the end-of-life, and how information on hazardous substances is generated and shared. Other regions and countries have since followed suit, and developed similar regulations. For example, systems in the EU, USA, South Korea, China and Japan are described in this section.

Industry-wide initiatives have been set up which are international in their scope. These include the Joint Industry Guide, JIG, the IEC material declaration standards and the GPS chemicals portal.

CiP information needs

The companies participating in this study try to stay ahead of global regulations and voluntarily restrict chemicals they think may be regulated in the future. One of the most common and important uses of CiP information systems cited by interviewees was to keep up to date on the latest information on chemical hazards and risks. The interviewees each described a different set of CiP information systems that they find valuable in trying to advance product safety. Based on the CiP information systems they find valuable, each company created its own restricted substance list to keep undesirable chemicals and materials out of its products. A few companies required full materials disclosure from their suppliers, in addition to using restricted substance lists.

Many of the interviewed companies tend to interact primarily with the adjacent actor in the supply chain, while others, in particular the brand owners, may be involved in numerous stages of product development and disposal. Upstream actors described how they provided their customers with relevant information about their products, but actors farther downstream felt that needed data was unavailable, indicating that information is lost in the supply chain.

In order for stakeholders in different stages of the life cycle of products to adapt their handling of a product in an appropriate manner, and thereby minimize any potential risks to human or environmental health there is a need for information on chemicals present in electronics. This includes information on what chemicals are present, their properties, use and potential risks.

Companies expressed a need for increased flow and transparency to help reduce their costs when planning, designing and carrying out production. There is a need to be able foresee any potential future business risks as well as opportunities which is dependent on the availability of sufficient CiP information. This can include upcoming regulation on chemicals used in production, future preferences, demands and expectations of customers and consumers, future challenges in performance of their products, in the manufacture of their products, the availability of materials and components for their products and any present or future liability for the fate of these products. Protection of the workforce is also largely dependent on an

understanding of the chemicals present in production.

Agreement on what chemicals should be reported, and what information should be made available would in many cases help companies obtain the needed and relevant chemicals-related information.

Authorities such as customs officials need access to relevant information in their efforts to control the flow of discarded electronics. In addition, in order to develop appropriate policies and measures authorities need information in what chemicals products on the market contain.

Recyclers extracting valuable material from e-waste need to know where hazardous chemicals can be found in the products they receive, as well as information on the content of valuable material. At end of life, improved information can contribute to increased as well as more environmentally sound recycling and more efficient extraction of valuable metals. It should be noted that often the awareness of environmental risks is low among recyclers, which has resulted in a lower demand for information. Recyclers seem to think that there is no particular risk to the environment or human health in the recycling process as long as they adhere to general regulations. Accordingly, there is a need for awareness-raising on the chemicals present in products, associated hazards and risks, and the role recyclers might have in contributing to or addressing problems related to chemicals in products.

The low awareness of risks especially applies to e-waste handlers in developing countries and information on associated hazards and risks are seen as important. In addition, intervention and economic support is required to provide feasible alternatives to the inappropriate waste handling practices in the informal sector.

Consumers in general assume that the products they purchase and use are safe for them as well as for the environment. Therefore, consumers in general might not feel an urgent need for CiP information. However, as their assumption that all products on the market are perfectly safe throughout the life cycle is often a fallacy, information increasing the awareness of hazards and risks from chemicals in products provides consumers with the opportunity to make informed choice on the products they buy.

Additionally, such awareness about the presence of e.g. hazardous chemicals gives different stakeholders, such as designers, companies in the supply chain and public purchasers the ability to make informed choices on the products they purchase, which can potentially be advantageous to products with better environmental profile, such as less hazardous content. In addition, a strong need has been expressed by upstream actors on information on where their products end up and how they are handled.

Accordingly, improved information flow *upstream* the product life cycles on how products are used and handled at all stages must be promoted in order to help designers and formulators make informed decisions when designing, developing and improving products. With better information on exposure, the development of products with improved environmental performance is promoted, which contributes to less toxic material to handle in recycling and decreased release of toxics into the environment.

Gaps and obstacles to CiP information

There are overarching, industry-wide systems developed to facilitate exchange of information. The companies interviewed in this study take part in such joint collaborations. There are also regional and national rules and

policies that regulate the flow of information on chemicals in electronics.

However, as many companies feel that these systems are not sufficient to meet their particular information needs, they often develop their own approach, complementing the joint industry systems and regulatory frameworks with internal systems for substance restrictions, information exchange, supply-chain management etc.

A number of gaps and obstacles in the flow of information on chemicals have been described in this report.

1. The gap between upstream manufacturers of chemicals and the information needs further downstream. Upstream manufacturers of chemicals and material pass on the info they consider relevant, but they seem to have limited knowledge on applications and downstream exposure pathways. Thus downstream manufacturers often feel that there is a gap at the beginning of the product-chain, where the information made available and fed into the system is not the relevant or sufficient information.
2. The gap along the supply chain to the final brand owners. Upstream actors described how they provided their customers with relevant information about their products, but actors farther downstream felt that needed data was unavailable, indicating that communication of data or information needs may be obstructed through the supply chain. To a large extent, information is lost in the supply-chain, i.e. the numerous steps in the product-chain between the chemicals industry and OEMs/brand-owners.
3. The gap between the production-phase and the recycling phase: From the perspective of manufacturers, the general perception is that feedback is not communicated from recyclers on the needs they might have, and information requests from the recyclers are very rare. Recyclers on the other hand express that producers often seem to have limited knowledge on recycling and that end of life considerations are not incorporated in the product design and material composition of electronics.
4. The gap between the formal product-chain and informal waste-handlers in developing countries. Information systems are in general not designed to take into account the particular circumstances in developing countries. Information to e.g. workers engaged in informal recycling in developing countries must take into account factors such as low level of literacy, formal education or organization.
5. The gap between information provided for intended use and the information needs arising from unintended use. In general, information is provided considering the intended use of products. However, considering the large volumes of e-waste being handled in substandard conditions, what type of CiP information that is fed in to the system upstream should also take into account information needs that arise from unintended, but highly probable handling.
6. The gap between what information is needed (relevant) and available. Stakeholders have been emphasizing that the information provided should only be the *relevant* information. However due to for example the gaps in information flow, information that is *relevant* to a particular actor in the life cycle might not be *available* at that point in the life cycle. A challenge is how to ensure that *relevant* information is *available* where needed at every step of the life cycle.

7. One of the obstacles to CiP information discussed by interviewees were that there is no agreed upon definition of what constitutes proprietary information. Many stakeholders said that claims of proprietary information often blocked their ability to understand product contents or chemical uses, and they suspected frequent misuse of the claims. Claiming proprietary information also constitutes an obstacle to important information that needs to be communicated upstream, e.g. on uses and exposure. While understanding the necessity for businesses to protect sensitive information, interviewees have discussed examples of how to nonetheless deal with sensitive information in a manner that assures the needs of providers as well as recipients of information. A sincere and open discussion is needed among stakeholders about what really is and is not proprietary. Recipients need to be able to show suppliers that data can be protected. Ways must also be found to provide the information needed by different actors to conduct proper risk management in their particular stage of the life cycle.

Key requirements for information systems

A set of key characteristics of well-functioning information systems for chemicals in products were pointed out by interviewees contributing to this study: 1) Information must flow *down* the product-chain, but also travel *up* the product-chain; 2) *Relevant* information must be *available* when the particular need for that particular type of information arises; 3) The information generated and provided must take into account not only the *intended* use or handling of a product, but also the *likely* or *probable* fate of that product; 4) The information provided must be *comprehensible*, *accessible* and *appropriate* for the particular stakeholder who needs the information for safe handling of the product in the particular stage of the life cycle of that stakeholder.

Recommendations

Interviewees discussed the usefulness of a harmonized global standard as well as platforms for sharing CiP information. The common theme among interviewees was that there are too many information systems and too many lists available, making it difficult to keep up with all of the information and make decisions about which chemicals are actually of real concern in products.

Companies throughout the product chains have described a need for a common list of chemicals of concern to be agreed upon which could simplify design and operation and reduce costs throughout the industry. Such a list should include what chemicals to provide information on as well the content of such information. In order to provide any added value, the list should go beyond merely listing already banned or otherwise regulated chemicals, but also take into account broader needs for CiP information among companies and other stakeholders such as authorities.

Introducing an obligation to provide information on the product and its effects at all stages of its life cycle, including relevant information on chemicals is another solution discussed. One example is legislation on Extended Producer Responsibility including such Informative responsibility.

Furthermore, certification systems for recycling are proposed as constructive tools for tracking materials, increasing transparency in the waste phase and increasing awareness about chemicals in e-waste management.

Other solutions proposed are improving the tools required for facilitating the transfer of information on chemicals in products. These include the further development of standard formats for collecting and communicating chemicals-related data, software packages to support such standards, escort information systems to allow product content to be tracked through the product chain.

In addition, other solutions are discussed concerning joint avoidance lists for the sector, standards and labels for eco-design, information campaigns aimed at consumers as well as information campaigns for stakeholders in developing countries and measures to promote safe and profitable e-waste handling in developing countries. Although some of these solutions seemingly go beyond CiP information systems and information flow, the *availability of CiP information* is a precondition for developing such solutions that reduce risks from electronics throughout the entire life cycle.

Executive Summary of the Toys Case Study

The toy sector case study was conducted via desk research and expert consultations, from July to January 2011.

Toys were selected as a product group for study in an earlier phase of the Chemicals in Products Project where 77% of participants chose toys as a sector to study and learn from. An extremely wide variety of materials are used in toys, from textiles to wood to plastic and like many products they have the potential to contain regulated chemicals and other substances of concern such as possible hormone-disruptors. In the EU toys are the product with the most notifications for regulatory non-compliance and while the most frequent notifications are related to small parts (a choking hazard) the second most frequent are related to chemicals in toys in excess of regulated thresholds.

Information on chemicals needed for regulatory compliance is available to the firms that participated in this study. While there is not an uninterrupted flow of information on chemicals along the supply chain – a flow that begins with material producers and continues through each supplier to the toy manufacturer, retailer and consumers – firms did state the information they need for compliance documentation is either generated by their suppliers or obtained with laboratory testing. The obstacles they identified were related to efficiency – access to information could become more efficient among supply chain actors if queries and formats were better understood. Authorities reported a need for information to control imports and exports. Producers reported a need for information on specific end-uses of the substances they supply, in order to inform their risk assessments.

Less information is exchanged on non-regulated chemicals and on regulated chemicals beyond minimum thresholds. NGOs stated consumers do not have access to the information they need to make decisions on toy purchases. Small toy manufacturers stated they do not have information, nor expertise, to know what chemicals to manage beyond what is required by law (and across the board toy safety regulations in Japan, the EU and the US were referred to as the most stringent, with a scope that is expanding to include chemicals). And large companies stated they use product testing to respond to requests for non-regulatory information. Retailers – especially specialised retailers serving an informed consumer group – report such requests do occur, though still infrequently. The study found no common system for chemicals information exchange in the sector.

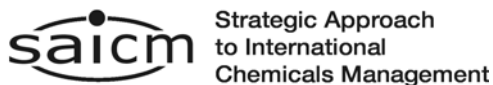
The potential to enhance the access to information in the sector can be understood in terms of two sector characteristics: the nature of relationships and the market structure. While some supply chain relationships are long term and collaborative (e.g. manufacturer and supplier developing a new material) there are also very many short term relationships. Participants with successful information exchange stated it took time to establish the flow of regulatory information. Their suppliers needed a lot of support to understand the information requests and what to provide in response (format, level of detail). In short term relationships there is less time for this learning. Second, the market is structured

around very many small firms each with a low buying power. They have less pull with larger suppliers and lower possibility to have their requests for information fulfilled (beyond regulation).

Two types of approaches can be considered to further the access to information on chemicals in toys. The first is a technical approach focused on the type of information and the means of accessing it. The second is a broader approach to build on the “enablers” for overcoming current obstacles to access to information, such as lack of chemicals expertise within many small or medium sized firms.

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Item 4 (e) of the provisional agenda*

**Implementation of the Strategic Approach:
new and emerging policy issues**

Business Plan of the Global Alliance to Eliminate Lead Paint

Note by the secretariat

1. The secretariat has the honour to circulate in the annex to the present note the Business Plan of the Global Alliance to Eliminate Lead Paint which has been provided by the United Nations Environment Programme (UNEP) and the World Health Organization (WHO) as secretariat to the Global Alliance.
2. The development of the business plan was requested by resolution II/4 on lead in paint by the second session of International Conference on International Chemicals Management. The business plan has been developed by the secretariat of the Global Alliance in consultation with its interim advisory group and participants at the second meeting of the Global Alliance to Eliminate Lead Paint held in Bangkok, 9-11 July 2012.
3. The Business Plan is provided for the information of participants, as received from WHO and UNEP, and has not been formally edited.

* SAICM/ICCM.3/1

Annex

Global Alliance to Eliminate Lead Paint

Business Plan 2012
24 August 2012



World Health
Organization

I. Introduction

1. This Business Plan for the work of the Global Alliance to Eliminate Lead Paint has been developed in response to resolution II/4/B adopted by the second session of the International Conference on Chemicals Management (ICCM) in 2009. It provides a road map describing the strategies, milestones and means of achieving the goals and overall objective of the Global Alliance to Eliminate Lead Paint ('the Global Alliance'). It is addressed to all persons and organizations interested in contributing to the work of the Alliance.
2. Resolution II/4 of the International Conference on Chemicals Management recognises the need for attention to be given to issues relating to the sound management of chemicals that may not have been generally recognized or sufficiently addressed. In that context resolution II/4/B focuses attention on "lead in paint" as an emerging policy issue and:
 - (a) Endorses the establishment of a global partnership to phase out lead in paint, as a contribution to, among others, the call by the 2002 World Summit on Sustainable Development for the phase-out of lead in paint;
 - (b) Invites all interested stakeholders to become members of the global partnership and, where appropriate, commit themselves to contributing financial or in-kind resources;
 - (c) Requests the partnership develop a business plan giving clear milestones for progress in a global phase-out of lead in paint in a number of key areas, and to report back to the International Conference at its third meeting.
3. The Global Alliance held its first organizational meeting in Geneva from 26 to 28 May 2010 and was established following the completion of operational arrangements in 2011.

II. Goals and objectives of the Global Alliance

4. The primary goal of the Alliance is to prevent children's exposure to paints containing lead and to minimize occupational exposures to lead paint. In this context, the Alliance is committed to efforts that support primary prevention, seeking to reduce or eliminate the conditions that give rise to environmental lead exposure before such exposures can occur. Its broad objective is to achieve the phase-out of the manufacture and sale of paints containing lead and to eventually eliminate the risks that such paints pose.
5. The specific objectives of the Global Alliance are:
 - (a) To raise the awareness of government authorities and regulators, the private sector, manufacturers, consumers, workers, trade unions and health-care providers about the toxicity of lead in paints and the availability of technically superior and safer alternatives;
 - (b) To catalyse the design and implementation of appropriate prevention-based programmes to reduce and eliminate risks from the use of lead paints and products coated with lead paints;
 - (c) To help identify paint manufacturers and formulators that continue to produce and market paints containing lead so as to foster actions to phase out lead from their products;

(d) To promote the establishment of appropriate national regulatory frameworks to stop the manufacture, import, export, sale and use of lead paints and products coated with lead paints;

(e) As appropriate, to promote international third-party certification of new paint products to help consumers to recognize paint and coatings without added lead; and

(f) To share guidance and promote assistance to identify and reduce potential lead exposure in and around housing, childcare facilities and schools in which paint containing lead and paint dust is present and in industrial facilities producing or using paint containing lead to reduce workers' lead exposure.

6. The definition of 'lead paint' for the purposes of the Global Alliance is set out in the footnote below.¹ Broadly speaking, the term 'paint' includes varnishes, lacquers, stains, enamels, glazes, primers or coatings used for any purposes. Paint is typically a mixture of resins, pigments, fillers, solvents, and other additives. Lead is added to paint in the form of lead compounds but can also be present as a contaminant from other paint ingredients. Efforts are therefore needed to keep the total lead content as low as possible.

7. Paints containing lead pose risks both in their application phase (as new paint) and once applied, giving rise to legacy issues that extend beyond the lifetime of the painted surfaces due to chipping and deterioration or demolition of the painted surface. Health risks can therefore increase greatly during renovation and re-painting activities which involve surfaces that have previously been painted with lead paint. It is a particular concern that the continued use of decorative paints containing lead may still be found on toys and other products used by (or accessible) to children. The elimination of lead paint applied to surfaces in and around the home and schools (i.e. furniture, walls, doors and other structures) is therefore a priority focus for the efforts of the Global Alliance.

III. The business case

8. The case for elimination of lead paint and for effective measures for dealing with legacy issues of painted surfaces are compelling for all sectors of society, whether governmental, the private sector, or civil society² for a number of reasons:

(a) **Human health.** Lead is a toxic metal and no safe exposure level has been identified for children. Lead can cause serious impacts on human health, including permanent brain and nervous system damage, problems with kidney function, and blood and reproductive damage. Children under 6 years of age, and pregnant women (whose developing fetus can be exposed) are especially vulnerable.

¹ The term "paint" includes: varnishes, lacquers, stains, enamels, glazes, primers or coatings used for any purposes. Paint is typically a mixture of resins, pigments, fillers, solvents, and other additives.

"Lead paint" is paint to which one or more lead compounds have been added. Lead compounds that are typically added to paint include, but are not limited to: Lead monoxide, Lead octanoate, Lead chromate, Lead 2-ethylhexanoate, Lead sulfate, Lead oxide, Lead molybdate, Lead nitrate, Lead sulfo-chromate yellow, Lead naphthenate, Lead chromatemolybdate sulfate red, Lead peroxide, Lead carbonate (white lead), Lead chromate oxide and Tri lead - bis (carbonate) - dihydroxide¹. The total lead concentration is defined on a weight percentage of the total non-volatile portion of the product or in the weight of the dried paint film. Lead compounds may also be present in paint as a contaminant from other paint ingredients. Efforts should be made to keep the total lead content in paints as low as possible. Current data from a number of countries suggests that lead levels in many decorative paints, are less than 90 ppm and often below 45 ppm.

² For the purposes of the Business Plan, the term 'civil society' includes workers' organisations, professional health care providers and associations, academic and non-government advocacy organisations.

(b) **Economic.** There are both direct and indirect economic costs resulting from the use of lead paint. These include health care costs and productivity losses. The World Health Organization (WHO) has estimated that exposure to lead is responsible for 0.6% of the global burden of disease, with some 600,000 new cases of children with intellectual disability arising every year. By contrast, the economic cost of eliminating the use of lead in many paints is known to be low, with a number of manufacturers already successfully reformulating products that avoid the intentional addition of lead.

(c) **Environmental.** Lead is a highly stable (i.e. long-lived) naturally occurring element that is toxic to plants, animals and micro-organisms. It bio-accumulates in most organisms with environmental exposures occurring through multiple sources and pathways. The removal of lead from gasoline has produced dramatic reductions in airborne emissions and associated exposures. In contrast, the continued use of lead in paint remains an unaddressed source of exposure in many parts of the world.

(d) **Commercial.** Paints with no added lead have been on the market for many years and have demonstrated their suitability as commercial alternatives. Paint manufacturers and users can ensure their continued access to markets where lead paint is restricted and reduce potential commercial risks (including health risks to workers and customers, compliance and liability claims, and reputational damage) by producing paints with no added lead compounds.

(e) **Regulatory.** The use of lead paint has already been effectively controlled by regulations in several countries. Measurable reductions in blood-lead levels in children and the wider population have been recorded following the elimination of added lead from gasoline, which was also subject to concerted international focus and national regulation. At the intergovernmental level, there have been several high level calls for the phase out of lead-based paints.³

9. Despite that fact that the risks of lead exposure are clearly recognized there are three issues that remain of international concern:

(a) **Rising production and use of paints and coatings.** The paint and coatings industry is an increasing global business with an estimated annual value of production and sales of 85 billion United States dollars. The growth of the paints and coatings industry is closely associated the economic development of countries and therefore unless the practice of using paints with added lead is eliminated the risks of lead exposure will also increase. Paints that are not formulated with lead compounds with similar colours, performance and commercial value are available.

(b) **Limited information.** There is little known about what paints contain lead and in what concentrations as in many countries, products are not always clearly labelled. This makes it difficult for governments, paint manufacturers, architects, workers, health care providers, public health officials, environmentalists and consumers to take appropriate action to reduce exposure risks, such as by using safer alternatives.

(c) **Lack of awareness:** There is also a low level of awareness in many countries and populations about the potential health and environmental risks of lead

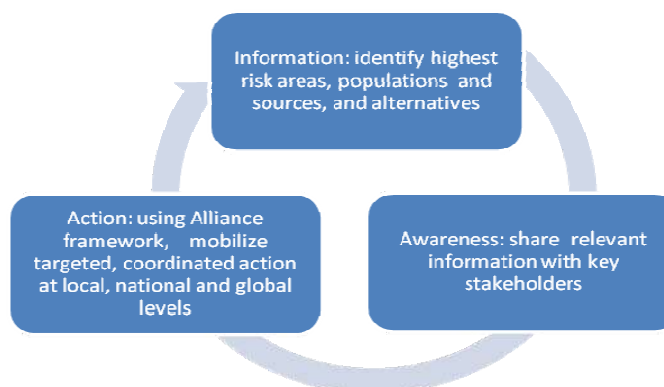
³ World Summit on Sustainable Development, Plan of Implementation, paragraph 57 ; Strategic Approach to International Chemical Management SAICM (2006); International Conference on Chemicals Management (ICCM 2), Resolution II/4 B (2009).

paint. Combined with the limited information about why lead paint continues to be used it can be difficult to identify individuals and populations at risk, and for stakeholders to mobilize political and consumer support for appropriate actions.

IV. Business strategy

10. The underlying analysis of the business strategy is that gaps exist at two main levels: (1) gaps in information (e.g. the availability and accessibility of information about paints on the market that still contain added lead), and (2) gaps in stakeholder awareness (e.g. about risks and alternatives and actions that have been successfully undertaken). The essence of the Global Alliance business strategy is to address these issues in the following manner.

Figure 1: The Global Alliance business strategy of information, awareness and action.



(a) **Information.** To compile, complete and maintain a global set of information in relation to affected and high risk populations (e.g., children, women and workers), the adverse health consequences of lead exposure for individuals and populations and to the manufacture and sale of paints containing lead compounds. This is essential to ensure accuracy, fill data gaps and enable progress towards lead elimination to be monitored against a baseline of what we know now.

b) **Awareness.** To share and maximize the use of this information among key Government, paint industry manufacturers and paint formulators, and civil society stakeholder groups and individuals (e.g. parents, education and health care providers, paint manufacturers, painters and builders and their representatives). The raising of awareness and concern about environmental health risks as well as on the benefits and achievability of eliminating lead paint are preconditions for mobilizing action. The approach will be to collect and build upon existing information sources wherever possible and to provide operationalized examples of successful policy interventions.

(c) **Action.** To inspire engagement in, and achievement of the goals and objectives of the Global Alliance. This will be done by providing a set of clear concrete and measurable actions targeting the elimination of lead paint, which will be undertaken in accordance with the operational framework of the Global Alliance. Cohesive action will be promoted at the national level including through encouraging the establishment of national alliances to eliminate lead paint as a means to advance the goals and objectives of the Global Alliance.

11 Taking into account the overarching international commitment for sound chemicals management, and specifically the goal of the Strategic Approach to International Chemicals Management to ensure that by 2020 all chemicals are used and produced in ways that minimize adverse effects on human health and the environment, the Global Alliance will seek to establish individual project targets that can realistically be completed in advance of 2020.

V. Business approach

12. The business approach of Global Alliance is to mobilize significant action to eliminate lead paint by focusing on:

- (a) Mobilizing stakeholders around a common yet flexible voluntary agenda, focusing on priority actions first;
- (b) Facilitating stakeholder interactions in order to strengthen and complement existing initiatives and reduce duplication;
- (c) Identifying and supporting specific opportunities where involvement of stakeholders from diverse stakeholder groups is necessary or where a vacuum of activities is identified;
- (d) Encouraging companies to substitute lead compounds added to paint with safer alternatives; and
- (e) Evaluating the Alliance's success and refining its strategies as necessary.

13. The business approach set out above will be pursued within five focal area working groups to undertake the focused tasks needed to achieve the broad goal and objective of the Global Alliance. These five focal area working groups relate to the following themes: Health aspects; environmental aspects; workers health; legislation and regulation; and outreach to industry. Further information about each focal area working group, its composition and detailed workplan can be found on the web site of the Global Alliance.⁴

VI. Roadmap for the Global Alliance

14. The Global Alliance will seek to focus initially on efforts to eliminate exposures to the most vulnerable populations and will focus on eight principal actions to address the gaps identified in the business strategy. These principal action points will establish the foundation for achieving the goals and objectives of the Global Alliance.

15. Priority actions for 2012-2013, drawn from the focal area workplans and not listed here in any ranked order, will be:

- (a) Establishing and launching a clearinghouse or data repository for the Global Alliance that contains available advocacy materials, information on lead paint levels, on blood-lead testing and surveillance, and treatment guidelines etc (relevant to all focal areas). An initial focus of the clearinghouse will include those materials needed to support the marking of an international day of action;

⁴ The web site of the Global Alliance to Eliminate Lead Paint can be found at:
[http://www.unep.org/hazardoussubstances/Home/tabid/197/hazardoussubstances/LeadCadmium/PrioritiesforAction/GAELP/
tabid/6176/Default.aspx](http://www.unep.org/hazardoussubstances/Home/tabid/197/hazardoussubstances/LeadCadmium/PrioritiesforAction/GAELP/tabid/6176/Default.aspx)

- (b) Developing a proposal and obtaining broad support among Governments, clinical and public health professionals and other stakeholders for the marking of an international day of action on prevention of lead poisoning with an initial focus on eliminating lead paint (relevant to focal areas on health aspects and on environmental aspects);
- (c) Filling information gaps on the presence or absence of lead paint on the consumer market in those countries where little or no data are now available; expanding information on lead exposure pathways for vulnerable populations (e.g. children under six years of age, paint users and workers in paint production facilities) associated with different paint categories (e.g. decorative paints; industrial paints; anti-corrosive metal primers; and others) (relevant to all focal areas);
- (d) Developing technical guidelines for paint manufacturers on alternatives to lead compounds used in paints (relevant to focal areas on health aspects, environmental aspects and outreach to industry);
- (e) Developing a framework for the labelling and certification of paints (relevant to focal areas on legislation and regulation and outreach to industry);
- (f) Disseminating a document that presents and discusses the elements of a national regulatory framework for eliminating lead paint (relevant to focal area on legislation and regulation);
- (g) Contributing expertise about lead paint to the finalization of WHO evidence-based guidelines on the prevention and management of lead exposure, including recommendations concerning the establishment of blood lead screening and surveillance programmes for lead exposures (relevant to all focal areas);
- (h) Engaging additional stakeholders in the work of the Global Alliance, including through the establishment of national alliances to contribute to implementation activities, and obtaining an increased number of financial contributions and to achieve the goals and objectives of the Global Alliance (relevant to all focal areas).

16. Additional actions for 2014 - 2020, will need to move beyond the development of awareness and information to promote action and achievement of the goals and objectives of the Global Alliance. The following actions, listed below in no particular order, will be undertaken:

- (a) Promoting the establishment of appropriate national regulatory frameworks to stop the manufacture, import, export, sale and use of lead paints and products coated with lead paints;
- (b) Promoting third-party certification of no added lead in new paint products, especially in countries which may face challenges with the comprehensive enforcement of national regulatory frameworks to stop the manufacture, import, export, sale and use of lead paints and products coated with lead paints;
- (c) Identifying the information that small and medium-size paint manufacturers may need to cost-effectively reformulate their paint products to eliminate the use of added lead compounds, and establishing mechanisms to provide them with such information as needed;

- (d) Preparing and disseminating guidance materials on how to minimize potential lead exposure in and around housing, childcare facilities, schools and other buildings where lead paint has been used in the past, including information on proper procedures for repainting surfaces, remodelling and demolition;
- (e) Preparing and disseminating guidance materials on how to avoid or minimize workers' lead exposure in industrial facilities producing or using paint that contains added lead compounds;
- (f) Increasing capacities to conduct blood-lead testing and surveillance programmes, to assess residential and occupational risks and to implement public and professional education on the mitigation of lead poisoning.

VII. Monitoring and evaluation of the business plan

17. Information will be sought from focal area working groups on work plan achievements and performance indicators on an annual basis.

18. Indicators for evaluating the business plan will include:

- (a) **Number of countries that have adopted legally binding laws, regulations, standards and/or procedures to control the production, import, sale and use of lead paints with special attention to the elimination of lead decorative paints and lead paints for other applications most likely to contribute to childhood lead exposure;**

Targets:

2013	30 countries
2015	70 or more countries
2020	All countries

- (b) **Number of paint companies that have committed to the work of the Global Alliance and have eliminated the use of added lead compounds in all of the decorative paints that they manufacture;**

Targets:

2013	5 paint manufacturers publicly committed to the work of the Global Alliance
2015	50 large paint manufacturers have eliminated the use of added lead compounds
2020	All paint manufacturers have eliminated the use of added lead compounds in priority areas

- (c) **Number of countries with national awareness activities about the risks of lead paint.**

Targets:

2013	5 countries with national awareness days for prevention of lead poisoning with an emphasis on the risks of lead paint
2015	10 countries with national awareness days for prevention of lead poisoning with an emphasis on the risks of lead paint
2020	40 countries with national awareness days for prevention of lead poisoning with an emphasis on the risks of lead paint

- (d) **Number of contributors participating in the work of the Global Alliance to Eliminate Lead Paint.**

Targets:	2013	30 contributors (Governments and organizations) participating in the work of the Global Alliance
	2015	50 contributors (Governments and organizations) participating in the work of the Global Alliance
	2020	70 contributors (Governments and organizations) participating in the work of the Global Alliance

19. UNEP and WHO will report periodically on overall progress against the performance indicators of the business plan, including to sessions of the International Conference on Chemicals Management, under whose mandate progress on this topic is reviewed as an emerging policy issue.

VIII. Membership of the Global Alliance

20. The business approach of the Global Alliance depends critically on the stakeholders becoming contributors of the Alliance and committing to address the issue of lead paint. Stakeholders can include: Governments (including ministries of environment, health, industry, labour as well as specialized agencies) intergovernmental organizations, and non-governmental organizations, including civil society, regional bodies, philanthropic organizations, academia, media and the private sector. The private sector includes pigment manufacturers, paint formulators and retailers as well as relevant industry associations and small and medium enterprises.

21. Members of the Global Alliance are known as “contributors”. All contributors will be expected to make a public commitment to supporting the work to achieve the goals and objectives of the Global Alliance and will be listed on the web site for the Global Alliance. Contributors may include:

- (a) Representatives of national Governments including those that have already phased out the use of lead paint in their countries and are willing to share experiences and provide assistance to others who wish to do so, as well as representative of national Governments where lead paint continues to be sold;
- (b) Representatives of relevant intergovernmental organizations such as the participating organizations of the Inter-Organization Programme for the Sound Management of Chemicals (IOMC);
- (c) Representatives of the paint and coating industry as well as international and national companies that manufacture and/or formulate paint coatings, that supply lead compounds for use in paint;
- (d) International and national medical, housing and public health organizations;
- (e) Academics with expertise in relevant fields;
- (f) Representatives of international and national non-governmental organizations that work on environmental health issues and that have experience of public outreach and awareness campaigns or of implementation of prevention programmes at the community or national levels; and
- (g) Trade unions at the local, national and international levels.

22. Contributions may be in the form of in-kind contributions and/or technical expertise and in the form of financial support for the work of the Global Alliance. Appendix 1 contains

additional information and an example letter to be completed by contributors for registering their contributions towards the work of the Global Alliance.

IX. Structure of the Global Alliance

23. The Global Alliance is not an institutional entity but a collaborative initiative. As such an operational framework has been prepared by UNEP and WHO to describe the working arrangements of the Global Alliance including the role of the advisory group, the five focal area working groups and to provide guidance on public communication, the rights and responsibilities of contributors and guidance on financial matters.



Figure 2: Structure of Advisory group and thematic focal area working groups for the Global Alliance

24. The Global Alliance operates as a joint project undertaken in accordance with the respective mandates and programmes of work of UNEP and the WHO. A dedicated web site has been established that provides the focus for information on the Global Alliance. This web site is hosted as part of the UNEP Chemicals web site and can be found at:

<http://www.unep.org/hazardoussubstances/Home/tabid/197/hazardoussubstances/LeadCadmium/PrioritiesforAction/GAELP/tabid/6176/Default.aspx>

25. The Global Alliance Advisory Group, jointly convened by UNEP and WHO, serves as an important mechanism for discussion of issues common to the different focal area working groups, for reviewing and monitoring progress with activities and for providing input to formal progress reports prepared by UNEP and WHO about the work of the Global Alliance. An interim advisory group has been in operation since 2011. This interim advisory group has laid the groundwork for the Global Alliance operational framework and for this Business Plan, drawing together and prioritizing components from the workplans of each focal area working group.

26. The interim advisory group has comprised representatives of the Governments of Nigeria and the United States of America and the following non-governmental organizations: International Pediatric Association, International Paints and Printing Ink Council, International POPs Elimination Network (IPEN), OK International and experts from the University of Cincinnati and the University of Illinois at Chicago School of Public Health.

27. Based on the recommendations of the interim advisory group, the current work of the Global Alliance is being carried out by the five focal area working groups on health aspects, environmental aspects, workers health, legislation and regulation and outreach to industry convened by either WHO and UNEP as appropriate. The working groups will directly engage Global Alliance contributors in their work and prepare detailed workplans working with WHO and/or UNEP as applicable.

28. A global forum will be convened by UNEP and WHO at least once every two years, to serve as the platform to share information on progress being made by the Global Alliance to present and review the work of the Global Alliance and to share information and experiences from contributors and to catalyze future actions. The global forum or meeting shall include representatives from Governments, intergovernmental organizations and non-governmental organizations. Individual experts contributing to the work of the Global Alliance will also be able to participate. All contributors will be informed of the date and venue of the Global Alliance meetings.

29. Staff of UNEP and WHO jointly provide the secretariat support to the Global Alliance, its advisory group and the work of focal area working groups, under their respective mandates and organizations structures. In the case of the focal area working groups on health aspects and workers health, this work is supported by WHO, and in the case of environmental aspects, outreach to industry and legislation and regulation this work is supported by UNEP.

XI. Financial aspects

30. Global Alliance contributors are responsible for the funding of their activities and are expected to assist in identifying potential donors with an interest in providing resources for other parts of the business plan of the Global Alliance.

31. UNEP and WHO will provide resources to support the work of the Global Alliance subject to the availability of funds resulting from their own resource mobilization efforts. This is expected to cover personnel, operational costs including contractual agreements, communication and outreach activities including information forms, newsletters, and hosting of a dedicated web site and holding one meeting of the Global Alliance forum at least every two years. Wherever possible support will be provided for the participation of developing countries and economies in transition. In the period 2010-2012, total staff resources of 0.8 person-years per year were shared between the two organizations for Global Alliance activities.

32. In 2010-2012, financial support was provided by the Government of the United States for convening the initial Global Alliance operational meeting in May 2010 and from the Government of Norway for the second meeting of the Global Alliance in July 2012. The Governments of Germany, Norway, Sweden and the United States all contributed to operational costs of the Global Alliance in this start-up phase.

33. Specific project support has been provided directly to non-governmental contributors in Nepal and Cameroon by the Strategic Approach to International Chemicals Management (SAICM) Quick Start Programme for activities focusing on creating awareness-raising, and by the European Union's SWITCH Asia Programme in the context of sustainable production and consumption in seven Asian countries. Under the fifth replenishment of the Global Environment Facility (GEF) projects aiming at eliminating lead paint are planned as part of the GEF Chemical's Strategy for emerging policy issues of the Strategic Approach to International Chemicals Management.

34. Appendix 2 provides an indicative direct budget for the Global Alliance to Eliminate Lead Paint for the period 2013-2015.

Appendix 1



**World Health
Organization**

GLOBAL ALLIANCE TO ELIMINATE LEAD PAINT INFORMATION ON BECOMING A CONTRIBUTOR

The Global Alliance is a voluntary collaborative initiative to focus and catalyze the efforts of a diverse range of stakeholders to achieve international goals to prevent children's exposure to lead from paint and to minimize occupational exposures to lead paint. The Global Alliance is a joint undertaking of the United Nations Environment Programme (UNEP) and the World Health Organization (WHO).

WHAT IT MEANS TO BECOME A CONTRIBUTOR TO THE GLOBAL ALLIANCE • Making a commitment to achieving the overall goals and objectives of the work of the Global Alliance. • Contributing financially and/or in-kind technical expertise to the development & implementation of activities which help in achieving the goals and objectives of the Global Alliance. • Working in accordance with the operational framework for the work of the Global Alliance • Being identified publicly as a contributor on the Global Alliance website. • Networking, sharing information & participating with other contributors in the Global Alliance.	GOALS AND OBJECTIVES OF THE GLOBAL ALLIANCE The overall goal of the Global Alliance to Eliminate Lead Paint is to prevent children's exposure to paints containing lead and to minimize occupational exposures to lead paint. The broad objective is to phase out the manufacture and sale of paints containing lead and eventually to eliminate the risks that such point pose. The participation of representative and interested experts from Governments, intergovernmental organizations, non governmental organizations including civil society, regional bodies, philanthropic organizations, academia, the media and the private sector is encouraged. The work of the Global Alliance is organized in five focal areas: ① Environmental aspects, ② Health aspects, ③ Worker's health, ④ Legislation and regulation, and ⑤ Outreach to industry.		
HOW TO BECOME A CONTRIBUTOR TO THE GLOBAL ALLIANCE TO ELIMINATE LEAD PAINT Government departments, organizations and individuals who wish to become GAELP Contributors should provide a letter of intent setting out the commitment of the contributor to the overall goals and objectives of the Global Alliance to Eliminate Lead Paint provide information on the specific initiatives being undertaken in support of the overall goals and objectives of the Global Alliance.			
PLEASE SUBMIT THE LETTER OF INTENT TO BOTH: <table border="1"> <tr> <td> Head, Chemicals Branch United Nations Environment Programme Division of Technology, Industry and Economics 11-13, Chemin de Anémones CH-1219 Châtelaine, Geneva, Switzerland Fax : +41 22 797 34 60 Email : lead-cadmium.chemicals@unep.org </td><td> Director Public Health and Environment World Health Organization Public Health and Environment 20 Avenue Appia CH-1211 Geneva 27 Switzerland Fax: +41 22 791 4127 Email: noleadpaint@who.int </td></tr> </table>		Head, Chemicals Branch United Nations Environment Programme Division of Technology, Industry and Economics 11-13, Chemin de Anémones CH-1219 Châtelaine, Geneva, Switzerland Fax : +41 22 797 34 60 Email : lead-cadmium.chemicals@unep.org	Director Public Health and Environment World Health Organization Public Health and Environment 20 Avenue Appia CH-1211 Geneva 27 Switzerland Fax: +41 22 791 4127 Email: noleadpaint@who.int
Head, Chemicals Branch United Nations Environment Programme Division of Technology, Industry and Economics 11-13, Chemin de Anémones CH-1219 Châtelaine, Geneva, Switzerland Fax : +41 22 797 34 60 Email : lead-cadmium.chemicals@unep.org	Director Public Health and Environment World Health Organization Public Health and Environment 20 Avenue Appia CH-1211 Geneva 27 Switzerland Fax: +41 22 791 4127 Email: noleadpaint@who.int		

FOR FURTHER INFORMATION PLEASE CONTACT UNEP AND WHO AT THE ABOVE ADDRESSES.
[HTTP://WWW.UNEP.ORG/HAZARDOUSSUBSTANCES/](http://www.unep.org/HAZARDOUSSUBSTANCES/)
(SECTION ON GAELP)

Example letter

PLEASE PRINT ON LETTERHEAD OF YOUR ORGANIZATION AND SIGN

DATE

To whom it may concern

Subject : Request to be considered a contributor to the work of the Global Alliance to Eliminate Lead Paint

My [organization name or individual name] endorses the goals and objectives of the Global Alliance to Eliminate Lead Paint and wishes to be considered a contributor to the work of the Global Alliance.

The contribution that we would like to make to the work of the Global Alliance is described below:

[insert description of the in-kind or financial contribution and the timeframe for this contribution to be made]

[We/I] understand that this letter of intent is not legally binding and that a copy of this letter of commitment and the name of [insert organization name or individual name] will be publicly listed on the Global Alliance web site.

Yours sincerely

Appendix 2

Indicative direct budget for the Global Alliance to Eliminate Lead Paint for the period 2013-2015

Table 1

Estimated operational and activity budget for the Global Alliance to Eliminate Lead Paint for 2013-2015
(in United States dollars)

			unit costs	2013	2014	2015	Total
10	Project personnel component						
	1100	Professional staff					
		UNEP					
	1101	Deputy Head, P-5		12'311	12'804	13'316	38'431
	1102	Programme Officer, P-3		121'748	126'618	131'682	380'048
		WHO					
	1103	P-5		98'492	102'431	106'529	307'451
	1199	Sub-Total		232'551	241'853	251'527	725'931
	1200	Consultants					
	1201	Consultants; unspecified		25'000	25'000	25'000	75'000
	1202	Consultants; clearing-house mechanism and website maintenance		30'000	10,000	10'000	40'000
	1203	Consultants; preparation of guidance, training materials, targeted publications		75'000	25'000	15'000	115'000
	1204	Consultants; outreach and exchange information activities (per country)	5'000	100'000	125'000	125'000	350'000
	1299	Sub-Total		230'000	175'000	175'000	580'000
	1300	Administrative support					
		UNEP					
	1301	Secretariat G4/5		34'008	35'368	36'783	106'159
		WHO					
	1304	Secretariat G5		17'004	17'684	18'392	53'080
	1330	Conference servicing					
	1330	Third GAELP meeting			25'000		25'000
	1320	Temporary assistance/ Overtime		2'000	4'000	2'000	8'000
	1399	Sub-Total		53'012	82'052	57'175	192'239
	1600	Travel on official business					
	1601	Staff travel on official business related to GAELP		20'000	30'000	20'000	70'000
	1699	Sub-Total		20'000	30'000	20'000	70'000
	1999	Component total		535'563	528'905	503'702	1'568'170
20	Subcontract component						
	2100	Subcontracts					
	2101	Regional/national testing, awareness and capacity building programmes		400'000	500'000	500'000	1'400'000
	2299	Sub-Total		400'000	500'000	500'000	1'400'000
	2999	Component total		400'000	500'000	500'000	1'400'000
30	Training component						
	3100	Meetings/Conferences					

3101	Third GAELP meeting	0	150'000	0	150'000
3102	GAELP Advisory Group meetings	10'000	12'000	14'000	36'000
3103	Regional and national awareness and Alliance promotion meetings	200'000	150'000	150'000	500'000
3104	GAELP support to the 1st international day of action on prevention on lead poisoning (focus lead paint)	75'000	75'000	0	150'000
3105	GAELP representation at SAICM meetings	25'000	25'000	25'000	75'000
3106	Expert meetings	50'000	25'000	25'000	100'000
3399	Sub-Total	360'000	437'000	214'000	911'000
3999	Component total	360'000	437'000	214'000	911'000

40 Equipment and premises component

4100	Expendable equipment (items under \$1,500)				
4101	Office equipment and supplies: paper, toner, CD-Roms, USB	1'200	1'200	1'200	3'600
4102	Computer software	2'000	2'000	2'000	6'000
4199	Subtotal	3'200	3'200	3'200	9'600
4200	Non-expendable equipment				
4201	Office equipment: Computer hardware and clearing-house mechanism	4'000	4'000	4'000	12'000
4299	Subtotal	4'000	4'000	4'000	12'000
4300	Premises				
4301	Office space, maintenance, utilities	5'300	5'300	5'300	15'900
4399	Subtotal	5'300	5'300	5'300	15'900
4999	Component total	12'500	12'500	12'500	37'500

50 Miscellaneous component

5100	Operation and maintenance of equipment				
5101	Maintenance of office equipment	5'000	5'000	5'000	15'000
5299	Subtotal	5'000	5'000	5'000	15'000
5200	Reporting costs				
5201	Web publishing and other electronic media	10'000	5'000	5'000	20'000
5202	Printing costs	7'500	3'000	5'000	15'500
5203	Document translation	10'000	4'000	10'000	24'000
5204	Awareness and guidance documents for GAELP focal areas of work	140'000	110'000	115'000	365'000
5299	Subtotal	167'500	122'000	135'000	424'500
5300	Sundry				
5301	Communications mailing/dispatching	4'000	4'000	4'000	12'000
5302	Communications: phone and internet connection	4'000	4'000	4'000	12'000
5303	Office supplies	2'000	2'000	2'000	6'000
5399	Subtotal	10'000	10'000	10'000	30'000
5500	Evaluation				
5501	Evaluation consultant for the GAELP		20'000		20'000
5499	Subtotal	0	20'000	0	20'000
5999	Component total	182'500	157'000	150'000	489'500
Direct project cost		1'490'563	1'635'405	1'380'202	4'406'170

UNEP and WHO Programme support cost (13%)		193'773	212'603	179'426	572'802
9	GRAND TOTAL	1'684'336	1'848'008	1'559'628	4'978'972

Table 2

Indicative staffing table for UNEP and WHO project personnel component for the Global Alliance to Eliminate Lead Paint (in United States dollars)

Staff category and level	Current and proposed staffing 2012-2015	
	UNEP	WHO
A. Professional category		
D-1 level		
P-5 level	0.05	0.40
P-4 level		
P-3 level	0.70	
P-2 level		
<i>Subtotal:</i>	<i>0.75</i>	<i>0.4</i>
B. General service category		
GS5	0.30	0.15
<i>Subtotal:</i>	<i>0.30</i>	<i>0.15</i>
Total (A+B)	1.05	0.55

Table 3

Standard salary cost for Geneva 2012-2015 (in United States dollars)

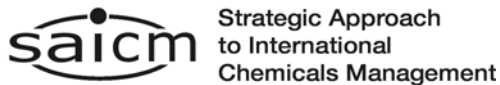
Staff category and level	2013 ¹	2014 ¹	2015 ¹
A. Professional category			
D-1 level			
P-5 level	246'229	256'078	266'321
P-4 level			
P-3 level	173'925	180'882	188'118
P-2 level			
B. General service category			
GS	113'360	117'894	122'610

¹ Staff costs for cost 2013 onwards were estimated by increasing the 2012 costs by 4% the United Nations Standard Salary Costs for Geneva for the years 2013, 2014 and 2015.

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International Conference on Chemicals Management

Third session

Nairobi, 17–21 September 2012

Item 4 (e) of the provisional agenda*

**Implementation of the Strategic Approach to
International Chemicals Management:**

New and emerging policy issues

**Submission for a nominated new emerging policy issue for
proposed actions on endocrine disrupting chemicals**

Note by the secretariat

The secretariat has the honour to circulate, for the information of participants, the submission of the nominated new emerging policy issue on international cooperation to build awareness and understanding and promote actions on endocrine disrupting chemicals, included in Annex 1 to this note. This submission has been reproduced as received and has not been formally edited.

* SAICM/ICCM.3/1

Annex 1

Questionnaire for Governments and organizations to nominate possible emerging policy issues for consideration by the International Conference on Chemicals Management at its third session	 Strategic Approach to International Chemicals Management SAICM – ICCM3 emerging Issues – UNEP Nomination EDP – November 2010, Rev Aug 2011 SAICM secretariat 11–13 chemin des Anémones CH-1219 Châtelaine, Geneva Switzerland Tel: 41 22 917 86 31 Fax: 41 22 797 34 60 E-mail: saicm@unep.org
Issue International cooperation to build awareness and understanding and promote actions on endocrine disrupting chemicals	Submitter DTIE / Chemicals United Nations Environment Programme International Environment House 11-13 Ch. des Anémones CH-1219 Châtelaine (GE) Switzerland Contact Person: Timothy Kasten, Head UNEP/DTIE Chemicals (Submission developed in cooperation with the World Health Organization)
State the problem Chemical interferences with hormonal systems started to be more intensely discussed 15 years ago. At that time, however, there were several examples of how endocrine effects impacted wildlife and humans, but still the effects were rarely presented as hormonal effects. During the latter part of the 1990's numerous national reports and assessments were presented regarding endocrine effects and endocrine disrupting chemicals. A global assessment of the state-of-the-science was published in 2002 by IPCS. At that point it was clear that endocrine effects occurred in wildlife while effects in humans at low-level (population) exposure levels were much more uncertain and the mechanisms not well understood. Endocrine effects are caused by a variety of chemicals with very different chemical structures and lead to a variety of effects and endocrine endpoints. These effects may be manifested at relatively low doses. The situation is further complicated by multi-chemical exposures with synergistic potential. The time of exposure may be critical, especially in developing fetuses - whether wildlife or humans. Problems are accentuated by the fact that production and use of chemicals are increasing in developing countries where the risk management capacity is often limited. Furthermore, many products containing these chemicals can constitute a significant source of exposure and may also pose serious risks during recycling and disposal operations, in particular in countries that lack adequate risk management capacity. Only a small portion of all the anthropogenic chemicals and their metabolites currently in use have been adequately studied for their endocrine disruption potential. The Global Plan of Action of SAICM also proposes to stakeholders some work areas and activities to address EDC related issues, including the development of action plans to address priority concerns in relation to groups with specific vulnerabilities; prioritization of assessment and related studies of groups of chemicals that pose an unreasonable risk for human health and the environment which might include chemicals adversely affecting the endocrine system; filling gaps in scientific knowledge such as gaps in understanding of endocrine disruptors and; harmonizing principles and methods for risk assessment (e.g.	

for vulnerable groups) and specific toxicological endpoints (such as endocrine disruption and ecotoxicology) and for new tools.

Hence, there is a need to continue to improve how EDC characteristics are addressed in risk assessments and to support management decision making and prioritization with better scientific understanding. For this, the different EDC endpoints are being defined and improved risk assessment methodologies developed. The problem is global although the issues can be different in different regions of the world. In developed countries the EDC issue is not well understood for all endpoints and although legislation has been or is being developed, more work is being done on risk assessment methodologies in order to support such legislative mechanisms. In developing countries and countries with economies in transition the EDC problems are much less studied and rarely addressed. An initiative at international level is therefore needed to help address these different issues regarding EDCs ensuring involvement and support to developing countries and countries with economies in transition.

Information that can be used to assess the nominated issue

(i) Magnitude of the problem and its impact on human health or the environment, taking into account vulnerable subpopulations and any toxicological and exposure data gaps: The issue is clearly global, there are already numerous chemicals identified as potential EDCs. These include chemicals widely used in consumer products such as flame-retardants, plasticizers, human care products, pesticides, pharmaceutical (human and veterinary) etcetera. Studies on EDC related effects are mainly available from OECD countries but some studies from developing regions have observed EDC effects in both humans and wildlife.

Exposure to EDCs is hence of global concern, but some vulnerable sub-populations are at higher risks such as Northern Inuits due to their consumption of food with high fat content; others are those subjected to pesticide spraying and use while those in rapidly growing economies with increased production and use of pesticides, pharmaceuticals and of industrial chemicals are at risk as well. However, the most vulnerable group is children, and in particular the developing foetus that can be exposed via their mothers. Close to 300 body-foreign chemicals (i.e. substances that are not natural to the human body) have been demonstrated in the umbilical blood of new-borns in developed countries. Children are also more exposed than adults via food, food containers, toys and other products that they can put into their mouths.

(ii) Extent to which the issue is being addressed by other bodies, particularly at the international level, and how it is related to, complements or does not duplicate such work: WHO and UNEP are presently developing an update of the 2002 IPCS state of the science document with internationally recognized experts. The ongoing chemical assessment programmes of WHO include assessment of endocrine-active chemicals as well as development of risk assessment methodologies relevant to such chemicals. Activities are on-going in OECD countries and in particular the EU is analysing assessment and other needs for EDCs in relation to regulatory requirements. The US EPA is also undertaking a screening program on EDCs. The OECD test guidelines programme has and is developing test protocols for specific EDC endpoints and is also developing a guidance document on hazard identification. As approaches for addressing the EDC issue are still under development by different organizations and countries, an international initiative should help in raising the awareness about them and thereby facilitate understanding and harmonization between these and any new initiatives.

(iii) Existing knowledge and perceived gaps in understanding about the issue: Even though many endocrine active chemicals have been assessed, the majority of these compounds still need to be studied to understand their actions and confirm the need for control actions. A large number of chemicals are not yet at all tested or assessed for their endocrine disruptive activity.

(iv) Extent to which the issue is of a cross-cutting nature: This is a truly cross-cutting issue with the great variety of chemicals with potential ED action means that all sectors of chemical use are potentially affected. Furthermore, ED active chemicals may be included and present in all types of products from food packaging, cosmetics, and textiles to computers and construction materials. The issue of EDC is interdisciplinary requiring expertise from a variety of scientific disciplines including, but not limited to, environmental epidemiology, chemistry, medicine, biochemistry, eco-toxicology and statistics.

(v) Information on the anticipated deliverables from action on the issue.:

Greater visibility and policy engagement, in particular in non-OECD countries.

Greater coordination, consistency and synergies between different initiatives around the globe engaging actors from different sectors.

Improved capacity for assessing and managing risks from EDCs, in particular in developing countries.

Particular outputs would include: Expert guidance for risk identification and assessment; priority setting for research and for risk management / control actions; information exchange and networking from which scientists and policy makers in developing countries and countries with economies in transition could especially benefit, resulting in greater understanding of the EDC issues and of needs for priority actions.

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Describe the proposed cooperative action

With the objective of improving understanding among policy makers and other stakeholders of risks posed by EDCs to human health and the environment and promoting actions to reduce these risks, it is proposed that an international project on EDC be established to undertake the following by building on existing activities, in particular of OECD, UNEP and WHO including the update of the 2002 IPCS Global Assessment of the State-of-the-Science of EDCs:

- i) provide up-to-date information and scientific expert advice to policy decision makers and others responsible for chemicals risk management, for the purpose of identifying or recommending potential measures that can contribute to reductions in exposures and / or effects from EDCs, *inter alia* through timely updates to the new IPCS document with the involvement of relevant expertise.
- ii) raise awareness and facilitate information exchange and networking, *inter alia* through regional and sub-regional workshops / discussion forums and a dedicated website that links to relevant information sources.
- iii) provide international support activities to build capacities in countries, in particular developing countries and countries with economies in transition, for assessing EDC issues in order to support decision making including prioritization of actions, e.g. through guidance and training tools / activities involving relevant expertise. .
- iv) create an international network of scientists, risk managers and others that are particularly concerned with EDC issues to facilitate information exchange, discussion forums and mutual support in research and advice on translation of research results into control action.

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Third session

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Item 4 (e) of the provisional agenda*

**Implementation of the Strategic Approach to
International Chemicals Management:
emerging policy issues**

**Report of the International workshop on hazardous substances
within the life-cycle of electrical and electronic products, held in
Vienna, from 29 to 31 March 2011**

Note by the secretariat

The secretariat has the honour to circulate, for the information of participants, the report of the International workshop on hazardous substances within the life-cycle of electrical and electronic products, held in Vienna, from 29 to 31 March 2011. The report, contained in the annex to the present note, has been transmitted by the secretariats of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal and the Stockholm Convention on Persistent Organic Pollutants, as well as the United Nations Industrial Development Organization (UNIDO). The report has been reproduced as received and has not been formally edited. The report was considered by the Open-ended Working Group at its first meeting in Belgrade from 15-18 November, 2011.

* SAICM/ICCM.3/1

ANNEX

International workshop on hazardous substances within the life-cycle of electrical and electronic products

29, 30 and 31 March 2011
UNIDO Headquarters
Vienna International Centre
Vienna, Austria

REPORT OF THE MEETING

I. Background

The purpose of the international workshop is to advance international and national efforts to reduce the life-cycle impacts of the hazardous substances in electronic and electrical products.

The meeting was organized by the Secretariat of the Basel Convention, the United Nations Industrial Development Organization, on behalf of the participating organizations of the Inter-Organization Programme for the Sound Management of Chemicals, and the Secretariat of the Stockholm Convention. The meeting has been convened pursuant to decision II/4 of the International Conference on Chemicals Management (ICCM) at its second session in May 2009 concerning hazardous substances within the life-cycle of electrical and electronic products (operational paragraph 1 of section D) which:

- *Invites* the participating organizations of the Inter-Organization Programme for the Sound Management of Chemicals and the Secretariats of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal and the Stockholm Conventions on Persistent Organic Pollutants to develop, plan and convene, within available resources, a workshop to consider issues in relation to electrical and electronic products, based on a life-cycle approach. The workshop would seek to identify and assess where issues relating to the sound management of chemicals arise during the lifespan of electrical and electronic products, including the design of such products, green chemistry, recycling and disposal, in particular in the context of the requirements of the Basel and Stockholm conventions, and would develop a series of options and recommendations for future work, through existing mechanisms to the extent possible, which would be provided at the intersessional meeting and to the International Conference on Chemicals Management at its third session for its consideration and possible cooperative actions.

The workshop was made possible thanks to the financial support received from the Ministry of Environment of Japan, the Ministry of the Environment of Sweden, the United States Environmental Protection Agency and the United Nations Industrial Development Organization (UNIDO). UNIDO hosted the workshop. A total of 90 participants comprising representatives of governments, industry, civil society, intergovernmental organizations and the academia attended the workshop.

II. Opening of the meeting

The meeting was opened at 09:30 am on Tuesday 29 March 2011 by the Moderator, Mr. Heinz Leuenberger, as the representative of UNIDO, who welcomed the participants. He then gave the floor to Mr. Dmitri Piskounov, Managing Director of the Programme Development and Technical Cooperation Division (PTC) of UNIDO for his welcoming remarks. Mr. Piskounov. thanked the Secretariats of the Basel and Stockholm Conventions and the Secretariat of the Strategic Approach to International Chemicals Management (SAICM) for the preparation of the international workshop and emphasized that this workshop was timely as end-of-life electronic and electrical equipment (EEE) is one of the fastest growing waste streams in the world and adequate infrastructure and capacity building are required to properly manage it. He further added that there is a lack of capacity to handle electronic waste in an environmentally sound manner in almost all developing countries and countries with economies in transition, leading to the release of hazardous substances, causing harm to human health and the environment. He pointed out that there is a pressing need for the development of clean technology, clean design and waste avoidance, product stewardship and extended producer responsibility. He referred to the fundamental need for

a paradigm shift and that UNIDO was addressing this challenge through its Green Industry Initiative. Finally, he stressed that to see the partners of the UN system working together was a very encouraging signal and that the full involvement of Member States was critical as well as to show results on the ground with practical sound solutions.

Mrs Katharina Kummer-Peiry, Executive Secretary of the Secretariat of the Basel Convention expressed her appreciation for the hard work to organize this meeting, with special thanks to Mr. Oladele Osibanjo, Chairman of the Workshop Steering Group, the Members of the Steering Group and Mr. Ibrahim Shafii for accepting to act as Secretary to the Steering Group. She also thanked UNIDO for hosting the workshop and those who provided financial support. She said that waste electrical and electronic equipment (WEEE) is recognized as one of the problematic waste streams worldwide presenting a heavy burden for people, especially the poor, and the environment while offering opportunities as potential resources to be recycled, recovered, or re-used. She pointed out that economic opportunities to create green jobs and manufacture electronic and electrical products (EEE) with less hazardous substances exist. The issue of WEEE was widely recognized, in the context of the Basel Convention at the eighth meeting of the Conference of Parties in 2006 as a result of efforts carried out since 2002 and the subsequent establishment of partnerships to address used or end-of-life mobile phones (Mobile Phone Partnership Initiative - MPPI) and computers (Partnership for Action on Computing Equipment - PACE) as well as through the development of technical guidelines and two region-wide programmes in Africa and Asia. She emphasized that a weak link in the life-cycle approach was the up-stream level where efforts have to be further strengthened towards reducing the harmful substances in EEE. The tenth meeting of the Basel Convention Conference of Parties that will be held in Colombia in October 2011 has selected as its theme 'the prevention, minimization and recovery of waste'. It will be a contribution to this important paradigm shift where efforts have to be made to transform waste into resources. The outcome of this workshop might provide useful input to the Conference of Parties. She highlighted that the recent reports of UNEP on "Towards the Green Economy: Pathways to Sustainable Development and Poverty Eradication" and on "Waste and Climate Change" recognised the important role of waste recycling and resource recovery and the sound management of waste for the reduction of greenhouse gases.

Mr. Donald Cooper, Executive Secretary of the Secretariat of the Stockholm Convention highlighted why the Stockholm Convention was part of this international workshop. The meetings of the Conference of Parties to the Stockholm Convention have recognized WEEE as an important issue. Both the Stockholm and Rotterdam Conventions address a particular aspect of chemical trade. They govern the safe handling of a number of chemicals that potentially can cause serious harm to human health and the environment because they are highly toxic, persistent, might travel long distances and will accumulate in fatty tissues. The risk of releasing these chemicals to the

environment occurs at multiple stages of the EEE life-cycle. UNEP and FAO launched a Safe Planet campaign targeting consumers worldwide to increase global awareness on the sound production, use, and recycling of EEE. He further pointed out that the Stockholm Convention looks at alternatives to persistent organic pollutants (POPs) and at the life-cycle of EEE to reduce the negative impacts of hazardous POPs in such equipment, an area where industry has a crucial role to play.

Mr. Mohamed Omotola spoke on behalf of the SAICM Secretariat. Mr. Omotola reminded the audience that the issue of the life-cycle of hazardous substances in EEE was among the four emerging issues that ICCM2 identified together with lead in paint, chemicals in products and nanotechnologies and manufactured nanomaterials. This international workshop is an opportunity in regard to SAICM work. Indeed, SAICM is now launching regional consultations as an input for the preparation of SAICM Open-ended Working Group that will be held in August 2011 on the road to ICCM3 in 2012 that will evaluate the work of and progress made by SAICM.

The Moderator thanked the speakers for their opening remarks and handed-over the podium to the Chairman of the meeting, Mr. Oladele Osibanjo.

III. Key note address by the Chairman

The Chairman welcomed the participants on behalf of the Steering Group. He thanked UNIDO for hosting the meeting and the Governments of Japan, Sweden, the USA and UNIDO for providing financial support. He emphasized that it would be important for the participants to share their knowledge and experience so a road map for actions related to the electrical and electronic waste affecting the world could be developed. Some of the challenges related to the EEE and WEEE are the lack of legislation and the lack of knowledge on how to deal with e-waste. He said that the generation of uncontrollable high volumes of WEEE is a dark side of the information-communication technology which has revolutionized modern living, international business and global governance. What makes WEEE hazardous is principally due to the hazardous chemicals they contain, e.g. heavy metals and brominated flame retardants (BFRs). There is a global trade for WEEE that represents a danger for developing countries that lack infrastructure and capacity to manage such hazardous waste streams in an environmentally sound manner.

There is need to enter into a new paradigm shift where waste is transformed into resources. However, there are many difficulties on the road. There are huge information gaps along the supply chain that create difficulties for waste managers and recyclers. The control of transboundary movements of hazardous WEEE is essential to protect importing countries from the potential harm these waste streams represent to human health and the environment.

ICCM2 gave this meeting a mandate to come up with options and recommendations on what to do in the context of the life-cycle of hazardous substances in EEE. The international workshop derives from resolution II/4 of ICCM2 organized under the auspices of SAICM. It should address the issue of the fate and sound management of chemicals during the life-cycle of EEE along the supply chain. The main objective of the international workshop is to contribute to international and national efforts aimed at understanding and reducing the impacts of the hazardous chemicals content of electrical and electronic equipment during their life cycle, along the supply chain, on human health and the environment while seizing opportunities to exploit employment creation, poverty alleviation and entrepreneurship potentials that may arise.

The Chairman was confident that the meeting will provide a platform for sharing information and coming up with solutions that will feed into the SAICM/ICCM3 process. He clarified that this meeting was not a negotiating meeting. Finally he stated that the organization of this workshop by some United Nations agencies is a good manifestation of the synergy process of UNEP at work.

IV. Organization of the workshop

The Chairman explained that the work will be conducted both in plenary and working groups which are to be set up later after the presentations. He referred to the provisional agenda that is contained in Annex 1 to the present report. The meeting was conducted as a paperless meeting and all presentations made during the meeting were up-loaded on a special website of UNIDO under <https://www.unido.org/forum>.

The list of participants is found in Annex 4 to the present report.

V. Brief overview

The Chairman called on Mr. Mathias Schluep from the Swiss Federal Laboratories for Materials Science and Technology (EMPA) to deliver an introduction on the hazardous substances issues within the life-cycle of EEE. Mr. Schluep focused on specific examples of hazardous substances in EEE, including polychlorinated biphenyls (PCBs) in capacitors, polybrominated flame retardants (PBDEs) in plastics and mercury and indium in flat-panel displays, which have particular implications for the end-of-life equipment. Specific examples of improper treatment of WEEE, such as desoldering and acid leaching, lead recycling, and cable and plastic waste burning were highlighted.

VI. Regional perspective

Mr. Joe DiGangi of the International POPs Elimination Network (IPEN) was invited by the Chairman to make a presentation on the regional perspective and expectations regarding the hazardous substances issues within the life-cycle of EEE building on a series of regional consultations undertaken in the context of SAICM. Brief overview of SAICM and its key policy documents as well as emerging policy issues was made by Mr. DiGangi. Furthermore, in his presentation Mr DiGangi discussed the needs and expectations related to upstream, midstream and downstream issues of EEE and WEEE agreed upon in the regional meetings held in four UN regions between 2009 and 2010.

VII. Presentations on up-stream, mid-stream and down-stream chemicals issues

Seven Speakers were invited by the Chairman to present the up-stream, mid-stream and down-stream chemicals issues. The Speakers were:

- Up-stream-issues: Mr. Mark Rossi, Clean Production Action, USA and Mr. Hans Wennekes, DSM Engineering Plastics

- Mid-stream issues: Ms. Jeong-ok Kong, Korea Institute of Labour Safety and Health, Korea, and Mr. Pavan Baichoo, International Labour Organization
- Down-stream issues: Mr. Jim Puckett, Basel Action Network, USA, Ms. Oyuna Tsydenova, Institute for Global Environmental Strategies, Japan, and Ms. Huo Xia, Shantou University Medical College, China.

A discussion followed the presentations. Some of the points raised concerned the importance to use the regional and coordinating centres established under the Basel and Stockholm Convention to address regional needs. The concern on how to benefit from experience on green design was raised and it was suggested that a search on this topic on the internet would provide a lot of information. Some participants volunteered to provide such information. The issue of ensuring that suppliers provide adequate and in-time information was highlighted as critical to manage WEEE in an environmentally sound way. Also, the importance to develop a domestic secondary raw market for used or end-of-life EEE was underlined. A view was expressed that the increasing volume of EEE and WEEE in developing countries requires a transfer of green technologies to these countries. The issue of costs externalities came up to promote the reduction of the pollution burden, greenhouse gas emissions and energy and encourage green design; although it was noted that costs of green design could be prohibitive. It was noted that issues of sustainable design and production management will impact on EEE design as well as the use of the extended producer responsibility principle.

VIII. In-session working groups

Three in-session working groups were established by the Chairman entrusted with the task to come up with ideas, solutions, options or recommendations on how to best handle the issues concerning the life-cycle of hazardous substances in EEE, including looking at gaps and potential for synergies. The three working groups were responsible for one dimension of the life-cycle each:

- Group 1 dealt with up-stream issues (Co-chairs: Prof. Ab Stevels and Ms. Maria Delvin).
- Group 2 dealt with mid-stream issues (Co-chairs: Mr. David Kapindula and Mr. Ted Smith).
- Group 3 dealt with down-stream issues (Co-chairs: Mr. Pierre Portas and Mr. O.O. Dada).

The three Groups met on Wednesday, 30 March 2011.

XI. Report by the Working Groups

One Co-chair for each working Group was invited by the Chairman to report on the work of their respective group at the opening of the plenary in the morning of Thursday 31 March 2011.

Further to the presentations by the three Co-chairs a discussion followed. The discussion focused on the need to be as complete as possible and provide a coherent set of recommendations to be presented to the SAICM process. In order to further improve the output of the international workshop, the Chairman proposed that the three Working Groups reconvene in the morning to address any outstanding, unclear or unsolved issues and start harmonizing the presentation of their respective work.

In the afternoon, the Co-chairs of the three Working Groups presented their outcomes to plenary. The outcomes of the work of the three in-session Working Groups are contained in Annex 2 to the present report.

X. Presentation of recommendations to SAICM and ICCM3

Based on the work done by the three in-session Working Groups, the Chairman proposed a way forward. Firstly he reminded the participants about the process. The recommendations of this meeting will be presented to the Open-ended Working Group (OEWG) of SAICM planned to meet in August 2011. Therefore, a draft consolidated version of the report of this meeting should be ready as soon as possible. The draft report will be circulated to the Members of the Steering Group, the Co-chairs and Chairman for comments. Comments by participants to the workshop will be invited to be sent to the Secretariat of the Basel Convention, and the recommendations from this meeting will be submitted to SAICM/OEWG in time for its consideration. .

The Chairman introduced possible textual elements that would accompany the set of recommendations prepared by the international workshop. A contact group was set up to prepare a statement that will form part of the present report and that would introduce the recommendations. The key messages from the workshop are as set out in Annex 3 to this report.

Due to time constraints the agenda items regarding the synthesis by the Chairman and Other matters could not be considered by the meeting.

XI. Closure of the meeting

The Chairman thanked heartily the Co-chairs of the Working Groups, the participants and

the Secretariats for their active participation and hard work that has enabled the meeting to enrich the debate on the complex issues surrounding the life-cycle of hazardous substances in EEE. He expressed full satisfaction with the outcomes of the workshop and the high quality of the work done.

He then called on UNIDO to make a closing statement. The representative of UNIDO, Mr. Smail Alhilali, recognised the very good contribution this workshop is making to the SAICM process. He thanked everyone for their excellent work.

The Chairman again thanked the representative of UNIDO and those who made financial contributions for the workshop. He declared the workshop closed at 18:00 on Thursday 31 March 2011.

Annex 1 Provisional Agenda

DAY 1. Tuesday, 29 March 2011 (Location: M Building Board Room B)		
Time	Subject	Chairs / Speakers
09:30-10:00	Opening of the workshop (plenary) Welcome by host Opening remarks by IOMC, Basel Convention, Stockholm Convention and SAICM	UNIDO SBC SSC SAICM
10:00-10:30	Key note address by Prof. O. Osibanjo, Chairman of the Steering Committee	Prof. O. Osibanjo
10:30-10:45	Organisation of the workshop Presentation of the agenda and objectives Organisation of work	Prof. O. Osibanjo
10:45-11:00	Coffee break	
11:00-11:30	Brief overview of hazardous substances issues within the life-cycle of electrical and electronic equipment	Mathias Schluep
11:30-12:00	Regional perspective of hazardous substances issues within the life-cycle of electrical and electronic equipment	Joe Digangi
12:00-13:00	Up-stream chemicals issues, policy and capacity-building	Mark Rossi Hans Wennekes
13:00-13:45	Lunch break	
13:45-14:45	Side events	
15:00-16:00	Mid-stream chemicals issues, policy and capacity-building	Jeong-ok Kong Pavan Baichoo
16:00-17:00	Down-stream chemicals and waste issues, policy and capacity-building	Jim Puckett Oyuna Tsydenova Prof. Huo Xia
17:00-17:15	Coffee break	
17:15-18:00	Establishment of in-session working groups; tasks; expectations	
18:00	End of first day. Reception hosted by UNIDO	

DAY 2. Wednesday, 30 March 2011 (Location: M Building, Conference Rooms MOE 79, MOE27 and MOE05)		
Time	Subject	Co-chairs
09:30-11:00	In-session working groups reconvene	Up-stream:
11:00-11:15	Coffee break	Prof. Ab Stevels Maria Delvin
11:15-13:00	In-session working groups reconvene	Mid-stream:
13:00-13:45	Lunch break	Ted Smith David Kapindula
13:45-14:45	Side events	Down-stream:
15:00-16:30	Continuation of in-session working groups focusing on action and recommendations	Pierre Portas Dr. O.O.Dada

16:30-16:45	Coffee break	
16:45-18:00	Continuation of in-session working groups focusing on action and recommendations	

DAY 3. Thursday, 31 March 2011 (Location: M Building, Board Room B)		
Time	Subject	Chair
09:30-10:15	Report by working groups (plenary)	Prof. O. Osibanjo
10:15-10:45	Discussion	
10:45-11:00	Coffee break	Prof. O. Osibanjo
11:00-12:00	Introduction to the preparation of recommendations to SAICM/ICCM3 and discussion	
12:00-13:00	Working groups set up to draft recommendations	
13:00-13:45	Lunch break	
13:45-14:45	Side events	
15:00-15:45	Presentation of set of recommendations by each group (plenary)	Prof. O. Osibanjo
15:45-16:00	Discussion	
16:00-16:15	Coffee break	
16:15-16:45	Synthesis by chairperson on recommendations to SAICM and ICCM3	Prof. O. Osibanjo
16:45-17:15	Last round of comments	
17:15-17:45	Other matters	
17:45-18:00	Closure of the workshop	

SIDE EVENTS

Day/time	Title	Room
Tuesday, 29 March 13:45-14:45	National Environmental Standards and Regulations Enforcement Agency (NESREA): E-waste issues: The Nigerian experience	MOE79
	Stockholm Convention Secretariat/UNIDO SCU: The Stockholm Convention and the control of persistent organic (POPs) pollutants occurring in WEEE. New POPs	MOE27
Wednesday, 30 March 13:45-14:45	UNIDO: Presentation of the project "Establishment of a dismantling facility for e-waste in Uganda"	MOE79
	Secretariat of the Basel Convention: Progress on E-waste activities and PACE under Basel Convention	MOE27
Thursday, 31 March 13:45-14:45	Basel Action Network: Update on the global challenges to stem the tide of toxic e-waste and introduce their responsible recycling certification program – e-Stewards.	MOE27

Annex 2: Outcomes of the working groups

A. Upstream recommendations

The Upstream Working Group recognizes the importance of the Strategic Approach to International Chemicals Management (SAICM) playing a coordinating role in making connections across organizations and other stakeholders in realizing the following five recommendations.

Best practices in managing chemical information flows

1) Governments, international agencies, businesses and business associations should create an international set of best practice resources for managing chemical information flows, including:

- Government initiatives for managing chemical information flow in electrical and electronic products and manufacturing¹
- Business standards and practices for tracking and disclosing chemicals in products, (including: industry standards,² supply chain information sharing, hazardous substance disclosure in electrical and electronic products,³ and company-specific initiatives)

Best practices in business organizational procedures

2) Universities, businesses, business associations, governments and international agencies should research, compile and disseminate best practices in business organizational procedures for managing hazardous substances in electrical and electronic products; and create a guidance document for interested parties that includes:

- Corporate policies, programs (design, manufacturing and purchasing), roadmaps and reporting
- Staff incentives for environmental performance (including senior management)
- Transition management plans that address investments, procurement, and substitution⁴
- Supply chain management
- Chemical management systems
- Prevention activities such as waste minimization
- Investments in green chemistry

¹ For example, see: UNEP Chemicals in Products (CIP) electronics case study; UNEP CIP recommendations to OEWG/ICCM3; Globally Harmonised System (GHS) for the Classification and Labeling of Chemicals; and national examples.

² For example, see standards for material declarations developed by International Electrotechnical Commission (IEC) and IPC, such as: IEC 62474.

³ For example see safety data sheets.

⁴ This could include how to move from low cost-high volume to high cost-low volume solutions.

- Stakeholder engagement

Chemicals of concern

3) International agencies should compile and communicate lists of chemicals of concern to human health or the environment in the electrical and electronic products sector that include:

- Restricted substance lists from businesses in the electrical and electronic products sector
- Lists from national governments, global treaties, and regional regulations, including but not limited to: Stockholm Convention on Persistent Organic Pollutants, European Union Restriction of Hazardous Substances Directive (RoHS), European Union REACH Substances of Very High Concern (SVHCs), Basel Convention, and Rotterdam Convention
- Lists from NGOs: for example: ChemSec Substitute It Now list
- Summaries of the hazard and toxicological data of the chemicals on the above lists
- Scientific statements of concern, for example the San Antonio Statement on Brominated and Chlorinated Flame Retardants⁵

The compilation of lists and selection criteria are for information purposes aimed at identifying chemicals of concern in electrical and electronic products sector, not for setting regulations. The next step could be used for further priority setting.

Tools and best practices for hazardous chemical reduction, elimination and substitution

4) Governments, international organizations, universities, businesses and business associations should identify tools and best practices that advance design for hazardous chemical reduction, elimination, and substitution, including:

- Government substitution initiatives and resources⁶
- Resource documents on the tools for implementing substitution and hazardous chemical reduction⁷
- Guides for using hazardous chemical reduction and substitution tools
- Potential substitutes to chemicals of concern in specific electrical and electronic product applications
- Green purchasing strategies used in businesses

⁵ Environmental Health Perspectives (2010) 118: 516 – 518

⁶ For example, see: POPs Review Committee Alternatives Guidance document; ECHA Guidance on PBT; and US EPA Chemical Action Plans.

⁷ The resource document should include: a) tools and best practices from businesses, governments, research institutes, universities and NGOs; b) criteria used for evaluating substitutes, including: costs, health and environmental impacts and technical performance; and c) benchmark assessments of these tools.

- Strategies and actions that should be taken when elimination is not possible or substitutes are unavailable⁸

Policy Instruments

5) Governments should consider adopting policy instruments, and intergovernmental organizations should promote actions, that support hazardous chemical reduction, elimination, and substitution in electrical and electronic products, including:

- Regulation of hazardous chemicals in electrical and electronic products, for example, measures of the type in the European Union Restriction of Hazardous Substances Directive (RoHS)
- Hazardous chemical ingredient disclosure across supply chain and the consumer right to know chemicals of concern (such as the European Union REACH Substances of Very High Concern) in electrical and electronic products
- Green electrical and electronic product procurement initiatives that can be supported by:
 - Completing a survey of national green electrical and electronic product procurement initiatives
 - Developing guidelines for effective green electrical and electronic products procurement initiatives
 - Training stakeholders in green procurement
 - Promoting good governance and transparency in green electrical and electronic products procurement initiatives
- National development policy plans that integrate and prioritize sound management of hazardous substances and waste management systems
- National/regional electrical and electronic products eco-label programs that integrate hazardous chemical reduction, elimination and substitution in electrical and electronic products
- Educational programs that raise awareness among the general public on the need for recycling electrical and electronic products and understanding concerns with hazardous chemicals in electrical and electronic products
- Extended Producer Responsibility (EPR) policies that are optimized by:

⁸ Such strategies and actions may happen at the upstream or downstream stage of the life cycle. Upstream actions may include: reduce chemical use by lowering the volume of chemical in the product (for example, reduce mercury content in compact fluorescent light); provide information across the supply chain; describe why alternatives are unavailable; and support research and development into alternatives. Downstream actions may include: adopting eco-design attributes such as design for disassembly, design for recyclability, and design for longer life; increasing collection rates; adopting extended producer responsibility measures; or specifying waste treatment.

- Identifying barriers to reuse and take back and propose policies that address those barriers, including: culture, costs, hazardous chemicals in products, dilution of hazardous chemicals in the waste stream, and producers are not taking full responsibility for products
- Documenting experiences in countries implementing EPR
- Promoting further implementation in developing countries / countries that are only importers of products; recognize that EPR implementation is different in developing countries; producer responsibility to create take back programs in all countries

The Upstream Workgroup made additional observations on the challenges not addressed above, on the drivers for addressing hazardous substances in electrical and electronic products and the key stakeholders that need to be engaged in the upstream issues of electrical and electronic products.

Challenges not addressed above

Governments and all stakeholders should take note of the following challenges in the upstream part of the electrical and electronic product lifecycle which have not been addressed in the points above:

- Implementing hazard reduction in Small- and Medium-sized Enterprises is difficult
- Electronic waste includes complex materials: some of which have value, much of which does not have value; valuable metals are extracted and the rest is “disposed”, containing chemicals of concern
- When new safer products replace old hazardous products in some markets, the old hazardous products may be transferred into other markets
- Organizations may place a low priority on considering the toxicity of chemicals in the product design of electrical and electronic products
- Different countries regulate electrical and electronic products differently
- Lack of common and agreed upon principles for managing hazardous substances in electrical and electronic products
- Some businesses implement electrical and electronic policies differently across regions

Drivers for addressing hazardous substances in electrical and electronic products

Governments and all stakeholders should take note of the following drivers for addressing hazardous substances in electrical and electronic equipment:

- Regulations

- Business leaders and activities by industry leaders
- Procurement, purchasing
 - Government
 - Business
- Consumer demand such as purchasing by individual consumers
- International Standards, for example, International Organization for Standardization (ISO), Association Connecting Electronics Industries (IPC)
- Collaborative efforts across supply chain
- SAICM implementation and country coordination
- Resource scarcity and resource conservation
- Information transparency / disclosing chemicals in products
- Profits and need to create recovery systems that create value (downstream)

Stakeholders that should engage in upstream issues

The following stakeholders should engage in upstream issues of electrical and electronic products:

- Businesses
- Governments
- International organizations
- Universities
- Research institutes
- Industry organizations, for example: standard setting bodies, industry consortia, trade associations
- NGOs including public interest, consumer, and civil society organizations
- General public

B. Midstream recommendations

Aware that the manufacture of electrical and electronic products has increased dramatically over the past several decades and that there are now billions of electronic and electrical products produced and consumed throughout the world;⁹

Recognizing that the manufacture of electrical and electronic products relies on and uses thousands of chemicals and other materials, many of which are hazardous;

Aware that hazardous substances contained in consumer electrical and electronic products can include phthalates, metals such as chromium, lead, and mercury, and persistent organic pollutants such as certain flame retardants, as well as other carcinogens, mutagens, reproductive and developmental toxins and endocrine disrupting compounds;¹⁰

Recalling the need for transparency with respect to information on hazardous substances throughout the entire life cycle, and in particular those contained in electrical and electronic equipment and products as well as in the workplace and communities around extraction, production and disposal sites;^{11 12}

Aware that the manufacture of electronic products can pose severe negative impacts on health of workers and communities as well as the environment where these products are made and disposed of⁹;

Recalling the need to protect workers and community health all throughout the life-cycle of electrical and electronic products from extraction through materials processing to component manufacture to assembly to recycling and disposal^{11 12};

Aware that there is a lack of capacity to properly address and to provide adequate protection from the hazards of electronics production in an environmentally sound manner in many countries leading to the exposure to hazardous substances causing harm to human health and the environment;¹³

Recognizing the pressing need for the continued development of clean technology¹³;

Recalling that it is important to consider product stewardship and extended producer responsibility aspects in the life-cycle management of electronic and electrical products¹³;

⁹ SAICM/ICCM.2/INF/36 Background information in relation to the emerging policy issue of electronic waste.

Recommendations on hazardous substances within the lifecycle of electrical and electronic products by participants in the African regional meeting on implementation of the Strategic Approach to International Chemicals Management, Abidjan, Côte d'Ivoire, 25- 29 January 2010

¹⁰ SAICM/ICCM.2/INF/36 Background information in relation to the emerging policy issue of electronic waste

¹¹ Recommendations on hazardous substances within the lifecycle of electrical and electronic products by participants in the African regional meeting on implementation of the Strategic Approach to International Chemicals Management, Abidjan, Côte d'Ivoire, 25- 29 January 2010

http://www.saicm.org/documents/meeting/afreg/Abidjan%202010/Advance%20report%20of%20the%203rd%20Africa%20reg%20mtg%20on%20SAICM_April%2025%202010.pdf

¹² Latin America and the Caribbean: Hazardous substances within the life cycle of electrical and electronic products
<http://www.saicm.org/documents/meeting/grulac/Jamaica%202010/LAC%20report-%20final%20clean.pdf>

¹³ Resolution II/4 on emerging policy issues adopted by the International Conference on Chemicals Management at its second session, held in Geneva, Switzerland, 11 to 15 May 2009

Recognizing important provisions with regards to workers in the Universal Declaration of Human Rights¹⁴ and International Labor Organization Convention 98 - Adopted by the International Labour Conference at its Eighty-sixth Session, Geneva, 18 June 1998 (Annex revised 15 June 2010);

Recognizing UNEP guidelines for the development of domestic legislation on liability, response action and compensation for damage caused by activities dangerous to the environment, including any adverse or negative effect or impact on human health;¹⁵

Recognizing the work of the International Conference on Chemicals Management at its Second Meeting and subsequent SAICM Regional Meetings held in 2009 – 2010;

The Participants of the International Workshop on Hazardous Substances Within the Life Cycle of Electronic and Electrical Products hereby recommends to the SAICM Open-ended Working Group and the International Conference on Chemicals Management at its third meeting (ICCM3) the following:

Environmentally sound manufacturing and capacity building

- 1) Governments, intergovernmental organizations, and non-governmental organizations including the private sector and others should encourage and promote sustainable production and pollution prevention by using cleaner production techniques, waste minimization, and safer substitutes whenever available;
- 2) The producers and manufacturers should prioritize reduction of exposure to chemicals, primarily by elimination or substitution of the most hazardous substances and production processes, especially those processes involving worker and community exposure to substances of concern. In the present context, substances of concern include those that are persistent, bioaccumulative and toxic and/or those that are carcinogens, mutagens, reproductive or developmental toxins, neurotoxins, neurodevelopmental toxins, respiratory toxins, immuno toxins, organ system toxins, and/or endocrine disrupting compounds. ;
- 3) Specific protection and prevention measures¹⁶:
 1. The employer should ensure that the risk from a hazardous chemical agent to the safety and health of workers at work is eliminated or reduced to a minimum.
 2. In applying paragraph 1, substitution should by preference be undertaken, whereby the employer should avoid the use of a hazardous chemical agent by replacing it with a chemical agent or process which, under its condition of use, is not hazardous or less hazardous to workers' safety and health, as the case may be.
 3. Where the nature of the activity does not permit risk to be eliminated by substitution, the employer should ensure that the risk is reduced to a minimum by application of protection and prevention measures. These will include, in order of priority:
 - (a) design of appropriate work processes and engineering controls and use of adequate equipment and materials, so as to avoid or minimise the release of hazardous chemical agents which may present a risk to workers' safety and health at the place of work;
 - (b) application of collective protection measures at the source of the risk, such as adequate ventilation and appropriate organizational measures;

¹⁴ (<http://www.un.org/en/documents/udhr/index.shtml>)

¹⁵ http://www.unep.org/dec/PDF/chemicalfinancing/Proceedings_K1060433_final%2011SSGCGMEF.pdf; note finalized in 2011 GMEF/GC = UNEP Governing Council / Global Ministers of Environment Forum

¹⁶ [Source: EU-Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work]

- (c) where exposure cannot be prevented by other means, application of individual protection measures including personal protective equipment.
- 4) The producers and manufacturers and chemical suppliers should conduct ongoing assessments of chemicals and materials used in products to implement green design and select safer substitutes.
 - A safer substitute is an alternative that reduces the potential for harm to human health or the environment
 - When reducing the use of substances of concern, select substitutes that are inherently safer than the substances they replace. Substitutes include safer chemicals, materials and products as well as eliminating the need for the chemical in the first place.
 - Create a list of preferred substitutes -- those that are inherently safer than chemicals of concern -- for electronic and electrical products.
 - Chemical substitutes should not have hazardous properties such as very persistent and very bioaccumulative (vPvB), persistent, bioaccumulative and toxic (PBT), carcinogen, mutagen, reproductive or developmental toxicant, neurotoxicant, or endocrine disruptor
 - 5) Producers and manufacturers should inventory all materials and chemical substances used throughout the life cycle (including conflict minerals and rare earth minerals), disclose these substances and share this information publicly and throughout the supply chain;
 - 6) Producers and manufacturers should phase out the use of substances of concern in their production when there are safer alternatives available;
 - 7) Producers, and manufacturers and chemical suppliers should provide funding for robust, independent and transparent research to develop safer substitutes and safer production processes;
 - 8) Environmentally unsound technologies and products that are prohibited or cause severe environmental degradation or are found to be harmful to human health should not be transferred to other countries¹⁷;
 - 9) If companies transfer technologies and products to subcontractors they should be environmentally sound and the companies should ensure that the subcontractors have the capacity to protect workers and the surrounding communities before making the transfer.
 - 10) Environmentally sound technologies and their technical transfer should be promoted by relevant intergovernmental, governmental, academic and non-governmental organizations and the private sector. The Cleaner Production Centres should play a guiding role in this process.
 - 11) Pollution prevention should be adopted in policies, management practices, programmes, and activities of governments as well as producers and manufacturers, taking into consideration the whole life cycle of the chemicals used in the production of electronic equipment;

¹⁷ Asia-Pacific Recommendations on hazardous substances within the life cycle of electrical and electronic products
<http://www.saicm.org/documents/meeting/asiapacific/Beijing%202009/Meeting%20docs/FINAL%20REPORT%20-%20Asia-Pacific%20regional%20meeting%20report.pdf>

Information

- 12) Information on health and safety for humans and the environment for the substances used in manufacturing of electronic and electrical products and present in products should not be considered confidential;
- 13) Producers and manufacturers should provide ongoing understandable and free health and safety information to workers which is sufficient to protect safety and health; governments have the role to enforce provision of health and safety information to workers.
- 14) Producers and manufacturers should provide to consumers easily understandable information on substances of concern in EEE as well as information about their sound disposal.
- 15) Producers and manufacturers should cooperate with government, non-governmental organizations, trade unions, health care providers, and others to provide ongoing training to workers, community representatives and first responders to provide early warning systems about the inherent hazards of the materials being used, detailed information about best practices for protection from and reduction of exposure to those hazards, how to recognize early signs of adverse health impacts, and prevention of exposure to all hazards
- 16) Governments, intergovernmental organizations, and non-governmental organizations including the producers and manufacturers and others should promote full transparency with respect to information on hazardous substances found throughout the lifecycle of electronic and electrical products, including those used in production, those contained in electrical and electronic equipment, those found in the workplace and communities, as well as those found around recycling, waste and disposal sites, including smelters^{18,19};
- 17) Governments should formulate, promote, and implement policies requiring the public disclosure of the identity of chemicals and materials used in production and manufacturing of electronic and electrical products, those released during production, as well as those that end up in products; this disclosure should include health and safety information about the hazard traits and exposure traits of such chemicals and materials¹⁸.
- 18) Governments, intergovernmental organizations, and non-governmental organizations including the producers and manufacturers and others should formulate, promote, and implement legislative as well as voluntary initiatives to adopt and implement Pollutant Release and Transfer Registries (PRTR). Governments that have not yet ratified the

¹⁸ Recommendations on hazardous substances within the lifecycle of electrical and electronic products by participants in the African regional meeting on implementation of the Strategic Approach to International Chemicals Management, Abidjan, Côte d'Ivoire, 25- 29 January 2010
<http://www.saicm.org/documents/meeting/afreg/Abidjan%202010/Advance%20report%20of%20the%203rd%20Africa%20reg%20mtg%20on%20SAICM%20April%2025%202010.pdf>

¹⁹ Latin America and the Caribbean: Hazardous substances within the life cycle of electrical and electronic products
<http://www.saicm.org/documents/meeting/grulac/Jamaica%202010/LAC%20report-%20final%20clean.pdf>

Aarhus Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters are encouraged to do so.

Exposure and monitoring

- 19) Governments should formulate, promote, and implement health-based exposure limits for workers. These exposure limits are to be based on thorough and adequate hazard testing of all chemicals and mixtures used and produced throughout the life cycle. Producers, manufacturers and suppliers of chemicals are responsible for performing these tests. Exposure limit values should be protective of the most vulnerable populations, and should provide equal protection in the workplace and the community; In cases where data are not yet sufficient to develop a health-based exposure limit value, the precautionary principle should be applied, namely by eliminating exposure to chemicals or reducing it as low as possible.
- 20) Producers and manufacturers, with oversight by the government and the full participation of worker and community representatives should ensure (and report the results to appropriate governmental authorities of):
 - a. comprehensive, occupationally relevant health surveillance for all of its workers;
 - b. comprehensive ongoing industrial hygiene and environmental monitoring to measure the release and exposure to all hazardous materials used in manufacturing and production;
 - c. access to these data (and adequate funding) to ensure comprehensive and independent epidemiological assessments of worker health;
 - d. action plans to preserve and protect worker health based on these data.
 - e. in situations where pollution from electronics production facilities has been found in surrounding communities, the manufacturers and producers should cooperate with health researchers and investigators to assess and control adverse health impacts, especially with respect to vulnerable populations.
- 21) Governments should promote the establishment, continuous improvement of and adequate funding of national inspection and enforcement systems for the protection of workers from the adverse effects of chemicals and encourage cooperation between employers and workers (and their representatives) to maximize chemical safety and minimize workplace hazards;
- 22) The producers and manufacturers²⁰, with oversight from government, should provide workers and surrounding communities with all occupational and environmental health monitoring protocols and records including the extent and duration of each person's exposure, as well as health outcomes data, corporate health records, and other relevant records, while making sure to protect confidentiality for each individual;
- 23) The producers and manufacturers should ensure protection of individual confidentiality for monitoring and exposure data;

Health surveillance and disease prevention

- 24) The ILO in collaboration with World Health Organization and Governments are invited to provide financial and technical resources for a) occupational health training of healthcare providers b) for better recognition and treatment of diseases associated with the

²⁰ In those situations when there are industrial parks and entities with similar management structures, the same provisions should apply to such entities

electronics industry and c) tracking of diseases associated with substances used in the electronics industry

- 25) National governments are invited to collaborate with ILO to collect and report worker health information specific to the electronics industry. EEE companies, trade unions and other actors should be encouraged to contribute to this process.
- 26) The ILO in collaboration with World Health Organization are invited to develop coordinated systems for record keeping, tracking, and reporting for disease relative to occupation in the electronics industry. Countries should be encouraged to ratify the ILO convention 155 regarding Occupational Safety and Health
- 27) The ILO in collaboration with World Health Organization are invited to intensify coordination with Ministries of Health and Labor in identifying, examining, and reporting patterns of disease associated with work in electronics industries;

Work environment

- 28) Governments should guarantee that workers have the right to collectively bargain as a fundamental human right, guaranteed by the Universal Declaration of Human rights (adopted in 1948 by the United Nations; the right to bargain collectively is subsumed under the rights to freedom of association and the right to organize into a trade union -- see Articles 20 and 23). The right to organize and bargain collectively is explicitly covered under International Labor Organization Convention 98 adopted in 1949. Pursuant to these rights, all workers involved in each stage of the life cycle of electronics production should have the right to:
 - form unions and to organize for self-protection;
 - to form health and safety committees;
 - to receive training to develop the capacity to monitor and enforce effective health and safety protections in the workplace;
 - to refuse unsafe or unhealthy work; and the right to be protected from retaliation for exercising those rights (right-to-act and “whistle-blower” protection)²¹;
- 29) Governments, producers and manufacturers with the full participation of workers and their representatives should enhance and implement ILO safe work standards and ILO guidelines on occupational safety and health, with special care for vulnerable or precarious workers, including women and migrants;
- 30) The producers and manufacturers are encouraged to develop frameworks to promote the active and meaningful participation of all stakeholders in the sound management of chemicals and wastes, including community representatives, non-governmental organizations, managers, workers, and trade unions;
- 31) The producers and manufacturers should promote and implement a work environment which protects of workers and community health all throughout the life-cycle of electrical and electronic products from extraction through materials processing to manufacture to recycling and disposal; all hazard communication and training should be conducted in appropriate languages of the workers¹⁸¹⁹²²²³.

²¹ <http://www.ilo.org/declaration/lang--en/index.htm> for the full range of ILO protections

²² Asia-Pacific Recommendations on hazardous substances within the life cycle of electrical and electronic products
<http://www.saicm.org/documents/meeting/asiapacific/Beijing%202009/Meeting%20docs/FINAL%20REPO RT%20-%20Asia-Pacific%20regional%20meeting%20report.pdf>

²³ Central and Eastern Europe region Recommendations on hazardous substances within the life cycle of electrical and

- 32) Governments are encouraged to develop and implement policies promoting the internalization of the costs (and discouraging the externalization of the costs) to human health, society and the environment throughout the life cycle of electronic and electrical products, including extraction, materials processing, production, assembly, recycling and disposal;
- 33) Governments are encouraged to develop and implement effective liability and compensation legislation for the victims of toxic exposures in the workplace and the community. Given that the electronics industry is characterized by multiple chemical exposures to chemicals of concern, many of which are in addition inadequately tested and regulated, and the frequent changes in process chemicals, it is particularly important to develop compensation systems funded by the employers that are designed to address these inherent challenges to fair compensation by developing mechanisms that assure that workers harmed by such exposure qualify for adequate and timely compensation, as well as treatment and rehabilitation.

electronic products

http://www.saicm.org/documents/meeting/cee/Lodz%20Dec%2009/SAICM%20CEE3_final%20report.pdf

C. Downstream recommendations

1. Policy

1.1. Governments, business, and all other relevant stakeholders are urged to promote integrated policies on the environmentally sound management of e-waste, ensuring the involvement of health, labour and waste management sectors and considering the needs of local communities.

1.2. Mechanisms must be provided to ensure coordinated implementation of and cooperation between the relevant Multilateral Environmental Agreements (MEAs) and intergovernmental bodies.

1.3. Policies and perhaps legislation should be developed in order to provide disclosure and communication of the composition and risks involved in constituents of EEE to recyclers and the public.

1.4. The improvement of the working conditions in the informal economy taking into account the social and economic dimensions, its transition to the formal economy, and promoting professional recognition of the informal services is a matter of urgency.

1.5. It is necessary to ensure that the national waste management plans of all countries address the issue of hazardous chemicals in WEEE.

1.6. It is vital to promote policies calling for the prevention of exports of hazardous WEEE to developing countries and countries with economies in transition.

1.7. Coordination and cooperation between intergovernmental organizations, the participation of the civil society, and all other relevant stakeholders is necessary to solve the problem of hazardous chemicals and their impacts at end-of-life.

1.8. It is vital to consider the special circumstances of small islands developing states (SIDS) in particular in providing regional collection and disposal services and policies for WEEE.

1.9. Governments, national and local, should lead the way in setting the best examples for legal, responsible and environmentally sound WEEE management for those wastes generated by the government itself.

1.10. Ensure that national strategic action plans for the environmentally sound management of hazardous chemicals in WEEEs are developed.

1.11. Governments must develop and apply government procurement policy that promote “cleaner” EEE being purchased and used whenever possible.

1.12. The introduction of requirements for preventing and controlling the export and import of unwanted near-end-of-life e-products, in particular to developing countries and countries with

economies in transition, is necessary.

2. Legislation

2.1. All efforts must be made to ensure ratification and then national implementation (domestication) of all of the relevant Conventions and International Instruments related to minimizing, managing and prohibiting use of hazardous chemicals and wastes. Legislation must assign clear responsibilities and provide for adequate enforcement capacity.

2.2. It is vital that all governments develop regulatory legislation for the environmentally sound management of WEEE that provides a high level of protection with regard to the environment, occupational health, safety policies, and is consistent with international law and standards for communities, workers and businesses in the recycling field.

2.3. Legislation is needed in all countries to ensure and provide funding for the remediation of contaminated sites and communities.

2.4. The establishment of within the World Customs Organization (WCO) of harmonized tariff codes for the various fractions of electronic waste is essential in order to get much needed data on hazardous and other WEEE trade flows. Much of this work can be initiated at a national level.

2.5. Legislation is necessary to provide transparency to recyclers and the public on the constituents of chemicals in WEEE and hazardous characteristic testing data.

2.6. The Basel Convention and national governments need to develop harmonized legislation/policy to distinguish between Electronic and Electrical Equipment (EEE), problematic used Electronic and Electrical Equipment and Waste Electronic and Electrical Equipment (WEEE) in order to control trade in these in accordance with the Basel rules.

2.7. All countries should create legislation (e.g. Extended Producer Responsibility legislation) that places responsibility on manufacturers to take financial responsibility for WEEE arising on a national basis that serves to internalize the costs and provide competitive incentives for brands to make products with less negative impacts on the environment.

3. Enforcement

3.1. Enforcement of ILO Conventions and MEAs is paramount.

3.2. Enforcement is needed to better control the import and export of hazardous wastes including WEEE, that provides for monitoring and strategic targeting of “hot spots” including collectors, recycler facilities, smuggling routes, canals, ports, and border crossings.

3.3. It is essential that there is effective and maintained collaboration between environmental agencies, customs, police, and other relevant national regulatory bodies in order to ensure enforcement of trade and environmental laws.

3.4. To effectively enforce the Basel Convention and national implementation of it, collaboration and communication is needed between regions, and within regions and governments through bodies such as INTERPOL and INECE and the World Customs Organization.

3.5. There is a need of capacity building for customs, enforcement institutions, in particular in developing countries and countries with economies in transition (for e.g. prevention of illegal traffic, safety for workers, etc).

3.6. Authorities should take action against illegal traffickers and exporting countries to ensure proper repatriation and subsequent management of illegal waste shipments.

3.7. Legislation should be considered to assist in converting the informal recycling sector into a formal sector.

3.8. Legislation finding liability and providing compensation to the public and workers to polluters and illegal traffickers in waste is encouraged.

3.9. Manuals and other educational and operational tools should be developed to implement international waste trade rules to help strengthen the capacity of inspectors and customs and border and port police.

4. Voluntary Approaches/Cooperate Social Responsibility

4.1. Voluntary Industry take-back programmes should always be transparent, free for the public, and include increasing recycling rates over time. They should be designed to give green design a competitive advantage, and be compliant with national law.

4.2. Voluntary Industry take-back programmes should be applied in all countries/regions of the world where extended producer responsibility legislation does not yet apply in order to assure that WEEE is collected and properly recycled.

4.3. Voluntary certification programs for recyclers, for environmental management systems etc. should be encouraged. Such Certifications should always supplement legislation and not be used as a substitute for legislation.

4.4. Guidelines for the environmentally sound management of WEEE (for recycler, disposers, waste managers, etc) such as those produced by StEP, PACE UNIDO and ILO should be promoted.

5. Information / Awareness-raising

5.1. Each country should undertake an inventory of EEE and WEEE related to the volumes production, use, export, import, and wastes generated.

5.2. All Stakeholders and especially governments should develop mechanisms to disseminate information to the public regarding hazards in EEE and WEEE and to network such information between regional organizations working to prevent harm from WEEE and prevent illegal and harmful trade in WEEE.

5.3. An effort to raise awareness and educate all key stakeholders including producers, supply chain actors, workers in the formal and informal sectors, households, media, academic institutions, policy makers, regulators and enforcement officers, civil society, regarding the problem of WEEE and its hazards.

5.4. Disclosure of hazardous chemicals in EEE must be made available by manufacturers and provided to all national governments which in turn would make readily available to the public to ensure safe and ESM of WEEE. Governments should produce an inventory and warning mechanisms as appropriate based on this information.

5.5. Shipping companies should be encouraged to disseminate and exchange information with governments enforcers regarding bills of lading to better control illegal exportation of WEEE.

6. Capacity-building

6.1. The promotion of capacity building for the safe and environmentally sound management of WEEE in developing countries and countries with economies in transition is of utmost importance. In particular there is a need to provide assistance in order to facilitate the transformation of the informal WEEE recycling sector to the formal sector while maintaining employment.

6.2. All governments and other stakeholders should be encouraged to undertake assessments of national and regional capacity needs for ESM of WEEE and to ensure effective coordination of capacity building activities on the national, regional and global level.

6.3. All stakeholders including governments should be encouraged to identify, establish and strengthen mechanisms and tools for training WEEE recyclers including the informal sector and local communities impacted by informal WEEE recycling operations.

6.4. Assistance is needed especially from the Parties to the Basel Convention, BCRCs, NGOs, IGOs, SBC, SAICM and others for developing countries and countries with economies in transition to ratify the Basel Convention and its Amendment and Protocol and then to develop or strengthening legislation on the implementation of these instruments.

6.5. Assistance is necessary for the implementation of international rules and regulations regarding export/import of WEEE and their ESM should be undertaken by organizations and governments including SBC, Basel Parties, IMPEL, INECE, INTERPOL, Green customs, and the BCRCs.

7. International and regional cooperation

7.1. Regional and inter-Regional cooperation should be undertaken to improve enforcement, information exchange, best practices, etc. In this regard special attention to the needs of Small Island Developing States (SIDS) in collection, transport, interim storage and re-export of WEEE is appropriate.

7.2. Regional and international waste and chemicals Conventions and instruments should be ratified at the earliest opportunity.

7.3. The work, including training, awareness, institutional building, pilot projects, of the Basel and Stockholm regional and coordinating centers and partnerships such as PACE should be supported and funded by all stakeholders.

8. Synergy approach

8.1. Effective synergies among existing and future chemicals and waste conventions, programmes and partnerships including those involving SAICM, DESA, UNIDO, ILO, WHO UNEP, UNDP, CSD etc. should be encouraged.

8.2. Governments are also encouraged to replicate synergies at the national and regional level.

8.3. Efforts should be made to recognize and utilize a multiple stakeholder/multi-sector approach.

8.4. Effective synergies on enforcement (police, customs, shipping lines, etc) should be encouraged and utilized.

9. Research and Development

9.1. Further research and development on technology options for the sound and safe recycling, reuse, recovery of WEEE must be funded and encouraged.

9.2. Further research on the environmental and health impacts of WEEE must be funded and encouraged.

9.3. Research is needed on how to deal with plastics containing BFRs, LEDs, photo cells, lithium ion batteries, rare earth metals, and other fractions currently not being adequately recycled, or for

which recycling capacity is disappearing such as cathode ray tube (CRT) glass.

10. Investment and fund raising opportunities

10.1. Governments and other stakeholders should provide enabling national and international conditions to mobilize resources for ESM of WEEE and remediation of contaminated sites, occupational health and safety infrastructure in particular for capacity building in developing countries and countries with economies in transition.

Annex 3: Key messages of the International Workshop on Hazardous Substances within the Life-cycle of Electrical and Electronic Products

The mandate of the International Workshop on Hazardous Substances within the Life-cycle of Electrical and Electronic Products was to identify and assess where issues relating to the sound management of chemicals arise during the lifespan of electrical and electronic products and to develop a series of options and recommendations for future work which would be provided to the SAICM Open-ended Working group and the International Conference on Chemicals Management at its third session for its consideration and possible cooperative actions.

At this workshop a series of recommendations on upstream, midstream and downstream issues have been developed. The participants of this workshop recognized the following:

1. Preventing harm to human health and the environment from hazardous substances in the life-cycle of electrical and electronic products is essential.
2. The life-cycle approach in the sound management of chemicals found in electrical and electronic products is of key importance.
3. The expected growth in the electrical and electronic sector and the need for its long-term sustainability will require making parallel and proportional improvements in environmental, health and safety, and social justice attributes.
4. Solutions are most efficiently and effectively accomplished upstream and addressing problems upstream can significantly and positively impact other parts of the life-cycle.
5. An increased pace to implement green design and the phase-out of hazardous substances contained in electrical and electronic products is required.
6. The improvement of transparency with respect to information on hazardous substances used in electrical and electronic products for all stakeholders involved in the life-cycle, including consumers, workers, and in communities around manufacturing and disposal sites is necessary.
7. It is important to equally protect consumer, worker and community health throughout the life-cycle of electrical and electronic products.
8. The urgent need to reverse the disproportionate burdening faced by developing countries during the more damaging phases of the life-cycle of electrical and electronic products, including manufacture, trade, waste handling and management, is recognized.
9. The export of hazardous electrical and electronic waste from developed to developing countries and countries with economies in transition need to be prevented; and export and import of near-end-of-life electrical and electronic products should be controlled.

10. The development and implementation of effective policy and regulatory frameworks and techniques for the safe and environmentally sound management of electrical and electronic waste, and for the remediation of contaminated sites should be encouraged.
11. The development and implementation of best practices and capacity for safe and environmentally sound recycling, including those fractions that are currently not recycled or for which capacity is inadequate, is needed.
12. The different needs of certain regions, e.g. Small Islands Developing States, should be taken into account.
13. Countries should ratify the Stockholm Convention, the Rotterdam Convention, the Basel Convention, the Basel Ban Amendment, ILO conventions and other relevant instruments and transpose these into national laws and implement them.

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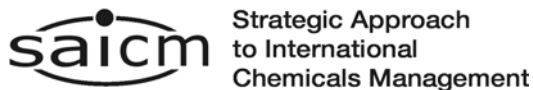
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International Conference on Chemicals Management

Third session

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Item 4 (c) of the provisional agenda*

**Implementation of the Strategic Approach to
International Chemicals Management: Strengthening of
national chemicals management capacities**

**Outcome document of the United Nations Conference on
Sustainable Development (Rio +20): The future we want**

Note by the secretariat

1. The secretariat has the honour to circulate, for the information of participants, in the annex to the present note the outcome document of the United Nations Conference of Sustainable Development (Rio + 20) held from 20 to 22 June in Rio de Janeiro, Brazil.
2. In the document The future we want, heads of State and high-level representatives reaffirm their aim to achieve, by 2020, the sound management of chemicals throughout their life cycle and of hazardous waste in ways that lead to minimization of significant adverse effects on human health and the environment, as set out in the Johannesburg Plan of Implementation.
3. Paragraphs 213-223 of the document refer to chemicals and waste.

Annex



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Agenda item 10
Outcome of the Conference

The future we want

I. Our common vision

1. We, the Heads of State and Government and high-level representatives, having met at Rio de Janeiro, Brazil, from 20 to 22 June 2012, with the full participation of civil society, renew our commitment to sustainable development and to ensuring the promotion of an economically, socially and environmentally sustainable future for our planet and for present and future generations.
2. Eradicating poverty is the greatest global challenge facing the world today and an indispensable requirement for sustainable development. In this regard we are committed to freeing humanity from poverty and hunger as a matter of urgency.
3. We therefore acknowledge the need to further mainstream sustainable development at all levels, integrating economic, social and environmental aspects and recognizing their interlinkages, so as to achieve sustainable development in all its dimensions.
4. We recognize that poverty eradication, changing unsustainable and promoting sustainable patterns of consumption and production and protecting and managing the natural resource base of economic and social development are the overarching objectives of and essential requirements for sustainable development. We also reaffirm the need to achieve sustainable development by promoting sustained, inclusive and equitable economic growth, creating greater opportunities for all, reducing inequalities, raising basic standards of living, fostering equitable social development and inclusion, and promoting integrated and sustainable management of natural resources and ecosystems that supports, inter alia, economic, social and human development while facilitating ecosystem conservation, regeneration and restoration and resilience in the face of new and emerging challenges.
5. We reaffirm our commitment to make every effort to accelerate the achievement of the internationally agreed development goals, including the Millennium Development Goals by 2015.
6. We recognize that people are at the centre of sustainable development and in this regard we strive for a world that is just, equitable and inclusive, and we commit



to work together to promote sustained and inclusive economic growth, social development and environmental protection and thereby to benefit all.

7. We reaffirm that we continue to be guided by the purposes and principles of the Charter of the United Nations, with full respect for international law and its principles.

8. We also reaffirm the importance of freedom, peace and security, respect for all human rights, including the right to development and the right to an adequate standard of living, including the right to food, the rule of law, gender equality, the empowerment of women and the overall commitment to just and democratic societies for development.

9. We reaffirm the importance of the Universal Declaration of Human Rights, as well as other international instruments relating to human rights and international law. We emphasize the responsibilities of all States, in conformity with the Charter of the United Nations, to respect, protect and promote human rights and fundamental freedoms for all, without distinction of any kind as to race, colour, sex, language, religion, political or other opinion, national or social origin, property, birth, disability or other status.

10. We acknowledge that democracy, good governance and the rule of law, at the national and international levels, as well as an enabling environment, are essential for sustainable development, including sustained and inclusive economic growth, social development, environmental protection and the eradication of poverty and hunger. We reaffirm that to achieve our sustainable development goals we need institutions at all levels that are effective, transparent, accountable and democratic.

11. We reaffirm our commitment to strengthen international cooperation to address the persistent challenges related to sustainable development for all, in particular in developing countries. In this regard, we reaffirm the need to achieve economic stability, sustained economic growth, promotion of social equity and protection of the environment, while enhancing gender equality, the empowerment of women and equal opportunities for all, and the protection, survival and development of children to their full potential, including through education.

12. We resolve to take urgent action to achieve sustainable development. We therefore renew our commitment to sustainable development, assessing the progress to date and the remaining gaps in the implementation of the outcomes of the major summits on sustainable development and addressing new and emerging challenges. We express our determination to address the themes of the United Nations Conference on Sustainable Development, namely, a green economy in the context of sustainable development and poverty eradication, and the institutional framework for sustainable development.

13. We recognize that opportunities for people to influence their lives and future, participate in decision-making and voice their concerns are fundamental for sustainable development. We underscore that sustainable development requires concrete and urgent action. It can only be achieved with a broad alliance of people, governments, civil society and the private sector, all working together to secure the future we want for present and future generations.

II. Renewing political commitment

A. Reaffirming the Rio Principles and past action plans

14. We recall the Stockholm Declaration of the United Nations Conference on the Human Environment adopted at Stockholm on 16 June 1972.

15. We reaffirm all the principles of the Rio Declaration on Environment and Development, including, *inter alia*, the principle of common but differentiated responsibilities, as set out in principle 7 of the Rio Declaration.

16. We reaffirm our commitment to fully implement the Rio Declaration on Environment and Development, Agenda 21, the Programme for the Further Implementation of Agenda 21, the Plan of Implementation of the World Summit on Sustainable Development (Johannesburg Plan of Implementation) and the Johannesburg Declaration on Sustainable Development of the World Summit on Sustainable Development, the Programme of Action for the Sustainable Development of Small Island Developing States (Barbados Programme of Action) and the Mauritius Strategy for the Further Implementation of the Programme of Action for the Sustainable Development of Small Island Developing States. We also reaffirm our commitment to the full implementation of the Programme of Action for the Least Developed Countries for the Decade 2011-2020 (Istanbul Programme of Action), the Almaty Programme of Action: Addressing the Needs of Landlocked Developing Countries within a New Global Framework for Transit Transport Cooperation for Landlocked and Transit Developing Countries, the political declaration on Africa's development needs, and the New Partnership for Africa's Development. We recall as well our commitments in the outcomes of all the major United Nations conferences and summits in the economic, social and environmental fields, including the United Nations Millennium Declaration, the 2005 World Summit Outcome, the Monterrey Consensus of the International Conference on Financing for Development, the Doha Declaration on Financing for Development, the outcome document of the High-level Plenary Meeting of the General Assembly on the Millennium Development Goals, the Programme of Action of the International Conference on Population and Development, the key actions for the further implementation of the Programme of Action of the International Conference on Population and Development and the Beijing Declaration and Platform for Action.

17. We recognize the importance of the three Rio conventions for advancing sustainable development and in this regard we urge all parties to fully implement their commitments under the United Nations Framework Convention on Climate Change, the Convention on Biological Diversity and the United Nations Convention to Combat Desertification in Those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa, in accordance with their respective principles and provisions, as well as to take effective and concrete actions and measures at all levels and to enhance international cooperation.

18. We are determined to reinvigorate political will and to raise the level of commitment by the international community to move the sustainable development agenda forward, through the achievement of the internationally agreed development goals, including the Millennium Development Goals. We further reaffirm our respective commitments to other relevant internationally agreed goals in the

economic, social and environmental fields since 1992. We therefore resolve to take concrete measures that accelerate implementation of sustainable development commitments.

B. Advancing integration, implementation and coherence: assessing the progress to date and the remaining gaps in the implementation of the outcomes of the major summits on sustainable development and addressing new and emerging challenges

19. We recognize that the 20 years since the United Nations Conference on Environment and Development in 1992 have seen uneven progress, including in sustainable development and poverty eradication. We emphasize the need to make progress in implementing previous commitments. We also recognize the need to accelerate progress in closing development gaps between developed and developing countries, and to seize and create opportunities to achieve sustainable development through economic growth and diversification, social development and environmental protection. To this end, we underscore the continued need for an enabling environment at the national and international levels, as well as continued and strengthened international cooperation, particularly in the areas of finance, debt, trade and technology transfer, as mutually agreed, and innovation, entrepreneurship, capacity-building, transparency and accountability. We recognize the diversification of actors and stakeholders engaged in the pursuit of sustainable development. In this context, we affirm the continued need for the full and effective participation of all countries, in particular developing countries, in global decision-making.

20. We acknowledge that since 1992 there have been areas of insufficient progress and setbacks in the integration of the three dimensions of sustainable development, aggravated by multiple financial, economic, food and energy crises, which have threatened the ability of all countries, in particular developing countries, to achieve sustainable development. In this regard, it is critical that we do not backtrack from our commitment to the outcome of the United Nations Conference on Environment and Development. We also recognize that one of the current major challenges for all countries, particularly for developing countries, is the impact from the multiple crises affecting the world today.

21. We are deeply concerned that one in five people on this planet, or over 1 billion people, still live in extreme poverty, and that one in seven — or 14 per cent — is undernourished, while public health challenges, including pandemics and epidemics, remain omnipresent threats. In this context, we note the ongoing discussions on human security in the General Assembly. We acknowledge that with the world's population projected to exceed 9 billion by 2050 with an estimated two thirds living in cities, we need to increase our efforts to achieve sustainable development and, in particular, the eradication of poverty, hunger and preventable diseases.

22. We recognize examples of progress in sustainable development at the regional, national, subnational and local levels. We note that efforts to achieve sustainable development have been reflected in regional, national and subnational policies and plans, and that Governments have strengthened their commitment to sustainable development since the adoption of Agenda 21 through legislation and institutions,

and the development and implementation of international, regional and subregional agreements and commitments.

23. We reaffirm the importance of supporting developing countries in their efforts to eradicate poverty and promote empowerment of the poor and people in vulnerable situations, including removing barriers to opportunity, enhancing productive capacity, developing sustainable agriculture and promoting full and productive employment and decent work for all, complemented by effective social policies, including social protection floors, with a view to achieving the internationally agreed development goals, including the Millennium Development Goals.

24. We express deep concern about the continuing high levels of unemployment and underemployment, particularly among young people, and note the need for sustainable development strategies to proactively address youth employment at all levels. In this regard, we recognize the need for a global strategy on youth and employment building on the work of the International Labour Organization (ILO).

25. We acknowledge that climate change is a cross-cutting and persistent crisis and express our concern that the scale and gravity of the negative impacts of climate change affect all countries and undermine the ability of all countries, in particular, developing countries, to achieve sustainable development and the Millennium Development Goals and threaten the viability and survival of nations. Therefore we underscore that combating climate change requires urgent and ambitious action, in accordance with the principles and provisions of the United Nations Framework Convention on Climate Change.

26. States are strongly urged to refrain from promulgating and applying any unilateral economic, financial or trade measures not in accordance with international law and the Charter of the United Nations that impede the full achievement of economic and social development, particularly in developing countries.

27. We reiterate our commitment, expressed in the Johannesburg Plan of Implementation, the 2005 World Summit Outcome and the outcome document of the High-level Plenary Meeting of the General Assembly on the Millennium Development Goals of 2010, to take further effective measures and actions, in conformity with international law, to remove the obstacles to the full realization of the right of self-determination of peoples living under colonial and foreign occupation, which continue to adversely affect their economic and social development as well as their environment, are incompatible with the dignity and worth of the human person and must be combated and eliminated.

28. We reaffirm that, in accordance with the Charter of the United Nations, this shall not be construed as authorizing or encouraging any action against the territorial integrity or political independence of any State.

29. We resolve to take further effective measures and actions, in conformity with international law, to remove obstacles and constraints, strengthen support and meet the special needs of people living in areas affected by complex humanitarian emergencies and in areas affected by terrorism.

30. We recognize that many people, especially the poor, depend directly on ecosystems for their livelihoods, their economic, social and physical well-being, and their cultural heritage. For this reason, it is essential to generate decent jobs and incomes that decrease disparities in standards of living in order to better meet

people's needs and promote sustainable livelihoods and practices and the sustainable use of natural resources and ecosystems.

31. We emphasize that sustainable development must be inclusive and people-centred, benefiting and involving all people, including youth and children. We recognize that gender equality and the empowerment of women are important for sustainable development and our common future. We reaffirm our commitments to ensure women's equal rights, access and opportunities for participation and leadership in the economy, society and political decision-making.

32. We recognize that each country faces specific challenges to achieve sustainable development and we underscore the special challenges facing the most vulnerable countries and in particular African countries, least developed countries, landlocked developing countries and small island developing States, as well as the specific challenges facing the middle-income countries. Countries in situations of conflict also need special attention.

33. We reaffirm our commitment to take urgent and concrete action to address the vulnerability of small island developing States, including through the sustained implementation of the Barbados Programme of Action and the Mauritius Strategy, and underscore the urgency of finding additional solutions to the major challenges facing small island developing States in a concerted manner so as to support them in sustaining momentum realized in implementing the Barbados Programme of Action and the Mauritius Strategy and achieving sustainable development.

34. We reaffirm that the Istanbul Programme of Action outlines the priorities of least developed countries for sustainable development and defines a framework for renewed and strengthened global partnership to implement them. We commit to assist the least developed countries with the implementation of the Istanbul Programme of Action as well as in their efforts to achieve sustainable development.

35. We recognize that more attention should be given to Africa and the implementation of previously agreed commitments related to its development needs that were made at major United Nations summits and conferences. We note that aid to Africa has increased in recent years. However, it still lags behind commitments that were previously made. We underscore the key priority for the international community of supporting Africa's sustainable development efforts. In this regard, we recommit to fully implement the internationally agreed commitments related to Africa's development needs, particularly those contained in the United Nations Millennium Declaration, the United Nations Declaration on the New Partnership for Africa's Development, the Monterrey Consensus, the Johannesburg Plan of Implementation and the 2005 World Summit Outcome, as well as the 2008 political declaration on Africa's development needs.

36. We recognize the serious constraints to achieving sustainable development in all its three dimensions in landlocked developing countries. In this regard, we reaffirm our commitment to address the special development needs and the challenges faced by landlocked developing countries through the full, timely and effective implementation of the Almaty Programme of Action as contained in the declaration on the midterm review of the Almaty Programme of Action.

37. We recognize the progress made by middle-income countries in improving the well-being of their people, as well as the specific development challenges they face in their efforts to eradicate poverty, reduce inequalities and achieve their

development goals, including the Millennium Development Goals, and to achieve sustainable development in a comprehensive manner integrating the economic, social and environmental dimensions. We reiterate that these efforts should be adequately supported by the international community, in various forms, taking into account the needs and the capacity to mobilize domestic resources of these countries.

38. We recognize the need for broader measures of progress to complement gross domestic product in order to better inform policy decisions, and in this regard we request the United Nations Statistical Commission, in consultation with relevant United Nations system entities and other relevant organizations, to launch a programme of work in this area building on existing initiatives.

39. We recognize that planet Earth and its ecosystems are our home and that “Mother Earth” is a common expression in a number of countries and regions, and we note that some countries recognize the rights of nature in the context of the promotion of sustainable development. We are convinced that in order to achieve a just balance among the economic, social and environmental needs of present and future generations, it is necessary to promote harmony with nature.

40. We call for holistic and integrated approaches to sustainable development that will guide humanity to live in harmony with nature and lead to efforts to restore the health and integrity of the Earth’s ecosystem.

41. We acknowledge the natural and cultural diversity of the world and recognize that all cultures and civilizations can contribute to sustainable development.

C. Engaging major groups and other stakeholders

42. We reaffirm the key role of all levels of government and legislative bodies in promoting sustainable development. We further acknowledge efforts and progress made at the local and subnational levels, and recognize the important role that such authorities and communities can play in implementing sustainable development, including by engaging citizens and stakeholders and providing them with relevant information, as appropriate, on the three dimensions of sustainable development. We further acknowledge the importance of involving all relevant decision makers in the planning and implementation of sustainable development policies.

43. We underscore that broad public participation and access to information and judicial and administrative proceedings are essential to the promotion of sustainable development. Sustainable development requires the meaningful involvement and active participation of regional, national and subnational legislatures and judiciaries, and all major groups: women, children and youth, indigenous peoples, non-governmental organizations, local authorities, workers and trade unions, business and industry, the scientific and technological community, and farmers, as well as other stakeholders, including local communities, volunteer groups and foundations, migrants and families as well as older persons and persons with disabilities. In this regard, we agree to work more closely with the major groups and other stakeholders and encourage their active participation, as appropriate, in processes that contribute to decision-making, planning and implementation of policies and programmes for sustainable development at all levels.

44. We acknowledge the role of civil society and the importance of enabling all members of civil society to be actively engaged in sustainable development. We recognize that improved participation of civil society depends upon, inter alia, strengthening access to information and building civil society capacity and an enabling environment. We recognize that information and communications technology is facilitating the flow of information between governments and the public. In this regard, it is essential to work towards improved access to information and communications technology, especially broadband networks and services, and bridge the digital divide, recognizing the contribution of international cooperation in this regard.

45. We underscore that women have a vital role to play in achieving sustainable development. We recognize the leadership role of women and we resolve to promote gender equality and the empowerment of women and to ensure their full and effective participation in sustainable development policies, programmes and decision-making at all levels.

46. We acknowledge that the implementation of sustainable development will depend on the active engagement of both the public and the private sectors. We recognize that the active participation of the private sector can contribute to the achievement of sustainable development, including through the important tool of public-private partnerships. We support national regulatory and policy frameworks that enable business and industry to advance sustainable development initiatives, taking into account the importance of corporate social responsibility. We call on the private sector to engage in responsible business practices, such as those promoted by the United Nations Global Compact.

47. We acknowledge the importance of corporate sustainability reporting and encourage companies, where appropriate, especially publicly listed and large companies, to consider integrating sustainability information into their reporting cycle. We encourage industry, interested governments and relevant stakeholders with the support of the United Nations system, as appropriate, to develop models for best practice and facilitate action for the integration of sustainability reporting, taking into account experiences from already existing frameworks and paying particular attention to the needs of developing countries, including for capacity-building.

48. We recognize the important contribution of the scientific and technological community to sustainable development. We are committed to working with and fostering collaboration among the academic, scientific and technological community, in particular in developing countries, to close the technological gap between developing and developed countries and strengthen the science-policy interface as well as to foster international research collaboration on sustainable development.

49. We stress the importance of the participation of indigenous peoples in the achievement of sustainable development. We also recognize the importance of the United Nations Declaration on the Rights of Indigenous Peoples in the context of global, regional, national and subnational implementation of sustainable development strategies.

50. We stress the importance of the active participation of young people in decision-making processes, as the issues we are addressing have a deep impact on

present and future generations, and as the contribution of children and youth is vital to the achievement of sustainable development. We also recognize the need to promote intergenerational dialogue and solidarity by recognizing their views.

51. We stress the importance of the participation of workers and trade unions in the promotion of sustainable development. As the representatives of working people, trade unions are important partners in facilitating the achievement of sustainable development, in particular the social dimension. Information, education and training on sustainability at all levels, including in the workplace, are key to strengthening the capacity of workers and trade unions to support sustainable development.

52. We recognize that farmers, including small-scale farmers and fisherfolk, pastoralists and foresters, can make important contributions to sustainable development through production activities that are environmentally sound, enhance food security and the livelihood of the poor, and invigorate production and sustained economic growth.

53. We note the valuable contributions that non-governmental organizations could and do make in promoting sustainable development through their well-established and diverse experience, expertise and capacity, especially in the area of analysis, sharing of information and knowledge, promotion of dialogue and support of implementation of sustainable development.

54. We recognize the central role of the United Nations in advancing the sustainable development agenda. We acknowledge as well, in this regard, the contributions of other relevant international organizations, including international financial institutions and multilateral development banks, and stress the importance of cooperation among them and with the United Nations, within their respective mandates, recognizing their role in mobilizing resources for sustainable development.

55. We commit ourselves to reinvigorating the global partnership for sustainable development that we launched in Rio de Janeiro in 1992. We recognize the need to impart new momentum to our cooperative pursuit of sustainable development, and commit to work together with major groups and other stakeholders in addressing implementation gaps.

III. Green economy in the context of sustainable development and poverty eradication

56. We affirm that there are different approaches, visions, models and tools available to each country, in accordance with its national circumstances and priorities, to achieve sustainable development in its three dimensions which is our overarching goal. In this regard, we consider green economy in the context of sustainable development and poverty eradication as one of the important tools available for achieving sustainable development and that it could provide options for policymaking but should not be a rigid set of rules. We emphasize that it should contribute to eradicating poverty as well as sustained economic growth, enhancing social inclusion, improving human welfare and creating opportunities for employment and decent work for all, while maintaining the healthy functioning of the Earth's ecosystems.

57. We affirm that policies for green economy in the context of sustainable development and poverty eradication should be guided by and in accordance with all the Rio Principles, Agenda 21 and the Johannesburg Plan of Implementation and contribute towards achieving relevant internationally agreed development goals, including the Millennium Development Goals.

58. We affirm that green economy policies in the context of sustainable development and poverty eradication should:

- (a) Be consistent with international law;
- (b) Respect each country's national sovereignty over their natural resources taking into account its national circumstances, objectives, responsibilities, priorities and policy space with regard to the three dimensions of sustainable development;
- (c) Be supported by an enabling environment and well-functioning institutions at all levels with a leading role for governments and with the participation of all relevant stakeholders, including civil society;
- (d) Promote sustained and inclusive economic growth, foster innovation and provide opportunities, benefits and empowerment for all and respect of all human rights;
- (e) Take into account the needs of developing countries, particularly those in special situations;
- (f) Strengthen international cooperation, including the provision of financial resources, capacity-building and technology transfer to developing countries;
- (g) Effectively avoid unwarranted conditionalities on official development assistance (ODA) and finance;
- (h) Not constitute a means of arbitrary or unjustifiable discrimination or a disguised restriction on international trade, avoid unilateral actions to deal with environmental challenges outside the jurisdiction of the importing country, and ensure that environmental measures addressing transboundary or global environmental problems, as far as possible, are based on an international consensus;
- (i) Contribute to closing technology gaps between developed and developing countries and reduce the technological dependence of developing countries using all appropriate measures;
- (j) Enhance the welfare of indigenous peoples and their communities, other local and traditional communities and ethnic minorities, recognizing and supporting their identity, culture and interests, and avoid endangering their cultural heritage, practices and traditional knowledge, preserving and respecting non-market approaches that contribute to the eradication of poverty;
- (k) Enhance the welfare of women, children, youth, persons with disabilities, smallholder and subsistence farmers, fisherfolk and those working in small and medium-sized enterprises, and improve the livelihoods and empowerment of the poor and vulnerable groups in particular in developing countries;
- (l) Mobilize the full potential and ensure the equal contribution of both women and men;

(m) Promote productive activities in developing countries that contribute to the eradication of poverty;

(n) Address the concern about inequalities and promote social inclusion, including social protection floors;

(o) Promote sustainable consumption and production patterns;

(p) Continue efforts to strive for inclusive, equitable development approaches to overcome poverty and inequality.

59. We view the implementation of green economy policies by countries that seek to apply them for the transition towards sustainable development as a common undertaking, and we recognize that each country can choose an appropriate approach in accordance with national sustainable development plans, strategies and priorities.

60. We acknowledge that green economy in the context of sustainable development and poverty eradication will enhance our ability to manage natural resources sustainably and with lower negative environmental impacts, increase resource efficiency and reduce waste.

61. We recognize that urgent action on unsustainable patterns of production and consumption where they occur remains fundamental in addressing environmental sustainability and promoting conservation and sustainable use of biodiversity and ecosystems, regeneration of natural resources and the promotion of sustained, inclusive and equitable global growth.

62. We encourage each country to consider the implementation of green economy policies in the context of sustainable development and poverty eradication, in a manner that endeavours to drive sustained, inclusive and equitable economic growth and job creation, particularly for women, youth and the poor. In this respect, we note the importance of ensuring that workers are equipped with the necessary skills, including through education and capacity-building, and are provided with the necessary social and health protections. In this regard, we encourage all stakeholders, including business and industry, to contribute, as appropriate. We invite governments to improve knowledge and statistical capacity on job trends, developments and constraints and integrate relevant data into national statistics, with the support of relevant United Nations agencies within their mandates.

63. We recognize the importance of the evaluation of the range of social, environmental and economic factors and encourage, where national circumstances and conditions allow, their integration into decision-making. We acknowledge that it will be important to take into account the opportunities and challenges, as well as the costs and benefits, of green economy policies in the context of sustainable development and poverty eradication, using the best available scientific data and analysis. We acknowledge that a mix of measures, including regulatory, voluntary and others applied at the national level and consistent with obligations under international agreements, could promote green economy in the context of sustainable development and poverty eradication. We reaffirm that social policies are vital to promoting sustainable development.

64. We acknowledge that involvement of all stakeholders and their partnerships, networking and experience-sharing at all levels could help countries to learn from one another in identifying appropriate sustainable development policies, including

green economy policies. We note the positive experiences in some countries, including in developing countries, in adopting green economy policies in the context of sustainable development and poverty eradication through an inclusive approach and welcome the voluntary exchange of experiences as well as capacity-building in the different areas of sustainable development.

65. We recognize the power of communications technologies, including connection technologies and innovative applications, to promote knowledge exchange, technical cooperation and capacity-building for sustainable development. These technologies and applications can build capacity and enable the sharing of experiences and knowledge in the different areas of sustainable development in an open and transparent manner.

66. Recognizing the importance of linking financing, technology, capacity-building and national needs for sustainable development policies, including green economy in the context of sustainable development and poverty eradication, we invite the United Nations system, in cooperation with relevant donors and international organizations, to coordinate and provide information upon request on:

- (a) Matching interested countries with the partners that are best suited to provide requested support;
- (b) Toolboxes and/or best practices in applying policies on green economy in the context of sustainable development and poverty eradication at all levels;
- (c) Models or good examples of policies on green economy in the context of sustainable development and poverty eradication;
- (d) Methodologies for evaluation of policies on green economy in the context of sustainable development and poverty eradication;
- (e) Existing and emerging platforms that contribute in this regard.

67. We underscore the importance of governments taking a leadership role in developing policies and strategies through an inclusive and transparent process. We also take note of the efforts of those countries, including developing countries, that have already initiated processes to prepare national green economy strategies and policies in support of sustainable development.

68. We invite relevant stakeholders, including the United Nations regional commissions, United Nations organizations and bodies, other relevant intergovernmental and regional organizations, international financial institutions and major groups involved in sustainable development, according to their respective mandates, to support developing countries upon request to achieve sustainable development, including through, inter alia, green economy policies in the context of sustainable development and poverty eradication, in particular in least developed countries.

69. We also invite business and industry as appropriate and in accordance with national legislation to contribute to sustainable development and to develop sustainability strategies that integrate, inter alia, green economy policies.

70. We acknowledge the role of cooperatives and microenterprises in contributing to social inclusion and poverty reduction in particular in developing countries.

71. We encourage existing and new partnerships, including public-private partnerships, to mobilize public financing complemented by the private sector, taking into account the interests of local and indigenous communities when appropriate. In this regard, governments should support initiatives for sustainable development, including promoting the contribution of the private sector to support green economy policies in the context of sustainable development and poverty eradication.

72. We recognize the critical role of technology as well as the importance of promoting innovation, in particular in developing countries. We invite governments, as appropriate, to create enabling frameworks that foster environmentally sound technology, research and development, and innovation, including in support of green economy in the context of sustainable development and poverty eradication.

73. We emphasize the importance of technology transfer to developing countries and recall the provisions on technology transfer, finance, access to information, and intellectual property rights as agreed in the Johannesburg Plan of Implementation, in particular its call to promote, facilitate and finance, as appropriate, access to and the development, transfer and diffusion of environmentally sound technologies and corresponding know-how, in particular to developing countries, on favourable terms, including on concessional and preferential terms, as mutually agreed. We also take note of the further evolution of discussions and agreements on these issues since the adoption of the Johannesburg Plan of Implementation.

74. We recognize that the efforts of developing countries that choose to implement green economy policies in the context of sustainable development and poverty eradication should be supported through technical and technological assistance.

IV. Institutional framework for sustainable development

A. Strengthening the three dimensions of sustainable development

75. We underscore the importance of a strengthened institutional framework for sustainable development which responds coherently and effectively to current and future challenges and efficiently bridges gaps in the implementation of the sustainable development agenda. The institutional framework for sustainable development should integrate the three dimensions of sustainable development in a balanced manner and enhance implementation by, inter alia, strengthening coherence, coordination, avoiding duplication of efforts and reviewing progress in implementing sustainable development. We also reaffirm that the framework should be inclusive, transparent and effective and that it should find common solutions related to global challenges to sustainable development.

76. We recognize that effective governance at the local, subnational, national, regional and global levels representing the voices and interests of all is critical for advancing sustainable development. The strengthening and reform of the institutional framework should not be an end in itself, but a means to achieve sustainable development. We recognize that an improved and more effective institutional framework for sustainable development at the international level should be consistent with the Rio Principles, build on Agenda 21 and the Johannesburg Plan of Implementation and its objectives on the institutional framework for sustainable

development, contribute to the implementation of our commitments in the outcomes of United Nations conferences and summits in the economic, social, environmental and related fields and take into account national priorities and the development strategies and priorities of developing countries. We therefore resolve to strengthen the institutional framework for sustainable development, which will, inter alia:

(a) Promote the balanced integration of the three dimensions of sustainable development;

(b) Be based on an action- and result-oriented approach giving due regard to all relevant cross-cutting issues with the aim to contribute to the implementation of sustainable development;

(c) Underscore the importance of interlinkages among key issues and challenges and the need for a systematic approach to them at all relevant levels;

(d) Enhance coherence, reduce fragmentation and overlap and increase effectiveness, efficiency and transparency, while reinforcing coordination and cooperation;

(e) Promote full and effective participation of all countries in decision-making processes;

(f) Engage high-level political leaders, provide policy guidance and identify specific actions to promote effective implementation of sustainable development, including through voluntary sharing of experiences and lessons learned;

(g) Promote the science-policy interface through inclusive, evidence-based and transparent scientific assessments, as well as access to reliable, relevant and timely data in areas related to the three dimensions of sustainable development, building on existing mechanisms, as appropriate; in this regard, strengthen participation of all countries in international sustainable development processes and capacity-building especially for developing countries, including in conducting their own monitoring and assessments;

(h) Enhance the participation and effective engagement of civil society and other relevant stakeholders in the relevant international forums and in this regard promote transparency and broad public participation and partnerships to implement sustainable development;

(i) Promote the review and stocktaking of progress in the implementation of all sustainable development commitments, including commitments related to means of implementation.

B. Strengthening intergovernmental arrangements for sustainable development

77. We acknowledge the vital importance of an inclusive, transparent, reformed, strengthened and effective multilateral system in order to better address the urgent global challenges of sustainable development today, recognizing the universality and central role of the United Nations and reaffirming our commitment to promote and strengthen the effectiveness and efficiency of the United Nations system.

78. We underscore the need to strengthen United Nations system-wide coherence and coordination, while ensuring appropriate accountability to Member States, by,

inter alia, enhancing coherence in reporting and reinforcing cooperative efforts under existing inter-agency mechanisms and strategies to advance the integration of the three dimensions of sustainable development within the United Nations system, including through exchange of information among its agencies, funds and programmes, and also with the international financial institutions and other relevant organizations such as the World Trade Organization (WTO), within their respective mandates.

79. We emphasize the need for an improved and more effective institutional framework for sustainable development which should be guided by the specific functions required and mandates involved; address the shortcomings of the current system; take into account all relevant implications; promote synergies and coherence; seek to avoid duplication and eliminate unnecessary overlaps within the United Nations system; and reduce administrative burdens and build on existing arrangements.

General Assembly

80. We reaffirm the role and authority of the General Assembly on global matters of concern to the international community, as set out in the Charter.

81. We further reaffirm the central position of the General Assembly as the chief deliberative, policymaking and representative organ of the United Nations. In this regard, we call for the Assembly to further integrate sustainable development as a key element of the overarching framework for United Nations activities and adequately address sustainable development in its agenda setting, including through periodic high-level dialogues.

Economic and Social Council

82. We reaffirm that the Economic and Social Council is a principal body for policy review, policy dialogue and recommendations on issues of economic and social development and for the follow-up to the Millennium Development Goals and is a central mechanism for the coordination of the United Nations system and supervision of the subsidiary bodies of the Council, in particular its functional commissions, and for promoting the implementation of Agenda 21 by strengthening system-wide coherence and coordination. We also reaffirm the major role the Council plays in the overall coordination of funds, programmes and specialized agencies, ensuring coherence among them and avoiding duplication of mandates and activities.

83. We commit to strengthen the Economic and Social Council within its mandate under the Charter, as a principal organ in the integrated and coordinated follow-up of the outcomes of all major United Nations conferences and summits in the economic, social, environmental and related fields, and recognize its key role in achieving a balanced integration of the three dimensions of sustainable development. We look forward to the review of the implementation of General Assembly resolution 61/16 on the strengthening of the Economic and Social Council.

High-level political forum

84. We decide to establish a universal intergovernmental high-level political forum, building on the strengths, experiences, resources and inclusive participation modalities of the Commission on Sustainable Development, and subsequently replacing the Commission. The high-level political forum shall follow up on the implementation of sustainable development and should avoid overlap with existing structures, bodies and entities in a cost-effective manner.

85. The high-level forum could:

(a) Provide political leadership, guidance and recommendations for sustainable development;

(b) Enhance integration of the three dimensions of sustainable development in a holistic and cross-sectoral manner at all levels;

(c) Provide a dynamic platform for regular dialogue, and for stocktaking and agenda setting to advance sustainable development;

(d) Have a focused, dynamic and action-oriented agenda, ensuring the appropriate consideration of new and emerging sustainable development challenges;

(e) Follow up and review progress in the implementation of sustainable development commitments contained in Agenda 21, the Johannesburg Plan of Implementation, the Barbados Programme of Action, the Mauritius Strategy and the outcome of the present Conference and, as appropriate, relevant outcomes of other United Nations summits and conferences, including the outcome of the Fourth United Nations Conference on the Least Developed Countries, as well as their respective means of implementation;

(f) Encourage high-level system-wide participation of United Nations agencies, funds and programmes and invite to participate, as appropriate, other relevant multilateral financial and trade institutions and treaty bodies, within their respective mandates and in accordance with United Nations rules and provisions;

(g) Improve cooperation and coordination within the United Nations system on sustainable development programmes and policies;

(h) Promote transparency and implementation through further enhancing the consultative role and participation of major groups and other relevant stakeholders at the international level in order to better make use of their expertise, while retaining the intergovernmental nature of discussions;

(i) Promote the sharing of best practices and experiences relating to the implementation of sustainable development and, on a voluntary basis, facilitate sharing of experiences, including successes, challenges and lessons learned;

(j) Promote system-wide coherence and coordination of sustainable development policies;

(k) Strengthen the science-policy interface through review of documentation bringing together dispersed information and assessments, including in the form of a global sustainable development report, building on existing assessments;

(l) Enhance evidence-based decision-making at all levels and contribute to strengthening ongoing efforts of capacity-building for data collection and analysis in developing countries.

86. We decide to launch an intergovernmental and open, transparent and inclusive negotiation process under the General Assembly to define the format and organizational aspects of the high-level forum with the aim of convening the first high-level forum at the beginning of the sixty-eighth session of the Assembly. We will also consider the need for promoting intergenerational solidarity for the achievement of sustainable development, taking into account the needs of future generations, including by inviting the Secretary-General to present a report on this issue.

C. Environmental pillar in the context of sustainable development

87. We reaffirm the need to strengthen international environmental governance within the context of the institutional framework for sustainable development, in order to promote a balanced integration of the economic, social and environmental dimensions of sustainable development as well as coordination within the United Nations system.

88. We are committed to strengthening the role of the United Nations Environment Programme (UNEP) as the leading global environmental authority that sets the global environmental agenda, promotes the coherent implementation of the environmental dimension of sustainable development within the United Nations system and serves as an authoritative advocate for the global environment. We reaffirm resolution 2997 (XXVII) of 15 December 1972 which established UNEP and other relevant resolutions that reinforce its mandate, as well as the 1997 Nairobi Declaration on the Role and Mandate of UNEP and the 2000 Malmö Ministerial Declaration. In this regard, we invite the General Assembly, at its sixty-seventh session, to adopt a resolution strengthening and upgrading UNEP in the following manner:

(a) Establish universal membership in the Governing Council of UNEP, as well as other measures to strengthen its governance as well its responsiveness and accountability to Member States;

(b) Have secure, stable, adequate and increased financial resources from the regular budget of the United Nations and voluntary contributions to fulfil its mandate;

(c) Enhance the voice of UNEP and its ability to fulfil its coordination mandate within the United Nations system by strengthening UNEP engagement in key United Nations coordination bodies and empowering UNEP to lead efforts to formulate United Nations system-wide strategies on the environment;

(d) Promote a strong science-policy interface, building on existing international instruments, assessments, panels and information networks, including the Global Environment Outlook, as one of the processes aimed at bringing together information and assessment to support informed decision-making;

(e) Disseminate and share evidence-based environmental information and raise public awareness on critical as well as emerging environmental issues;

(f) Provide capacity-building to countries, as well as support and facilitate access to technology;

(g) Progressively consolidate headquarters functions in Nairobi, as well as strengthen its regional presence, in order to assist countries, upon request, in the implementation of their national environmental policies, collaborating closely with other relevant entities of the United Nations system;

(h) Ensure the active participation of all relevant stakeholders drawing on best practices and models from relevant multilateral institutions and exploring new mechanisms to promote transparency and the effective engagement of civil society.

89. We recognize the significant contributions to sustainable development made by the multilateral environmental agreements. We acknowledge the work already undertaken to enhance synergies among the three conventions in the chemicals and waste cluster (the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade and the Stockholm Convention on Persistent Organic Pollutants). We encourage parties to multilateral environmental agreements to consider further measures, in these and other clusters, as appropriate, to promote policy coherence at all relevant levels, improve efficiency, reduce unnecessary overlap and duplication, and enhance coordination and cooperation among the multilateral environmental agreements, including the three Rio conventions, as well as with the United Nations system in the field.

90. We stress the need for the continuation of a regular review of the state of the Earth's changing environment and its impact on human well-being and, in this regard, we welcome such initiatives as the Global Environment Outlook process aimed at bringing together environmental information and assessments and building national and regional capacity to support informed decision-making.

D. International financial institutions and United Nations operational activities

91. We recognize that sustainable development should be given due consideration by the programmes, funds and specialized agencies of the United Nations system and other relevant entities such as international financial institutions and the United Nations Conference on Trade and Development, in accordance with their respective existing mandates. In this regard, we invite them to further enhance mainstreaming of sustainable development in their respective mandates, programmes, strategies and decision-making processes, in support of the efforts of all countries, in particular developing countries, in the achievement of sustainable development.

92. We reaffirm the importance of broadening and strengthening the participation of developing countries in international economic decision-making and norm-setting, and in this regard, take note of recent important decisions on reform of the governance structures, quotas and voting rights of the Bretton Woods institutions, better reflecting current realities and enhancing the voice and participation of developing countries, and reiterate the importance of the reform of the governance of those institutions in order to deliver more effective, credible, accountable and legitimate institutions.

93. We call for the further mainstreaming of the three dimensions of sustainable development throughout the United Nations system, and request the Secretary-General to report to the General Assembly, through the Economic and Social Council, on the progress made in this regard. We also call for and recognize the importance of the strengthening of policy coordination within key structures of the Secretariat of the United Nations so as to ensure system-wide coherence in support of sustainable development, while ensuring accountability to Member States.

94. We invite the governing bodies of the funds, programmes and specialized agencies of the United Nations development system to consider appropriate measures for integrating the social, economic and environmental dimensions across the operational activities of the United Nations system. We also emphasize that increasing the financial contributions to the United Nations development system is key to achieving the internationally agreed development goals, including the Millennium Development Goals, and in this regard we recognize the mutually reinforcing links among increased effectiveness, efficiency and coherence of the United Nations development system, achieving concrete results in assisting developing countries in eradicating poverty and achieving sustained economic growth and sustainable development.

95. We emphasize the need to strengthen operational activities for development of the United Nations system in the field that are well aligned with national sustainable development priorities of developing countries. In this regard, we emphasize that the fundamental characteristics and principles of United Nations operational activities set forth in the relevant General Assembly resolutions provide the overarching framework for all matters pertaining to the United Nations development assistance operations in the field. We recognize the importance of strengthening United Nations system coordination. We look forward to receiving the outcome of the independent evaluation of the Delivering as one initiative.

96. We call on the United Nations system to improve the management of facilities and operations, by taking into account sustainable development practices, building on existing efforts and promoting cost effectiveness, and in accordance with legislative frameworks, including financial rules and regulations, while maintaining accountability to Member States.

E. Regional, national, subnational and local levels

97. We acknowledge the importance of the regional dimension of sustainable development. Regional frameworks can complement and facilitate effective translation of sustainable development policies into concrete action at the national level.

98. We encourage regional, national, subnational and local authorities as appropriate to develop and utilize sustainable development strategies as key instruments for guiding decision-making and implementation of sustainable development at all levels, and in this regard we recognize that integrated social, economic and environmental data and information, as well as effective analysis and assessment of implementation, is important in decision-making processes.

99. We encourage action at the regional, national, subnational and local levels to promote access to information, public participation and access to justice in environmental matters, as appropriate.

100. We emphasize that regional and subregional organizations, including the United Nations regional commissions and their subregional offices, have a significant role to play in promoting a balanced integration of the economic, social and environmental dimensions of sustainable development in their respective regions. We underscore the need to support these institutions, including through the United Nations system, in the effective operationalization and implementation of sustainable development, and to facilitate institutional coherence and harmonization of relevant development policies, plans and programmes. In this regard, we urge these institutions to prioritize sustainable development through, inter alia, more efficient and effective capacity-building, development and implementation of regional agreements and arrangements as appropriate, and exchange of information, best practices and lessons learned. We also welcome regional and cross-regional initiatives for sustainable development. We furthermore recognize the need to ensure effective linkage among global, regional, subregional and national processes to advance sustainable development. We encourage the enhancement of the United Nations regional commissions and their subregional offices in their respective capacities to support Member States in implementing sustainable development.

101. We underline the need for more coherent and integrated planning and decision-making at the national, subnational and local levels as appropriate and, to this end, we call on countries to strengthen national, subnational and/or local institutions or relevant multi-stakeholder bodies and processes, as appropriate, dealing with sustainable development, including to coordinate on matters of sustainable development and to enable effective integration of the three dimensions of sustainable development.

102. We welcome regional and cross-regional initiatives for sustainable development, such as the Green Bridge Partnership Programme, which is voluntary and open for participation by all partners.

103. We underscore the need to ensure long-term political commitment to sustainable development taking into account national circumstances and priorities and, in this regard, we encourage all countries to undertake the necessary actions and measures to achieve sustainable development.

V. Framework for action and follow-up

A. Thematic areas and cross-sectoral issues

104. We recognize that in order to achieve the objective of the Conference, namely to secure renewed political commitment for sustainable development, as well as to address the themes of a green economy in the context of sustainable development and poverty eradication and the institutional framework for sustainable development, we commit to address remaining gaps in the implementation of the outcomes of the major summits on sustainable development, to address new and emerging challenges and to seize new opportunities through the actions enumerated below in this framework for action, supported as appropriate through provision of

means of implementation. We recognize that goals, targets and indicators, including where appropriate gender-sensitive indicators, are valuable in measuring and accelerating progress. We further note that progress in the implementation of the actions stipulated below can be enhanced by voluntarily sharing information, knowledge and experience.

Poverty eradication

105. We recognize that, three years from the 2015 target date of the Millennium Development Goals, while there has been progress in reducing poverty in some regions, this progress has been uneven and the number of people living in poverty in some countries continues to increase, with women and children constituting the majority of the most affected groups, especially in the least developed countries and particularly in Africa.

106. We recognize that sustained, inclusive and equitable economic growth in developing countries is a key requirement for eradicating poverty and hunger and achieving the Millennium Development Goals. In this regard, we emphasize that national efforts of developing countries should be complemented by an enabling environment aimed at expanding the development opportunities of developing countries. We also emphasize the need to accord the highest priority to poverty eradication within the United Nations development agenda, addressing the root causes and challenges of poverty through integrated, coordinated and coherent strategies at all levels.

107. We recognize that promoting universal access to social services can make an important contribution to consolidating and achieving development gains. Social protection systems that address and reduce inequality and social exclusion are essential for eradicating poverty and advancing the achievement of the Millennium Development Goals. In this regard, we strongly encourage initiatives aimed at enhancing social protection for all people.

Food security and nutrition and sustainable agriculture

108. We reaffirm our commitments regarding the right of everyone to have access to safe, sufficient and nutritious food, consistent with the right to adequate food and the fundamental right of everyone to be free from hunger. We acknowledge that food security and nutrition has become a pressing global challenge and, in this regard, we further reaffirm our commitment to enhancing food security and access to adequate, safe and nutritious food for present and future generations in line with the Five Rome Principles for Sustainable Global Food Security adopted in 2009, including for children under two, and through, as appropriate, national, regional and global food security and nutrition strategies.

109. We recognize that a significant portion of the world's poor live in rural areas, and that rural communities play an important role in the economic development of many countries. We emphasize the need to revitalize the agricultural and rural development sectors, notably in developing countries, in an economically, socially and environmentally sustainable manner. We recognize the importance of taking the necessary actions to better address the needs of rural communities through, inter alia, enhancing access by agricultural producers, in particular small producers, women, indigenous peoples and people living in vulnerable situations, to credit and other financial services, markets, secure land tenure, health care, social services,

education, training, knowledge and appropriate and affordable technologies, including for efficient irrigation, reuse of treated wastewater and water harvesting and storage. We reiterate the importance of empowering rural women as critical agents for enhancing agricultural and rural development and food security and nutrition. We also recognize the importance of traditional sustainable agricultural practices, including traditional seed supply systems, including for many indigenous peoples and local communities.

110. Noting the diversity of agricultural conditions and systems, we resolve to increase sustainable agricultural production and productivity globally, including through improving the functioning of markets and trading systems and strengthening international cooperation, particularly for developing countries, by increasing public and private investment in sustainable agriculture, land management and rural development. Key areas for investment and support include sustainable agricultural practices; rural infrastructure, storage capacities and related technologies; research and development on sustainable agricultural technologies; developing strong agricultural cooperatives and value chains; and strengthening urban-rural linkages. We also recognize the need to significantly reduce post-harvest and other food losses and waste throughout the food supply chain.

111. We reaffirm the necessity to promote, enhance and support more sustainable agriculture, including crops, livestock, forestry, fisheries and aquaculture, that improves food security, eradicates hunger and is economically viable, while conserving land, water, plant and animal genetic resources, biodiversity and ecosystems and enhancing resilience to climate change and natural disasters. We also recognize the need to maintain natural ecological processes that support food production systems.

112. We stress the need to enhance sustainable livestock production systems, including through improving pasture land and irrigation schemes in line with national policies, legislation, rules and regulations, enhanced sustainable water management systems, and efforts to eradicate and prevent the spread of animal diseases, recognizing that the livelihoods of farmers, including pastoralists, and the health of livestock are intertwined.

113. We also stress the crucial role of healthy marine ecosystems, sustainable fisheries and sustainable aquaculture for food security and nutrition and in providing for the livelihoods of millions of people.

114. We resolve to take action to enhance agricultural research, extension services, training and education to improve agricultural productivity and sustainability through the voluntary sharing of knowledge and good practices. We further resolve to improve access to information, technical knowledge and know-how, including through new information and communications technologies that empower farmers, fisherfolk and foresters to choose among diverse methods of achieving sustainable agricultural production. We call for the strengthening of international cooperation on agricultural research for development.

115. We reaffirm the important work and inclusive nature of the Committee on World Food Security, including through its role in facilitating country-initiated assessments on sustainable food production and food security, and we encourage countries to give due consideration to implementing the Committee on World Food Security Voluntary Guidelines on the Responsible Governance of Tenure of Land,

Fisheries and Forests in the Context of National Food Security. We take note of the ongoing discussions on responsible agricultural investment in the framework of the Committee on World Food Security, as well as the principles for responsible agricultural investment.

116. We stress the need to address the root causes of excessive food price volatility, including its structural causes, at all levels, and the need to manage the risks linked to high and excessively volatile prices in agricultural commodities and their consequences for global food security and nutrition, as well as for smallholder farmers and poor urban dwellers.

117. We underline the importance of timely, accurate and transparent information in helping to address excessive food price volatility, and in this regard take note of the Agricultural Market Information System hosted by the Food and Agriculture Organization of the United Nations (FAO) and urge the participating international organizations, private sector actors and Governments to ensure the public dissemination of timely and quality food market information products.

118. We reaffirm that a universal, rules-based, open, non-discriminatory and equitable multilateral trading system will promote agricultural and rural development in developing countries and contribute to world food security. We urge national, regional and international strategies to promote the participation of farmers, especially smallholder farmers, including women, in community, domestic, regional and international markets.

Water and sanitation

119. We recognize that water is at the core of sustainable development as it is closely linked to a number of key global challenges. We therefore reiterate the importance of integrating water in sustainable development and underline the critical importance of water and sanitation within the three dimensions of sustainable development.

120. We reaffirm the commitments made in the Johannesburg Plan of Implementation and the Millennium Declaration regarding halving by 2015 the proportion of people without access to safe drinking water and basic sanitation and the development of integrated water resource management and water efficiency plans, ensuring sustainable water use. We commit to the progressive realization of access to safe and affordable drinking water and basic sanitation for all, as necessary for poverty eradication, the empowerment of women and to protect human health, and to significantly improve the implementation of integrated water resource management at all levels as appropriate. In this regard, we reiterate the commitments to support these efforts, in particular for developing countries, through the mobilization of resources from all sources, capacity-building and technology transfer.

121. We reaffirm our commitments regarding the human right to safe drinking water and sanitation, to be progressively realized for our populations with full respect for national sovereignty. We also highlight our commitment to the 2005-2015 International Decade for Action, "Water for Life".

122. We recognize the key role that ecosystems play in maintaining water quantity and quality and support actions within respective national boundaries to protect and sustainably manage these ecosystems.

123. We underline the need to adopt measures to address floods, droughts and water scarcity, addressing the balance between water supply and demand, including, where appropriate, non-conventional water resources, and to mobilize financial resources and investment in infrastructure for water and sanitation services, in accordance with national priorities.

124. We stress the need to adopt measures to significantly reduce water pollution and increase water quality, significantly improve wastewater treatment and water efficiency and reduce water losses. In order to achieve this, we stress the need for international assistance and cooperation.

Energy

125. We recognize the critical role that energy plays in the development process, as access to sustainable modern energy services contributes to poverty eradication, saves lives, improves health and helps provide for basic human needs. We stress that these services are essential to social inclusion and gender equality, and that energy is also a key input to production. We commit to facilitate support for access to these services by 1.4 billion people worldwide who are currently without them. We recognize that access to these services is critical for achieving sustainable development.

126. We emphasize the need to address the challenge of access to sustainable modern energy services for all, in particular for the poor, who are unable to afford these services even when they are available. We emphasize the need to take further action to improve this situation, including by mobilizing adequate financial resources, so as to provide these services in a reliable, affordable, economically viable and socially and environmentally acceptable manner in developing countries.

127. We reaffirm support for the implementation of national and subnational policies and strategies, based on individual national circumstances and development aspirations, using an appropriate energy mix to meet developmental needs, including through increased use of renewable energy sources and other low-emission technologies, the more efficient use of energy, greater reliance on advanced energy technologies, including cleaner fossil fuel technologies, and the sustainable use of traditional energy resources. We commit to promoting sustainable modern energy services for all through national and subnational efforts, inter alia, on electrification and dissemination of sustainable cooking and heating solutions, including through collaborative actions to share best practices and adopt policies, as appropriate. We urge governments to create enabling environments that facilitate public and private sector investment in relevant and needed cleaner energy technologies.

128. We recognize that improving energy efficiency, increasing the share of renewable energy and cleaner and energy-efficient technologies are important for sustainable development, including in addressing climate change. We also recognize the need for energy efficiency measures in urban planning, buildings and transportation, and in the production of goods and services and the design of products. We also recognize the importance of promoting incentives in favour of, and removing disincentives to, energy efficiency and the diversification of the energy mix, including promoting research and development in all countries, including developing countries.

129. We note the launching of the initiative by the Secretary-General on Sustainable Energy for All, which focuses on access to energy, energy efficiency and renewable energies. We are all determined to act to make sustainable energy for all a reality and, through this, help to eradicate poverty and lead to sustainable development and global prosperity. We recognize that the activities of countries in broader energy-related matters are of great importance and are prioritized according to their specific challenges, capacities and circumstances, including their energy mix.

Sustainable tourism

130. We emphasize that well-designed and managed tourism can make a significant contribution to the three dimensions of sustainable development, has close linkages to other sectors, and can create decent jobs and generate trade opportunities. We recognize the need to support sustainable tourism activities and relevant capacity-building that promote environmental awareness, conserve and protect the environment, respect wildlife, flora, biodiversity, ecosystems and cultural diversity, and improve the welfare and livelihoods of local communities by supporting their local economies and the human and natural environment as a whole. We call for enhanced support for sustainable tourism activities and relevant capacity-building in developing countries in order to contribute to the achievement of sustainable development.

131. We encourage the promotion of investment in sustainable tourism, including eco-tourism and cultural tourism, which may include creating small and medium-sized enterprises and facilitating access to finance, including through microcredit initiatives for the poor, indigenous peoples and local communities in areas with high eco-tourism potential. In this regard, we underline the importance of establishing, where necessary, appropriate guidelines and regulations in accordance with national priorities and legislation for promoting and supporting sustainable tourism.

Sustainable transport

132. We note that transportation and mobility are central to sustainable development. Sustainable transportation can enhance economic growth and improve accessibility. Sustainable transport achieves better integration of the economy while respecting the environment. We recognize the importance of the efficient movement of people and goods, and access to environmentally sound, safe and affordable transportation as a means to improve social equity, health, resilience of cities, urban-rural linkages and productivity of rural areas. In this regard, we take into account road safety as part of our efforts to achieve sustainable development.

133. We support the development of sustainable transport systems, including energy efficient multi-modal transport systems, notably public mass transportation systems, clean fuels and vehicles, as well as improved transportation systems in rural areas. We recognize the need to promote an integrated approach to policymaking at the national, regional and local levels for transport services and systems to promote sustainable development. We also recognize that the special development needs of landlocked and transit developing countries need to be taken into account while establishing sustainable transit transport systems. We acknowledge the need for international support to developing countries in this regard.

Sustainable cities and human settlements

134. We recognize that, if they are well planned and developed, including through integrated planning and management approaches, cities can promote economically, socially and environmentally sustainable societies. In this regard, we recognize the need for a holistic approach to urban development and human settlements that provides for affordable housing and infrastructure and prioritizes slum upgrading and urban regeneration. We commit to work towards improving the quality of human settlements, including the living and working conditions of both urban and rural dwellers in the context of poverty eradication so that all people have access to basic services, housing and mobility. We also recognize the need for conservation, as appropriate, of the natural and cultural heritage of human settlements, the revitalization of historic districts and the rehabilitation of city centres.

135. We commit to promote an integrated approach to planning and building sustainable cities and urban settlements, including through supporting local authorities, increasing public awareness and enhancing participation of urban residents, including the poor, in decision-making. We also commit to promote sustainable development policies that support inclusive housing and social services; a safe and healthy living environment for all, particularly children, youth, women and the elderly and disabled; affordable and sustainable transport and energy; promotion, protection and restoration of safe and green urban spaces; safe and clean drinking water and sanitation; healthy air quality; generation of decent jobs; and improved urban planning and slum upgrading. We further support sustainable management of waste through the application of the 3Rs (reduce, reuse and recycle). We underline the importance of considering disaster risk reduction, resilience and climate risks in urban planning. We recognize the efforts of cities to balance development with rural regions.

136. We emphasize the importance of increasing the number of metropolitan regions, cities and towns that are implementing policies for sustainable urban planning and design in order to respond effectively to the expected growth of urban populations in the coming decades. We note that sustainable urban planning benefits from the involvement of multiple stakeholders as well as from full use of information and sex-disaggregated data, including on demographic trends, income distribution and informal settlements. We recognize the important role of municipal governments in setting a vision for sustainable cities, from the initiation of city planning through to revitalization of older cities and neighbourhoods, including by adopting energy efficiency programmes in building management and developing sustainable, locally appropriate transport systems. We further recognize the importance of mixed-use planning and of encouraging non-motorized mobility, including by promoting pedestrian and cycling infrastructures.

137. We recognize that partnerships among cities and communities play an important role in promoting sustainable development. In this regard, we stress the need to strengthen existing cooperation mechanisms and platforms, partnership arrangements and other implementation tools to advance the coordinated implementation of the Habitat Agenda with the active involvement of all relevant United Nations entities and with the overall aim of achieving sustainable urban development. We further recognize the continuing need for adequate and predictable financial contributions to the United Nations Habitat and Human Settlements

Foundation so as to ensure timely, effective and concrete global implementation of the Habitat Agenda.

Health and population

138. We recognize that health is a precondition for and an outcome and indicator of all three dimensions of sustainable development. We understand the goals of sustainable development can only be achieved in the absence of a high prevalence of debilitating communicable and non-communicable diseases, and where populations can reach a state of physical, mental and social well-being. We are convinced that action on the social and environmental determinants of health, both for the poor and the vulnerable and for the entire population, is important to create inclusive, equitable, economically productive and healthy societies. We call for the full realization of the right to the enjoyment of the highest attainable standard of physical and mental health.

139. We also recognize the importance of universal health coverage to enhancing health, social cohesion and sustainable human and economic development. We pledge to strengthen health systems towards the provision of equitable universal coverage. We call for the involvement of all relevant actors for coordinated multi-sectoral action to address urgently the health needs of the world's population.

140. We emphasize that HIV and AIDS, malaria, tuberculosis, influenza, polio and other communicable diseases remain serious global concerns, and we commit to redouble efforts to achieve universal access to HIV prevention, treatment, care and support, and to eliminate mother-to-child transmission of HIV, as well as to renewing and strengthening the fight against malaria, tuberculosis and neglected tropical diseases.

141. We acknowledge that the global burden and threat of non-communicable diseases constitutes one of the major challenges for sustainable development in the twenty-first century. We commit to strengthen health systems towards the provision of equitable, universal coverage and promote affordable access to prevention, treatment, care and support related to non-communicable diseases, especially cancer, cardiovascular diseases, chronic respiratory diseases and diabetes. We also commit to establish or strengthen multi-sectoral national policies for the prevention and control of non-communicable diseases. We recognize that reducing, *inter alia*, air, water and chemical pollution leads to positive effects on health.

142. We reaffirm the right to use, to the full, the provisions contained in the agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), the Doha Declaration on the TRIPS Agreement and Public Health, the decision of the WTO General Council of 30 August 2003 on the implementation of paragraph 6 of the Doha Declaration on the TRIPS Agreement and Public Health, and, when formal acceptance procedures are completed, the amendment to article 31 of the Agreement, which provides flexibilities for the protection of public health, and, in particular, to promote access to medicines for all, and encourage the provision of assistance to developing countries in this regard.

143. We call for further collaboration and cooperation at the national and international levels to strengthen health systems through increased health financing, recruitment, development and training and retention of the health workforce, through improved distribution and access to safe, affordable, effective and quality

medicines, vaccines and medical technologies, and through improving health infrastructure. We support the leadership role of the World Health Organization as the directing and coordinating authority on international health work.

144. We commit to systematically consider population trends and projections in our national, rural and urban development strategies and policies. Through forward-looking planning, we can seize the opportunities and address the challenges associated with demographic change, including migration.

145. We call for the full and effective implementation of the Beijing Platform for Action and the Programme of Action of the International Conference on Population and Development, and the outcomes of their review conferences, including the commitments leading to sexual and reproductive health and the promotion and protection of all human rights in this context. We emphasize the need for the provision of universal access to reproductive health, including family planning and sexual health, and the integration of reproductive health in national strategies and programmes.

146. We commit to reduce maternal and child mortality and to improve the health of women, men, youth and children. We reaffirm our commitment to gender equality and to protect the rights of women, men and youth to have control over and decide freely and responsibly on matters related to their sexuality, including access to sexual and reproductive health, free from coercion, discrimination and violence. We will work actively to ensure that health systems provide the necessary information and health services addressing the sexual and reproductive health of women, including working towards universal access to safe, effective, affordable and acceptable modern methods of family planning, as this is essential for women's health and advancing gender equality.

Promoting full and productive employment, decent work for all and social protection

147. We recognize that poverty eradication, full and productive employment and decent work for all, and social integration and protection are interrelated and mutually reinforcing, and that enabling environments to promote these need to be created at all levels.

148. We are concerned about labour market conditions and widespread deficits of available decent work opportunities, especially for young women and men. We urge all governments to address the global challenge of youth employment by developing and implementing strategies and policies that provide young people everywhere access to decent and productive work, as over the coming decades decent jobs will need to be created to be able to ensure sustainable and inclusive development and reduce poverty.

149. We recognize the importance of job creation by investing in and developing sound, effective and efficient economic and social infrastructure and productive capacities for sustainable development and sustained, inclusive and equitable economic growth. We call on countries to enhance infrastructure investment for sustainable development and we agree to support United Nations funds, programmes and agencies to help assist and promote the efforts of developing countries, particularly the least developed countries, in this regard.

150. We recognize the importance of job creation by adopting forward-looking macroeconomic policies that promote sustainable development and lead to sustained, inclusive and equitable economic growth, increase productive employment opportunities and promote agricultural and industrial development.

151. We emphasize the need to enhance employment and income opportunities for all, especially for women and men living in poverty and, in this regard, we support national efforts to provide new job opportunities to the poor in both rural and urban areas, including support to small and medium-sized enterprises.

152. We recognize that workers should have access to education, skills, health care, social security, fundamental rights at work, social and legal protections, including occupational safety and health, and decent work opportunities. Governments, trade unions, workers and employers all have a role to play in promoting decent work for all, and all should help young people to gain access to needed skills and employment opportunities, including in new and emerging sectors. Women and men should have equal access to opportunities to acquire job skills as well as to worker protections. We recognize the importance of a just transition, including programmes to help workers adjust to changing labour market conditions.

153. We also recognize that informal unpaid work, performed mostly by women, contributes substantially to human well-being and sustainable development. In this regard, we commit to work towards safe and decent working conditions and access to social protection and education.

154. We recognize that opportunities for decent work for all and job creation can be generated through, inter alia, public and private investments in scientific and technological innovation, public works in restoring, regenerating and conserving natural resources and ecosystems, and social and community services. We are encouraged by government initiatives to create jobs for poor people in restoring and managing natural resources and ecosystems, and we encourage the private sector to contribute to decent work for all and job creation for both women and men, and particularly for young people, including through partnerships with small and medium-sized enterprises and cooperatives. In this regard, we acknowledge the importance of efforts to promote the exchange of information and knowledge on decent work for all and job creation, including green jobs initiatives and related skills, and to facilitate the integration of relevant data into national economic and employment policies.

155. We encourage the sharing of experiences and best practices on ways to address the high levels of unemployment and underemployment, in particular among young people.

156. We stress the need to provide social protection to all members of society, fostering growth, resilience, social justice and cohesion, including those who are not employed in the formal economy. In this regard, we strongly encourage national and local initiatives aimed at providing social protection floors for all citizens. We support global dialogue on best practices for social protection programmes that takes into account the three dimensions of sustainable development and, in this regard, we note ILO Recommendation 202 concerning national floors of social protection.

157. We call upon States to promote and protect effectively the human rights and fundamental freedom of all migrants regardless of migration status, especially those

of women and children, and to address international migration through international, regional or bilateral cooperation and dialogue and a comprehensive and balanced approach, recognizing the roles and responsibilities of countries of origin, transit and destination in promoting and protecting the human rights of all migrants, and avoiding approaches that might aggravate their vulnerability.

Oceans and seas

158. We recognize that oceans, seas and coastal areas form an integrated and essential component of the Earth's ecosystem and are critical to sustaining it, and that international law, as reflected in the United Nations Convention on the Law of the Sea, provides the legal framework for the conservation and sustainable use of the oceans and their resources. We stress the importance of the conservation and sustainable use of the oceans and seas and of their resources for sustainable development, including through their contributions to poverty eradication, sustained economic growth, food security and creation of sustainable livelihoods and decent work, while at the same time protecting biodiversity and the marine environment and addressing the impacts of climate change. We therefore commit to protect, and restore, the health, productivity and resilience of oceans and marine ecosystems, and to maintain their biodiversity, enabling their conservation and sustainable use for present and future generations, and to effectively apply an ecosystem approach and the precautionary approach in the management, in accordance with international law, of activities having an impact on the marine environment, to deliver on all three dimensions of sustainable development.

159. We recognize the importance of the United Nations Convention on the Law of the Sea to advancing sustainable development and its near universal adoption by States, and in this regard we urge all its parties to fully implement their obligations under the Convention.

160. We recognize the importance of building the capacity of developing countries to be able to benefit from the conservation and sustainable use of the oceans and seas and their resources and, in this regard, we emphasize the need for cooperation in marine scientific research to implement the provisions of the United Nations Convention on the Law of the Sea and the outcomes of the major summits on sustainable development, as well as for the transfer of technology, taking into account the Intergovernmental Oceanographic Commission Criteria and Guidelines on the Transfer of Marine Technology.

161. We support the Regular Process for Global Reporting and Assessment of the State of the Marine Environment, including Socioeconomic Aspects, established under the General Assembly, and look forward to the completion of its first global integrated assessment of the state of the marine environment by 2014 and its subsequent consideration by the Assembly. We encourage consideration by States of the assessment findings at appropriate levels.

162. We recognize the importance of the conservation and sustainable use of marine biodiversity beyond areas of national jurisdiction. We note the ongoing work under the General Assembly of an ad hoc open-ended informal working group to study issues relating to the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction. Building on the work of the ad hoc working group and before the end of the sixty-ninth session of the General Assembly we commit to address, on an urgent basis, the issue of the conservation and sustainable

use of marine biological diversity of areas beyond national jurisdiction, including by taking a decision on the development of an international instrument under the United Nations Convention on the Law of the Sea.

163. We note with concern that the health of oceans and marine biodiversity are negatively affected by marine pollution, including marine debris, especially plastic, persistent organic pollutants, heavy metals and nitrogen-based compounds, from a number of marine and land-based sources, including shipping and land run-off. We commit to take action to reduce the incidence and impacts of such pollution on marine ecosystems, including through the effective implementation of relevant conventions adopted in the framework of the International Maritime Organization (IMO), and the follow-up of the relevant initiatives such as the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities, as well as the adoption of coordinated strategies to this end. We further commit to take action to, by 2025, based on collected scientific data, achieve significant reductions in marine debris to prevent harm to the coastal and marine environment.

164. We note the significant threat that alien invasive species pose to marine ecosystems and resources and commit to implement measures to prevent the introduction, and manage the adverse environmental impacts, of alien invasive species, including, as appropriate, those adopted in the framework of IMO.

165. We note that sea-level rise and coastal erosion are serious threats for many coastal regions and islands, particularly in developing countries, and in this regard we call on the international community to enhance its efforts to address these challenges.

166. We call for support to initiatives that address ocean acidification and the impacts of climate change on marine and coastal ecosystems and resources. In this regard, we reiterate the need to work collectively to prevent further ocean acidification, as well as enhance the resilience of marine ecosystems and of the communities whose livelihoods depend on them, and to support marine scientific research, monitoring and observation of ocean acidification and particularly vulnerable ecosystems, including through enhanced international cooperation in this regard.

167. We stress our concern about the potential environmental impacts of ocean fertilization. In this regard, we recall the decisions related to ocean fertilization adopted by the relevant intergovernmental bodies, and resolve to continue addressing with utmost caution ocean fertilization, consistent with the precautionary approach.

168. We commit to intensify our efforts to meet the 2015 target as agreed to in the Johannesburg Plan of Implementation to maintain or restore stocks to levels that can produce maximum sustainable yield on an urgent basis. In this regard we further commit to urgently take the measures necessary to maintain or restore all stocks at least to levels that can produce the maximum sustainable yield, with the aim of achieving these goals in the shortest time feasible, as determined by their biological characteristics. To achieve this we commit to urgently develop and implement science-based management plans, including by reducing or suspending fishing catch and effort commensurate with the status of the stock. We further commit to enhance action to manage bycatch, discards and other adverse ecosystem impacts from fisheries, including by eliminating destructive fishing practices. We also commit to

enhance actions to protect vulnerable marine ecosystems from significant adverse impacts, including through the effective use of impact assessments. Such actions, including those through competent organizations, should be undertaken consistent with international law, the applicable international instruments and relevant General Assembly resolutions and FAO guidelines.

169. We urge States parties to the 1995 Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks to fully implement that Agreement and to give, in accordance with part VII of the Agreement, full recognition to the special requirements of developing States. Furthermore, we call upon all States to implement the Code of Conduct for Responsible Fisheries and the FAO international plans of action and technical guidelines.

170. We acknowledge that illegal, unreported and unregulated fishing deprive many countries of a crucial natural resource and remain a persistent threat to their sustainable development. We recommit to eliminate illegal, unreported and unregulated fishing as advanced in the Johannesburg Plan of Implementation, and to prevent and combat these practices, including through the following: developing and implementing national and regional action plans in accordance with the FAO International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing; implementing, in accordance with international law, effective and coordinated measures by coastal States, flag States, port States, chartering nations and the States of nationality of the beneficial owners and others who support or engage in illegal, unreported and unregulated fishing by identifying vessels engaged in such fishing and by depriving offenders of the benefits accruing from it; as well as cooperating with developing countries to systematically identify needs and build capacity, including support for monitoring, control, surveillance, compliance and enforcement systems.

171. We call upon States that have signed the FAO Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing to expedite procedures for its ratification with a view to its early entry into force.

172. We recognize the need for transparency and accountability in fisheries management by regional fisheries management organizations. We recognize the efforts already made by those regional fisheries management organizations that have undertaken independent performance reviews, and call on all regional fisheries management organizations to regularly undertake such reviews and make the results publicly available. We encourage implementation of the recommendations of such reviews and recommend that the comprehensiveness of those reviews be strengthened over time, as necessary.

173. We reaffirm our commitment in the Johannesburg Plan of Implementation to eliminate subsidies that contribute to illegal, unreported and unregulated fishing and overcapacity, taking into account the importance of this sector to developing countries, and we reiterate our commitment to conclude multilateral disciplines on fisheries subsidies that will give effect to the WTO Doha Development Agenda and the Hong Kong Ministerial Declaration mandates to strengthen disciplines on subsidies in the fisheries sector, including through the prohibition of certain forms of fisheries subsidies that contribute to overcapacity and overfishing, recognizing

that appropriate and effective special and differential treatment for developing and least developed countries should be an integral part of the WTO fisheries subsidies negotiation, taking into account the importance of the sector to development priorities, poverty reduction and livelihood and food-security concerns. We encourage States to further improve the transparency and reporting of existing fisheries subsidies programmes through WTO. Given the state of fisheries resources, and without prejudicing the WTO Doha and Hong Kong ministerial mandates on fisheries subsidies or the need to conclude these negotiations, we encourage States to eliminate subsidies that contribute to overcapacity and overfishing, and to refrain from introducing new such subsidies or from extending or enhancing existing ones.

174. We urge the identification and mainstreaming of strategies by 2014 that further assist developing countries, in particular the least developed countries and small island developing States, in developing their national capacity to conserve, sustainably manage and realize the benefits of sustainable fisheries, including through improved market access for fish products from developing countries.

175. We commit to observe the need to ensure access to fisheries and the importance of access to markets, by subsistence, small-scale and artisanal fisherfolk and women fish workers, as well as indigenous peoples and their communities, particularly in developing countries, especially small island developing States.

176. We also recognize the significant economic, social and environmental contributions of coral reefs, in particular to islands and other coastal States, as well as the significant vulnerability of coral reefs and mangroves to impacts, including from climate change, ocean acidification, overfishing, destructive fishing practices and pollution. We support international cooperation with a view to conserving coral reef and mangrove ecosystems and realizing their social, economic and environmental benefits as well as facilitating technical collaboration and voluntary information-sharing.

177. We reaffirm the importance of area-based conservation measures, including marine protected areas, consistent with international law and based on best available scientific information, as a tool for conservation of biological diversity and sustainable use of its components. We note decision X/2 of the tenth Meeting of the Conference of the Parties to the Convention on Biological Diversity, that by 2020 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are to be conserved through effectively and equitably managed, ecologically representative and well-connected systems of protected areas and other effective area-based conservation measures.

Small island developing States

178. We reaffirm that small island developing States remain a special case for sustainable development in view of their unique and particular vulnerabilities, including their small size, remoteness, narrow resource and export base, and exposure to global environmental challenges and external economic shocks, including to a large range of impacts from climate change and potentially more frequent and intense natural disasters. We note with concern that the outcome of the five-year review of the Mauritius Strategy concluded that small island developing States have made less progress than most other groupings, or even regressed, in economic terms, especially in terms of poverty reduction and debt sustainability. Sea-level rise and other adverse impacts of climate change continue to pose a

significant risk to small island developing States and their efforts to achieve sustainable development, and for many represent the gravest of threats to their survival and viability, including for some through the loss of territory. We also remain concerned that, while small island developing States have progressed in the areas of gender, health, education and the environment, their overall progress towards achieving the Millennium Development Goals has been uneven.

179. We call for continued and enhanced efforts to assist small island developing States in implementing the Barbados Programme of Action and the Mauritius Strategy. We also call for a strengthening of United Nations System support to small island developing States in keeping with the multiple ongoing and emerging challenges faced by these States in achieving sustainable development.

180. Building on the Barbados Programme of Action and the Mauritius Strategy, we call for the convening in 2014 of a third international conference on small island developing States, recognizing the importance of coordinated, balanced and integrated actions to address the sustainable development challenges facing small island developing States, and we invite the General Assembly at its sixty-seventh session to determine the modalities of the conference.

Least developed countries

181. We agree to effectively implement the Istanbul Programme of Action and to fully integrate its priority areas into the present framework for action, the broader implementation of which will contribute to the overarching goal of the Istanbul Programme of Action of enabling half of the least developed countries to meet the criteria of graduation by 2020.

Landlocked least developed countries

182. We invite Member States, including development partners, organizations of the United Nations system and other relevant international, regional and subregional organizations, to speed up further the implementation of the specific actions in the five priorities agreed upon in the Almaty Programme of Action and those contained in the declaration on the midterm review of the Almaty Programme of Action, in a better coordinated manner, in particular for the construction, maintenance and improvement of their transport, storage and other transit-related facilities, including alternative routes, completion of missing links and improved communications and energy infrastructure, so as to support the sustainable development of landlocked least developed countries.

Africa

183. While we acknowledge that some progress has been made towards the fulfilment of international commitments related to Africa's development needs, we emphasize that significant challenges remain in achieving sustainable development on the continent.

184. We call on the international community to enhance support and fulfil commitments to advance action in areas critical to Africa's sustainable development and welcome the efforts by development partners to strengthen cooperation with the New Partnership for Africa's Development. We also welcome the progress made by African countries in deepening democracy, human rights, good governance and

sound economic management, and encourage African countries to continue their efforts in this regard. We invite all Africa's development partners, in particular developed countries, to support African countries in strengthening human capacities and democratic institutions, consistent with their priorities and objectives, with a view to furthering Africa's development at all levels, including through facilitating the transfer of technology needed by African countries as mutually agreed. We recognize the continued efforts by African countries to create enabling environments for inclusive growth in support of sustainable development and for the international community to make continued efforts to increase the flow of new and additional resources for financing for development from all sources, public and private, domestic and foreign, to support these development efforts by African countries, and welcome the various important initiatives established between African countries and their development partners in this regard.

Regional efforts

185. We encourage coordinated regional actions to promote sustainable development. We recognize, in this regard, that important steps have been taken to promote sustainable development, in particular in the Arab region, Latin America and the Caribbean and the Asia-Pacific region, through relevant forums, including within the United Nations regional commissions. While noting that challenges remain in several areas, the international community welcomes these efforts, and the results already achieved, and calls for actions at all levels for their further development and implementation.

Disaster risk reduction

186. We reaffirm our commitment to the Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters and call for States, the United Nations system, the international financial institutions, subregional, regional and international organizations and civil society to accelerate implementation of the Framework and the achievement of its goals. We call for disaster risk reduction and the building of resilience to disasters to be addressed with a renewed sense of urgency in the context of sustainable development and poverty eradication, and, as appropriate, to be integrated into policies, plans, programmes and budgets at all levels and considered within relevant future frameworks. We invite governments at all levels as well as relevant subregional, regional and international organizations to commit to adequate, timely and predictable resources for disaster risk reduction in order to enhance the resilience of cities and communities to disasters, according to their own circumstances and capacities.

187. We recognize the importance of early warning systems as part of effective disaster risk reduction at all levels in order to reduce economic and social damages, including the loss of human life, and in this regard encourage States to integrate such systems into their national disaster risk reduction strategies and plans. We encourage donors and the international community to enhance international cooperation in support of disaster risk reduction in developing countries, as appropriate, through technical assistance, technology transfer as mutually agreed, capacity-building and training programmes. We further recognize the importance of comprehensive hazard and risk assessments, and knowledge- and information-sharing, including reliable geospatial information. We commit to undertake and

strengthen in a timely manner risk assessment and disaster risk reduction instruments.

188. We stress the importance of stronger interlinkages among disaster risk reduction, recovery and long-term development planning, and call for more coordinated and comprehensive strategies that integrate disaster risk reduction and climate change adaptation considerations into public and private investment, decision-making and the planning of humanitarian and development actions, in order to reduce risk, increase resilience and provide a smoother transition between relief, recovery and development. In this regard, we recognize the need to integrate a gender perspective into the design and implementation of all phases of disaster risk management.

189. We call for all relevant stakeholders, including Governments, international, regional and subregional organizations, the private sector and civil society, to take appropriate and effective measures, taking into account the three dimensions of sustainable development, including through strengthening coordination and cooperation to reduce exposure to risk for the protection of people, and infrastructure and other national assets, from the impact of disasters, in line with the Hyogo Framework for Action and any post-2015 framework for disaster risk reduction.

Climate change

190. We reaffirm that climate change is one of the greatest challenges of our time, and we express profound alarm that emissions of greenhouse gases continue to rise globally. We are deeply concerned that all countries, particularly developing countries, are vulnerable to the adverse impacts of climate change, and are already experiencing increased impacts, including persistent drought and extreme weather events, sea-level rise, coastal erosion and ocean acidification, further threatening food security and efforts to eradicate poverty and achieve sustainable development. In this regard we emphasize that adaptation to climate change represents an immediate and urgent global priority.

191. We underscore that the global nature of climate change calls for the widest possible cooperation by all countries and their participation in an effective and appropriate international response, with a view to accelerating the reduction of global greenhouse gas emissions. We recall that the United Nations Framework Convention on Climate Change provides that parties should protect the climate system for the benefit of present and future generations of humankind on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities. We note with grave concern the significant gap between the aggregate effect of mitigation pledges by parties in terms of global annual emissions of greenhouse gases by 2020 and aggregate emission pathways consistent with having a likely chance of holding the increase in global average temperature below 2° C, or 1.5° C above pre-industrial levels. We recognize the importance of mobilizing funding from a variety of sources, public and private, bilateral and multilateral, including innovative sources of finance, to support nationally appropriate mitigation actions, adaptation measures, technology development and transfer and capacity-building in developing countries. In this regard, we welcome the launching of the Green Climate Fund and call for its prompt operationalization so as to have an early and adequate replenishment process.

192. We urge parties to the United Nations Framework Convention on Climate Change and parties to the Kyoto Protocol to fully implement their commitments, as well as decisions adopted under those agreements. In this regard, we will build upon the progress achieved, including at the seventeenth session of the Conference of the Parties to the Convention and the seventh session of the Conference of the Parties serving as the Meeting of the Parties to the Kyoto Protocol, held in Durban, South Africa, from 28 November to 9 December 2011.

Forests

193. We highlight the social, economic and environmental benefits of forests to people and the contributions of sustainable forest management to the themes and objective of the Conference. We support cross-sectoral and cross-institutional policies promoting sustainable forest management. We reaffirm that the wide range of products and services that forests provide creates opportunities to address many of the most pressing sustainable development challenges. We call for enhanced efforts to achieve the sustainable management of forests, reforestation, restoration and afforestation, and we support all efforts that effectively slow, halt and reverse deforestation and forest degradation, including, inter alia, promoting trade in legally harvested forest products. We note the importance of such ongoing initiatives as reducing emissions from deforestation and forest degradation in developing countries, and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries. We call for increased efforts to strengthen forest governance frameworks and means of implementation, in accordance with the non-legally binding instrument on all types of forests, in order to achieve sustainable forest management. To this end, we commit to improving the livelihoods of people and communities by creating the conditions needed for them to sustainably manage forests, including through strengthening cooperation arrangements in the areas of finance, trade, transfer of environmentally sound technologies, capacity-building and governance, as well as by promoting secure land tenure, particularly decision-making and benefit-sharing, in accordance with national legislation and priorities.

194. We call for urgent implementation of the non-legally binding instrument on all types of forests and the Ministerial Declaration of the high-level segment of the ninth session of the United Nations Forum on Forests on the occasion of the launch of the International Year of Forests.

195. We recognize that the United Nations Forum on Forests, with its universal membership and comprehensive mandate, plays a vital role in addressing forest-related issues in a holistic and integrated manner and promoting international policy coordination and cooperation to achieve sustainable forest management. We invite the Collaborative Partnership on Forests to continue its support to the Forum and encourage stakeholders to remain actively engaged in the work of the Forum.

196. We stress the importance of integrating sustainable forest management objectives and practices into the mainstream of economic policy and decision-making, and to that end we commit to working through the governing bodies of member organizations of the Collaborative Partnership on Forests to integrate, as appropriate, the sustainable management of all types of forests into their strategies and programmes.

Biodiversity

197. We reaffirm the intrinsic value of biological diversity, as well as the ecological, genetic, social, economic, scientific, educational, cultural, recreational and aesthetic values of biological diversity and its critical role in maintaining ecosystems that provide essential services, which are critical foundations for sustainable development and human well-being. We recognize the severity of the global loss of biodiversity and the degradation of ecosystems and emphasize that these undermine global development, affecting food security and nutrition, the provision of and access to water and the health of the rural poor and of people worldwide, including present and future generations. This highlights the importance of the conservation of biodiversity, enhancing habitat connectivity and building ecosystem resilience. We recognize that the traditional knowledge, innovations and practices of indigenous peoples and local communities make an important contribution to the conservation and sustainable use of biodiversity, and their wider application can support social well-being and sustainable livelihoods. We further recognize that indigenous peoples and local communities are often the most directly dependent on biodiversity and ecosystems and thus are often the most immediately affected by their loss and degradation.

198. We reiterate our commitment to the achievement of the three objectives of the Convention on Biological Diversity and call for urgent actions that effectively reduce the rate of, halt and reverse the loss of biodiversity. In this context, we affirm the importance of implementing the Strategic Plan for Biodiversity 2011-2020 and achieving the Aichi Biodiversity Targets adopted by the Conference of the Parties to the Convention at its tenth meeting.

199. We note the adoption of the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from Their Utilization to the Convention on Biological Diversity, and we invite parties to the Convention on Biological Diversity to ratify or accede to the Protocol, so as to ensure its entry into force at the earliest possible opportunity. We acknowledge the role of access and benefit-sharing arising from the utilization of genetic resources in contributing to the conservation and sustainable use of biological diversity, poverty eradication and environmental sustainability.

200. We welcome the strategy for resource mobilization in support of the achievement of the three objectives of the Convention on Biological Diversity, including the commitment to substantially increasing resources from all sources in support of biodiversity, in accordance with decisions taken at the Conference of the Parties at its tenth meeting.

201. We support mainstreaming the consideration of the socioeconomic impacts and benefits of the conservation and sustainable use of biodiversity and its components, as well as ecosystems that provide essential services, into relevant programmes and policies at all levels, in accordance with national legislation, circumstances and priorities. We encourage investments, through appropriate incentives and policies, which support the conservation and sustainable use of biological diversity and restoration of degraded ecosystems, consistent and in harmony with the Convention on Biological Diversity and other relevant international obligations.

202. We agree to promote international cooperation and partnerships, as appropriate, and information exchange, and in this context we welcome the United

Nations Decade on Biodiversity, 2011-2020, for the purpose of encouraging active involvement of all stakeholders in the conservation and sustainable use of biodiversity, as well as access to and the fair and equitable sharing of benefits arising from the utilization of genetic resources, with the vision of living in harmony with nature.

203. We recognize the important role of the Convention on International Trade in Endangered Species of Wild Fauna and Flora, an international agreement that stands at the intersection between trade, the environment and development, promotes the conservation and sustainable use of biodiversity, should contribute to tangible benefits for local people, and ensures that no species entering into international trade is threatened with extinction. We recognize the economic, social and environmental impacts of illicit trafficking in wildlife, where firm and strengthened action needs to be taken on both the supply and demand sides. In this regard, we emphasize the importance of effective international cooperation among relevant multilateral environmental agreements and international organizations. We further stress the importance of basing the listing of species on agreed criteria.

204. We take note of the establishment of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, and invite an early commencement of its work, in order to provide the best available policy-relevant information on biodiversity to assist decision makers.

Desertification, land degradation and drought

205. We recognize the economic and social significance of good land management, including soil, particularly its contribution to economic growth, biodiversity, sustainable agriculture and food security, eradicating poverty, the empowerment of women, addressing climate change and improving water availability. We stress that desertification, land degradation and drought are challenges of a global dimension and continue to pose serious challenges to the sustainable development of all countries, in particular developing countries. We also stress the particular challenges this poses for Africa, the least developed countries and the landlocked developing countries. In this regard, we express deep concern for the devastating consequences of cyclical drought and famine in Africa, in particular in the Horn of Africa and the Sahel region, and call for urgent action through short-, medium- and long-term measures at all levels.

206. We recognize the need for urgent action to reverse land degradation. In view of this, we will strive to achieve a land-degradation neutral world in the context of sustainable development. This should act to catalyse financial resources from a range of public and private sources.

207. We reaffirm our resolve in accordance with the United Nations Convention to Combat Desertification to take coordinated action nationally, regionally and internationally, to monitor, globally, land degradation and restore degraded lands in arid, semi-arid and dry sub-humid areas. We resolve to support and strengthen the implementation of the Convention and the 10-year strategic plan and framework to enhance its implementation (2008-2018), including through mobilizing adequate, predictable and timely financial resources. We note the importance of mitigating the effects of desertification, land degradation and drought, including by preserving and developing oases, restoring degraded lands, improving soil quality and improving water management, in order to contribute to sustainable development and poverty

eradication. In this regard, we encourage and recognize the importance of partnerships and initiatives for the safeguarding of land resources. We also encourage capacity-building, extension training programmes and scientific studies and initiatives aimed at deepening understanding and raising awareness of the economic, social and environmental benefits of sustainable land management policies and practices.

208. We stress the importance of the further development and implementation of scientifically based, sound and socially inclusive methods and indicators for monitoring and assessing the extent of desertification, land degradation and drought, as well as the importance of efforts under way to promote scientific research and strengthen the scientific base of activities to address desertification and drought in accordance with the United Nations Convention to Combat Desertification. In this respect, we take note of the decision of the Conference of the Parties to the Convention, at its tenth meeting, to establish an ad hoc working group, taking into account regional balance, to discuss specific options for the provision of scientific advice to its parties.

209. We reiterate the need for cooperation through the sharing of climate and weather information and forecasting and early warning systems related to desertification, land degradation and drought, as well as to dust storms and sandstorms, at the global, regional and subregional levels. In this regard, we invite States and relevant organizations to cooperate in the sharing of related information, forecasting and early warning systems.

Mountains

210. We recognize that the benefits derived from mountain regions are essential for sustainable development. Mountain ecosystems play a crucial role in providing water resources to a large portion of the world's population; fragile mountain ecosystems are particularly vulnerable to the adverse impacts of climate change, deforestation and forest degradation, land use change, land degradation and natural disasters; and mountain glaciers around the world are retreating and getting thinner, with increasing impacts on the environment and human well-being.

211. We further recognize that mountains are often home to communities, including indigenous peoples and local communities, who have developed sustainable uses of mountain resources. These communities are, however, often marginalized, and we therefore stress that continued effort will be required to address poverty, food security and nutrition, social exclusion and environmental degradation in these areas. We invite States to strengthen cooperative action with effective involvement and sharing of experience of all relevant stakeholders, by strengthening existing arrangements, agreements and centres of excellence for sustainable mountain development, as well as exploring new arrangements and agreements, as appropriate.

212. We call for greater efforts towards the conservation of mountain ecosystems, including their biodiversity. We encourage States to adopt a long-term vision and holistic approaches, including through incorporating mountain-specific policies into national sustainable development strategies, which could include, inter alia, poverty reduction plans and programmes for mountain areas, particularly in developing countries. In this regard, we call for international support for sustainable mountain development in developing countries.

Chemicals and waste

213. We recognize that the sound management of chemicals is crucial for the protection of human health and the environment. We further recognize that growing global production and use of chemicals and their prevalence in the environment calls for increased international cooperation. We reaffirm our aim to achieve, by 2020, the sound management of chemicals throughout their life cycle and of hazardous waste in ways that lead to minimization of significant adverse effects on human health and the environment, as set out in the Johannesburg Plan of Implementation. We also reaffirm our commitment to an approach for the sound management of chemicals and waste, at all levels, that responds in an effective, efficient, coherent and coordinated manner to new and emerging issues and challenges, and encourage further progress across countries and regions in order to fill the gaps in the implementation of commitments.

214. We call for the effective implementation and strengthening of the Strategic Approach to International Chemicals Management as part of a robust, coherent, effective and efficient system for the sound management of chemicals throughout their life cycle, including to respond to emerging challenges.

215. We are deeply concerned that many countries, in particular the least developed countries, lack the capacity for sound management of chemicals and waste throughout their life cycles. Additional efforts are needed to enhance work towards strengthening capacities, including through partnerships, technical assistance and improved governance structures. We encourage countries and organizations, which have made progress towards achieving the goal of sound management of chemicals by 2020 to assist other countries by sharing knowledge, experience and best practices.

216. We commend the increased coordination and cooperation among chemical and waste conventions, namely the Basel Convention, the Rotterdam Convention and the Stockholm Convention, and encourage continued enhanced coordination and cooperation among them and with the Strategic Approach to International Chemicals Management. We take note of the important role regional and coordinating centres of the Basel Convention and those of the Stockholm Convention.

217. We commend existing public-private partnerships and call for continued, new and innovative public-private partnerships among industry, governments, academia and other non-governmental stakeholders aiming to enhance capacity and technology for environmentally sound chemicals and waste management, including for waste prevention.

218. We recognize the importance of adopting a life cycle approach and of further development and implementation of policies for resource efficiency and environmentally sound waste management. We therefore commit to further reduce, reuse and recycle waste (3Rs), and to increase energy recovery from waste, with a view to managing the majority of global waste in an environmentally sound manner and, where possible, as a resource. Solid wastes, such as electronic waste and plastics, pose particular challenges, which should be addressed. We call for the development and enforcement of comprehensive national and local waste management policies, strategies, laws and regulations.

219. We urge countries and other stakeholders to take all possible measures to prevent the unsound management of hazardous wastes and their illegal dumping,

particularly in countries where the capacity to deal with these wastes is limited, in a manner consistent with the obligations of countries under relevant international instruments. In this context, we welcome the relevant decisions taken at the tenth meeting of the Conference of the Parties to the Basel Convention.

220. We recognize the importance of science-based assessments of the risks posed by chemicals to human beings and the environment, and of reducing human and environmental exposure to hazardous chemicals. We encourage the development of environmentally sound and safer alternatives to hazardous chemicals in products and processes. To this end, we encourage, inter alia, life cycle assessment, public information, extended producer responsibility, research and development, sustainable design and knowledge-sharing, as appropriate.

221. We welcome the ongoing negotiating process on a global legally binding instrument on mercury to address the risks to human health and the environment and call for a successful outcome to the negotiations.

222. We recognize that the phase-out of ozone-depleting substances is resulting in a rapid increase in the use and release of high global-warming potential hydrofluorocarbons to the environment. We support a gradual phase-down in the consumption and production of hydrofluorocarbons.

223. We acknowledge that sustainable and adequate long-term funding is a key element for the sound management of chemicals and waste, in particular in developing countries. In this regard, we welcome the consultative process on financing options for chemicals and waste, initiated to consider the need for heightened efforts to increase the political priority accorded to sound management of chemicals and waste, and the increased need for sustainable, predictable, adequate and accessible financing for the chemicals and waste agenda. We look forward to the forthcoming proposals by the Executive Director of UNEP, which will be considered by the International Conference on Chemicals Management and at the twenty-seventh session of the Governing Council of UNEP.

Sustainable consumption and production

224. We recall the commitments made in the Rio Declaration on Environment and Development, Agenda 21 and the Johannesburg Plan of Implementation on sustainable consumption and production and, in particular, the request in chapter 3 of the Plan of Implementation to encourage and promote the development of a 10-year framework of programmes. We recognize that fundamental changes in the way societies consume and produce are indispensable for achieving global sustainable development.

225. Countries reaffirm the commitments they have made to phase out harmful and inefficient fossil fuel subsidies that encourage wasteful consumption and undermine sustainable development. We invite others to consider rationalizing inefficient fossil fuel subsidies by removing market distortions, including restructuring taxation and phasing out harmful subsidies, where they exist, to reflect their environmental impacts, with such policies taking fully into account the specific needs and conditions of developing countries, with the aim of minimizing the possible adverse impacts on their development and in a manner that protects the poor and the affected communities.

226. We adopt the 10-year framework of programmes on sustainable consumption and production patterns, as contained in document A/CONF.216/5, and highlight that the programmes included in the 10-year framework are voluntary. We invite the General Assembly, at its sixty-seventh session, to designate a Member State body to take any necessary steps to fully operationalize the framework.

Mining

227. We acknowledge that minerals and metals make a major contribution to the world economy and modern societies. We note that mining industries are important to all countries with mineral resources, in particular developing countries. We also note that mining offers the opportunity to catalyse broad-based economic development, reduce poverty and assist countries in meeting internationally agreed development goals, including the Millennium Development Goals, when managed effectively and properly. We acknowledge that countries have the sovereign right to develop their mineral resources according to their national priorities and responsibility regarding the exploitation of resources described in the Rio Principles. We further acknowledge that mining activities should maximize social and economic benefits, as well as effectively address negative environmental and social impacts. In this regard, we recognize that Governments need strong capacities to develop, manage and regulate their mining industries, in the interest of sustainable development.

228. We recognize the importance of strong and effective legal and regulatory frameworks, policies and practices for the mining sector that deliver economic and social benefits and include effective safeguards that reduce social and environmental impacts, as well as conserve biodiversity and ecosystems, including during post-mining closure. We call on governments and businesses to promote the continuous improvement of accountability and transparency, as well as the effectiveness of the relevant existing mechanisms to prevent the illicit financial flows from mining activities.

Education

229. We reaffirm our commitments to the right to education and in this regard, we commit to strengthen international cooperation to achieve universal access to primary education, particularly for developing countries. We further reaffirm that full access to quality education at all levels is an essential condition for achieving sustainable development, poverty eradication, gender equality and the empowerment of women, as well as human development, for the attainment of the internationally agreed development goals, including the Millennium Development Goals, and for the full participation of both women and men, in particular young people. In this regard, we stress the need for ensuring equal access to education for persons with disabilities, indigenous peoples, local communities, ethnic minorities and people living in rural areas.

230. We recognize that the younger generations are the custodians of the future and the need for better quality and access to education beyond the primary level. We therefore resolve to improve the capacity of our education systems to prepare people to pursue sustainable development, including through enhanced teacher training, the development of sustainability curricula, the development of training programmes that prepare students for careers in fields related to sustainability, and more effective

use of information and communications technologies to enhance learning outcomes. We call for enhanced cooperation among schools, communities and authorities in efforts to promote access to quality education at all levels.

231. We encourage Member States to promote sustainable development awareness among youth, inter alia by promoting programmes for non-formal education in accordance with the goals of the United Nations Decade of Education for Sustainable Development, 2005-2014.

232. We emphasize the importance of greater international cooperation to improve access to education, including through building and strengthening education infrastructure and increasing investment in education, particularly investment to improve the quality of education for all in developing countries. We encourage international educational exchanges and partnerships, including the creation of fellowships and scholarships to help achieve global education goals.

233. We resolve to promote education for sustainable development and to integrate sustainable development more actively into education beyond the United Nations Decade of Education for Sustainable Development.

234. We strongly encourage educational institutions to consider adopting good practices in sustainability management on their campuses and in their communities with the active participation of, inter alia, students, teachers and local partners, and teaching sustainable development as an integrated component across disciplines.

235. We underscore the importance of supporting educational institutions, especially higher educational institutions in developing countries, to carry out research and innovation for sustainable development, including in the field of education, to develop quality and innovative programmes, including entrepreneurship and business skills training, professional, technical and vocational training and lifelong learning, geared to bridging skills gaps for advancing national sustainable development objectives.

Gender equality and the empowerment of women

236. We reaffirm the vital role of women and the need for their full and equal participation and leadership in all areas of sustainable development, and decide to accelerate the implementation of our respective commitments in this regard as contained in the Convention on the Elimination of All Forms of Discrimination against Women, as well as Agenda 21, the Beijing Declaration and Platform for Action and the United Nations Millennium Declaration.

237. We recognize that, although progress on gender equality has been made in some areas, the potential of women to engage in, contribute to and benefit from sustainable development as leaders, participants and agents of change has not been fully realized, owing to, inter alia, persistent social, economic and political inequalities. We support prioritizing measures to promote gender equality and the empowerment of women in all spheres of our societies, including the removal of barriers to their full and equal participation in decision-making and management at all levels, and we emphasize the impact of setting specific targets and implementing temporary measures, as appropriate, for substantially increasing the number of women in leadership positions, with the aim of achieving gender parity.

238. We resolve to unlock the potential of women as drivers of sustainable development, including through the repeal of discriminatory laws and the removal of formal barriers, ensuring equal access to justice and legal support, the reform of institutions to ensure competence and capacity for gender mainstreaming and the development and adoption of innovative and special approaches to address informal, harmful practices that act as barriers to gender equality. In this regard, we commit to creating an enabling environment for improving the situation of women and girls everywhere, particularly in rural areas and local communities and among indigenous peoples and ethnic minorities.

239. We commit to actively promote the collection, analysis and use of gender-sensitive indicators and sex-disaggregated data in policy, programme design and monitoring frameworks, in accordance with national circumstances and capacities, in order to deliver on the promise of sustainable development for all.

240. We are committed to equal rights and opportunities for women in political and economic decision-making and resource allocation and to removing any barriers that prevent women from being full participants in the economy. We resolve to undertake legislative and administrative reforms to give women equal rights with men to economic resources, including access to ownership and control over land and other forms of property, credit, inheritance, natural resources and appropriate new technology.

241. We are committed to promote the equal access of women and girls to education, basic services, economic opportunities and health-care services, including addressing women's sexual and reproductive health, and ensuring universal access to safe, effective, affordable and acceptable modern methods of family planning. In this regard, we reaffirm our commitment to implement the Programme of Action of the International Conference on Population and Development and the key actions for the further implementation of that Programme of Action.

242. We recognize that gender equality and the effective participation of women are important for effective action on all aspects of sustainable development.

243. We support the work of the United Nations system, including the United Nations Entity for Gender Equality and the Empowerment of Women (UN-Women), in promoting and achieving gender equality and the empowerment of women in all aspects of life, including with respect to the linkages between gender equality and the empowerment of women and the promotion of sustainable development. We support the work of UN-Women in leading, coordinating and promoting the accountability of the United Nations system in this regard.

244. We invite donors and international organizations, including the United Nations system organizations, as well as the international financial institutions, regional banks and major groups, including the private sector, to integrate fully commitments and considerations on gender equality and the empowerment of women and to ensure the participation of women and effective gender mainstreaming in their decision-making and full programming cycle. We invite them to play a supportive role in the efforts of developing countries to integrate fully commitments and considerations on gender equality and the empowerment of women and ensure the participation of women and effective gender mainstreaming in their decision-

making, programme planning, budgeting and implementation, in accordance with national legislation, priorities and capacities.

B. Sustainable development goals

245. We underscore that the Millennium Development Goals are a useful tool in focusing achievement of specific development gains as part of a broad development vision and framework for the development activities of the United Nations, for national priority-setting and for mobilization of stakeholders and resources towards common goals. We therefore remain firmly committed to their full and timely achievement.

246. We recognize that the development of goals could also be useful for pursuing focused and coherent action on sustainable development. We further recognize the importance and utility of a set of sustainable development goals, based on Agenda 21 and the Johannesburg Plan of Implementation, which fully respect all the Rio Principles, taking into account different national circumstances, capacities and priorities, are consistent with international law, build upon commitments already made, and contribute to the full implementation of the outcomes of all major summits in the economic, social and environmental fields, including the present outcome document. The goals should address and incorporate in a balanced way all three dimensions of sustainable development and their interlinkages. They should be coherent with and integrated into the United Nations development agenda beyond 2015, thus contributing to the achievement of sustainable development and serving as a driver for implementation and mainstreaming of sustainable development in the United Nations system as a whole. The development of these goals should not divert focus or effort from the achievement of the Millennium Development Goals.

247. We also underscore that sustainable development goals should be action-oriented, concise and easy to communicate, limited in number, aspirational, global in nature and universally applicable to all countries while taking into account different national realities, capacities and levels of development and respecting national policies and priorities. We also recognize that the goals should address and be focused on priority areas for the achievement of sustainable development, being guided by the present outcome document. Governments should drive implementation with the active involvement of all relevant stakeholders, as appropriate.

248. We resolve to establish an inclusive and transparent intergovernmental process on sustainable development goals that is open to all stakeholders, with a view to developing global sustainable development goals to be agreed by the General Assembly. An open working group shall be constituted no later than at the opening of the sixty-seventh session of the Assembly and shall comprise 30 representatives, nominated by Member States from the five United Nations regional groups, with the aim of achieving fair, equitable and balanced geographic representation. At the outset, this open working group will decide on its methods of work, including developing modalities to ensure the full involvement of relevant stakeholders and expertise from civil society, the scientific community and the United Nations system in its work, in order to provide a diversity of perspectives and experience. It will submit a report, to the sixty-eighth session of the Assembly, containing a proposal for sustainable development goals for consideration and appropriate action.

249. The process needs to be coordinated and coherent with the processes to consider the post-2015 development agenda. The initial input to the work of the working group will be provided by the Secretary-General, in consultation with national Governments. In order to provide technical support to the process and to the work of the working group, we request the Secretary-General to ensure all necessary input and support to this work from the United Nations system, including through establishing an inter-agency technical support team and expert panels, as needed, drawing on all relevant expert advice. Reports on the progress of work will be made regularly to the General Assembly.

250. We recognize that progress towards the achievement of the goals needs to be assessed and accompanied by targets and indicators, while taking into account different national circumstances, capacities and levels of development.

251. We recognize that there is a need for global, integrated and scientifically based information on sustainable development. In this regard, we request the relevant bodies of the United Nations system, within their respective mandates, to support the regional economic commissions in collecting and compiling national inputs in order to inform this global effort. We further commit to mobilizing financial resources and capacity-building, particularly for developing countries, to achieve this endeavour.

VI. Means of implementation

252. We reaffirm that the means of implementation identified in Agenda 21, the Programme for the Further Implementation of Agenda 21, the Johannesburg Plan of Implementation, the Monterrey Consensus of the International Conference on Financing for Development and the Doha Declaration on Financing for Development are indispensable for achieving the full and effective translation of sustainable development commitments into tangible sustainable development outcomes. We reiterate that each country has primary responsibility for its own economic and social development and that the role of national policies, domestic resources and development strategies cannot be overemphasized. We reaffirm that developing countries need additional resources for sustainable development. We recognize the need for significant mobilization of resources from a variety of sources and the effective use of financing, in order to promote sustainable development. We acknowledge that good governance and the rule of law at the national and international levels are essential for sustained, inclusive and equitable economic growth, sustainable development and the eradication of poverty and hunger.

A. Finance

253. We call on all countries to prioritize sustainable development in the allocation of resources in accordance with national priorities and needs, and we recognize the crucial importance of enhancing financial support from all sources for sustainable development for all countries, in particular developing countries. We recognize the importance of international, regional and national financial mechanisms, including those accessible to subnational and local authorities, to the implementation of sustainable development programmes, and call for their strengthening and

implementation. New partnerships and innovative sources of financing can play a role in complementing sources of financing for sustainable development. We encourage their further exploration and use, alongside the traditional means of implementation.

254. We recognize the need for significant mobilization of resources from a variety of sources and the effective use of financing, in order to give strong support to developing countries in their efforts to promote sustainable development, including through actions undertaken in accordance with the outcome of the United Nations Conference on Sustainable Development and for achieving sustainable development goals.

255. We agree to establish an intergovernmental process under the auspices of the General Assembly, with technical support from the United Nations system and in open and broad consultation with relevant international and regional financial institutions and other relevant stakeholders. The process will assess financing needs, consider the effectiveness, consistency and synergies of existing instruments and frameworks, and evaluate additional initiatives, with a view to preparing a report proposing options on an effective sustainable development financing strategy to facilitate the mobilization of resources and their effective use in achieving sustainable development objectives.

256. An intergovernmental committee, comprising 30 experts nominated by regional groups, with equitable geographical representation, will implement this process, concluding its work by 2014.

257. We request the General Assembly to consider the report of the intergovernmental committee and take appropriate action.

258. We recognize that the fulfilment of all commitments related to ODA is crucial, including the commitments by many developed countries to achieve the target of 0.7 per cent of gross national product (GNP) for ODA to developing countries by 2015, as well as a target of 0.15 to 0.20 per cent of GNP for ODA to the least developed countries. To reach their agreed timetables, donor countries should take all necessary and appropriate measures to raise the rate of aid disbursements in order to meet their existing commitments. We urge those developed countries that have not yet done so to make additional concrete efforts towards the target of 0.7 per cent of GNP for ODA to developing countries, including the specific target of 0.15 to 0.20 per cent of GNP for ODA to the least developed countries, in accordance with their commitments. To build on progress achieved in ensuring that ODA is used effectively, we stress the importance of democratic governance, improved transparency and accountability, and managing for results. We strongly encourage all donors to establish, as soon as possible, rolling indicative timetables that illustrate how they aim to reach their goals, in accordance with their respective budget allocation process. We stress the importance of mobilizing greater domestic support in developed countries towards the fulfilment of their commitments, including through raising public awareness, providing data on the development impact of aid provided and demonstrating tangible results.

259. We welcome increasing efforts to improve the quality of ODA and to increase its development impact. We also recognize the need to improve development effectiveness, increase programme-based approaches, use country systems for activities managed by the public sector, reduce transaction costs and improve mutual

accountability and transparency and, in this regard, we call upon all donors to untie aid to the maximum extent. We will further make development more effective and predictable by providing developing countries with regular and timely indicative information on planned support in the medium term. We recognize the importance of efforts by developing countries to strengthen leadership of their own development, national institutions, systems and capacity to ensure the best results for effective development by engaging with parliaments and citizens in shaping those policies and deepening engagement with civil society organizations. We should also bear in mind that there is no one-size-fits-all formula that will guarantee development effectiveness. The specific situation of each country needs to be fully considered.

260. We note that the aid architecture has significantly changed in the current decade. New aid providers and novel partnership approaches, which utilize new modalities of cooperation, have contributed to increasing the flow of resources. Further, the interplay of development assistance with private investment, trade and new development actors provides new opportunities for aid to leverage private resource flows. We reiterate our support for South-South cooperation, as well as triangular cooperation, which provide much needed additional resources to the implementation of development programmes. We recognize the importance and different history and particularities of South-South cooperation and stress that South-South cooperation should be seen as an expression of solidarity and cooperation between countries, based on their shared experiences and objectives. Both forms of cooperation support a development agenda that addresses the particular needs and expectations of developing countries. We also recognize that South-South cooperation complements rather than substitutes for North-South cooperation. We acknowledge the role played by middle-income developing countries as providers and recipients of development cooperation.

261. We invite the international financial institutions, within their respective mandates, to continue providing financial resources, including through specific mechanisms for the promotion of sustainable development and poverty eradication in developing countries.

262. We recognize that greater coherence and coordination among the various funding mechanisms and initiatives related to sustainable development are crucial. We reiterate the importance of ensuring that developing countries have steady and predictable access to adequate financing from all sources to promote sustainable development.

263. We recognize that ongoing serious global financial and economic challenges carry the possibility of undoing years of hard work and gains made in relation to the debt of developing countries. We further recognize the need to assist developing countries in ensuring long-term debt sustainability through coordinated policies aimed at fostering debt financing, debt relief and debt restructuring, as appropriate.

264. We stress the need for adequate funding for the operational activities of the United Nations development system, as well as the need to make funding more predictable, effective and efficient as part of wider efforts to mobilize new, additional and predictable resources to achieve the objectives that we have set forth in the present outcome document.

265. We recognize the important achievements of the Global Environment Facility (GEF) over the past 20 years in funding environmental projects and welcome important reform processes that GEF has carried out during recent years, and we call for its further improvement and encourage GEF to take additional steps, within its mandate, to make resources more accessible to meet country needs for the national implementation of their international environmental commitments. We support further simplification of procedures and assistance to developing countries, in particular in assisting the least developed countries, Africa and small island developing States in accessing resources from GEF, and enhanced coordination with other instruments and programmes focusing on environmentally sustainable development.

266. We stress that fighting corruption and illicit financial flows at both the national and international levels is a priority and that corruption is a serious barrier to effective resource mobilization and allocation and diverts resources away from activities that are vital for poverty eradication, the fight against hunger and sustainable development. We are determined to take urgent and decisive steps to continue to combat corruption in all its manifestations, which requires strong institutions at all levels, and urge all States that have not yet done so to consider ratifying or acceding to the United Nations Convention against Corruption and begin its implementation.

267. We consider that innovative financing mechanisms can make a positive contribution in assisting developing countries to mobilize additional resources for financing for development on a voluntary basis. Such financing should supplement and not be a substitute for traditional sources of financing. While recognizing the considerable progress in innovative sources of financing for development, we call for a scaling-up of present initiatives, where appropriate.

268. We recognize that a dynamic, inclusive, well-functioning, socially and environmentally responsible private sector is a valuable instrument that can offer a crucial contribution to economic growth and reducing poverty and promoting sustainable development. In order to foster private sector development, we shall continue to pursue appropriate national policy and regulatory frameworks in a manner consistent with national laws to encourage public and private initiatives, including at the local level, to foster a dynamic and well-functioning business sector, and to facilitate entrepreneurship and innovation, including among women, the poor and the vulnerable. We will work to improve income growth and distribution, inter alia through raising productivity, empowering women, protecting labour rights, and taxation. We recognize that the appropriate role of government in relation to the promotion and regulation of the private sector will vary from country to country depending on national circumstances.

B. Technology

269. We emphasize the importance of technology transfer to developing countries and recall the provisions on technology transfer, finance, access to information and intellectual property rights as agreed in the Johannesburg Plan of Implementation, in particular its call to promote, facilitate and finance, as appropriate, access to and the development, transfer and diffusion of environmentally sound technologies and corresponding know-how, in particular to developing countries, on favourable

terms, including on concessional and preferential terms, as mutually agreed. We also take note of the further evolution of discussions and agreements on these issues since the adoption of the Plan of Implementation.

270. We stress the importance of access by all countries to environmentally sound technologies, new knowledge, know-how and expertise. We further stress the importance of cooperative action on technology innovation, research and development. We agree to explore modalities in the relevant forums for enhanced access to environmentally sound technologies by developing countries.

271. We underline the need for enabling environments for the development, adaptation, dissemination and transfer of environmentally sound technologies. In this context, we note the role of foreign direct investment, international trade and international cooperation in the transfer of environmentally sound technologies. We engage in our countries as well as through international cooperation to promote investment in science, innovation and technology for sustainable development.

272. We recognize the importance of strengthened national, scientific and technological capacities for sustainable development. This can help countries, especially developing countries, to develop their own innovative solutions, scientific research and new, environmentally sound technologies, with the support of the international community. To this end, we support building science and technology capacity, with both women and men as contributors and beneficiaries, including through collaboration among research institutions, universities, the private sector, governments, non-governmental organizations and scientists.

273. We request relevant United Nations agencies to identify options for a facilitation mechanism that promotes the development, transfer and dissemination of clean and environmentally sound technologies by, inter alia, assessing the technology needs of developing countries, options to address those needs and capacity-building. We request the Secretary-General, on the basis of the options identified and taking into account existing models, to make recommendations regarding the facilitation mechanism to the sixty-seventh session of the General Assembly.

274. We recognize the importance of space-technology-based data, in situ monitoring and reliable geospatial information for sustainable development policymaking, programming and project operations. In this context, we note the relevance of global mapping and recognize the efforts in developing global environmental observing systems, including by the Eye on Earth Network and through the Global Earth Observation System of Systems. We recognize the need to support developing countries in their efforts to collect environmental data.

275. We recognize the importance of strengthening international, regional and national capacities in research and technology assessment, especially in view of the rapid development and possible deployment of new technologies that may also have unintended negative impacts, in particular on biodiversity and health, or other unforeseen consequences.

276. We recognize the need to facilitate informed policy decision-making on sustainable development issues and, in this regard, to strengthen the science-policy interface.

C. Capacity-building

277. We emphasize the need for enhanced capacity-building for sustainable development and, in this regard, we call for the strengthening of technical and scientific cooperation, including North-South, South-South and triangular cooperation. We reiterate the importance of human resource development, including training, the exchange of experiences and expertise, knowledge transfer and technical assistance for capacity-building, which involves strengthening institutional capacity, including planning, management and monitoring capacities.

278. We call for the continued and focused implementation of the Bali Strategic Plan for Technology Support and Capacity-building, adopted by UNEP.

279. We encourage the participation and representation of men and women scientists and researchers from developing and developed countries in processes related to global environmental and sustainable development assessment and monitoring, with the purpose of enhancing national capabilities and the quality of research for policy- and decision-making processes.

280. We invite all relevant agencies of the United Nations system and other relevant international organizations to support developing countries and, in particular, the least developed countries in capacity-building for developing resource-efficient and inclusive economies, including through:

- (a) Sharing sustainable practices in various economic sectors;
- (b) Enhancing knowledge and capacity to integrate disaster risk reduction and resilience into development plans;
- (c) Supporting North-South, South-South and triangular cooperation for the transition to a resource-efficient economy;
- (d) Promoting public-private partnerships.

D. Trade

281. We reaffirm that international trade is an engine for development and sustained economic growth, and also reaffirm the critical role that a universal, rules-based, open, non-discriminatory and equitable multilateral trading system, as well as meaningful trade liberalization, can play in stimulating economic growth and development worldwide, thereby benefiting all countries at all stages of development, as they advance towards sustainable development. In this context, we remain focused on achieving progress in addressing a set of important issues, such as, inter alia, trade-distorting subsidies and trade in environmental goods and services.

282. We urge the members of WTO to redouble their efforts to achieve an ambitious, balanced and development-oriented conclusion to the Doha Development Agenda, while respecting the principles of transparency, inclusiveness and consensual decision-making, with a view to strengthening the multilateral trading system. In order to effectively participate in the work programme of WTO and fully realize trade opportunities, developing countries need the assistance and enhanced cooperation of all relevant stakeholders.

E. Registry of commitments

283. We welcome the commitments voluntarily entered into at the United Nations Conference on Sustainable Development and throughout 2012 by all stakeholders and their networks to implement concrete policies, plans, programmes, projects and actions to promote sustainable development and poverty eradication. We invite the Secretary-General to compile these commitments and facilitate access to other registries that have compiled commitments, in an Internet-based registry. The registry should make information about the commitments fully transparent and accessible to the public, and it should be periodically updated.

International Conference on Chemicals Management

Third session

Nairobi, 17–21 September 2012

Item 4 (d) of the provisional agenda*

**Implementation of the Strategic Approach to
International Chemicals Management:
Financial and technical resources for
implementation**

Status of the implementation of the Quick Start Programme Business Plan

Note by the secretariat

1. The International Conference on Chemicals Management in its resolution I/4 established the Quick Start Programme (QSP) for the implementation of the SAICM objectives.
2. The Quick Start Programme (QSP) business plan was developed in early 2007 in a consultative process engaging QSP stakeholders and endorsed by the QSP Executive Board at its second meeting on 23 and 24 April 2007 in order to measure the success of the Programme. The business plan is considered an ever green document which provides information on the background, current status and financial context of the Quick Start Programme. The business plan was updated in July 2008, April 2009, March 2010 and September 2011 and will be further reviewed at future Board meetings.
3. The adopted and updated business plan sets out a resource mobilization strategy to help ensure the sustainability of the Quick Start Programme, including through the replenishment of its Trust Fund on a steady and equitable basis. The strategy aims at broadening the donor base as much as possible. The plan also stipulates performance indicators to guide the effective delivery of the Quick Start Programme and, in its annex, provides baseline information used to compare progress in its implementation in subsequent years.
4. In order for the Board to monitor the effectiveness of the Quick Start Programme, the secretariat provides annual reports including data relating to the performance indicators in the Business plan. The following annexes contain detail information on each of the indicators:
 - Annex A:** provides information on the performance of the strategic action plan of the business plan, including information on progress against the business plan strategies and targets, implementation information and observations.
 - Annex B:** summarizes the contributions made to the QSP Trust Fund from 2006 to 2011.
 - Annex C:** provides graphs on QSP Trust Fund data regarding the 11 rounds of applications
 - Annex D:** provides summary information on contributions to the non-trust fund QSP for 2010-2011

* SAICM/ICCM.3/1

5. In addition, the following annexes were included following a request by the Executive Board at its sixth meeting to have this information on a regular basis:

Annex E: provides a table of the countries eligible for funding under Quick Start Programme

Annex F: provides a table showing countries with more than one QSP project

6. The secretariat has the honour to circulate, in the annex to this note, the status of implementation of the business plan for the consideration of the Conference. The information on this document has been updated as of April 2012.

Annex A

Performance of the strategic action plan of the business plan

I. Quick Start Programme Fund-raising targets

A. Financial situation of the trust fund

1. From 2006 to the end of March 2012 the trust fund received pledges for contributions totalling approximately USD 33.3 million from donor Governments and the European Commission. This total also includes the earmarked contribution of USD 2.5 million received from the European Commission in 2008 for projects relating to the implementation of multilateral environmental agreements in African, Caribbean and Pacific countries (MEAs ACP).

2. During 2006–2011, 76% of donors had made more than one contribution to the programme, meeting the plan's target in that regard. The Fund-raising target established under the QSP Business plan to be raised by the end of 2011 was set at a minimum cumulative amount of \$40,811,477. At December 31, 2011¹, the total contributions received stood at \$33,000,932 representing an achievement rate of approximately 81% and a shortfall of \$7,810,545². The cumulative amount of the Programme by September 2012 was established at the sixth meeting of the Executive Board as \$44,811,477. In order to meet the fundraising target, contributions for \$12,893,947³ should be received by September 2012, an amount that could support approximately 51⁴ additional projects. Table I below displays the fund-raising targets vs. pledges and actual contributions received since 2006. As displayed by the difference from the lower end of the target, the amount of contributions received has fallen short by approximately 22%.⁵

**Table I: fund raising targets vs. actual contributions
2006-2012 (USD)**

Year	Funding target range 2006-2011	Total pledges received	Total amount deposited	Difference from the lower end
2006	\$ 6,000,000	\$ 5,909,473	\$ 1,747,132	- 4,252,868
2007	\$ 6,300,000 - 6,600,000	\$ 7,678,533	\$ 8,593,551	+ 2,293,551
2008	\$ 6,615,000 - 7,260,000	\$ 5,371,784	\$ 8,619,107	+ 2,004,107
2009	\$ 6,945,750 - 7,986,000	\$ 4,614,190	\$ 4,417,858	- 2,527,892
2010	\$ 7,293,038 - 8,784,600	\$ 4,467,681	\$ 4,465,541	- 2,827,497
2011	\$ 7,657,689 - 9,663,060	\$ 4,959,270	\$ 3,833,055 ⁶	- 3,824,634
Total at December 2011	\$ 40,811,477 – 46,293,660	\$ 33,000,932	\$ 31,676,244	- 9,135,233
2012	\$ 4,000,000	\$ 1,427,513	\$ 241,286	-3,758,714
Total	\$ 44,811,477 – 46,293,660	33,277,218	31,917,530	- 12,893,947

3. Its early successes notwithstanding, the financial situation of the Trust Fund has been declining since 2009. This is particularly critical at the current juncture in the implementation of the Strategic Approach, given that the Trust Fund will remain open to receive contributions only until the third session of the Conference, in September 2012. As a result, the amount of projects approved in the 11th round was the lowest to date (see figure 3 in Annex C).

B. Fundraising targets for the Trust Fund

4. Table II below refers to the Fundraising Targets established in the Business Plan. Two targets remain unachieved, mainly those referring to the expansion of the donor base (target a below) and the fair

¹ Funds deposited in the account at December 2011 amount to \$31,676,244. The difference will likely disappear in 2012, once all pledges have been deposited in the bank account.

² See Annex B "pledges and contributions".

³ As of March 2012, contributions received for 2012 amount to \$241,286.

⁴ The total number of eligible proposals for the 12th round is 28. The QSP Implementation Committee will appraise these proposals on May 9th, following the Executive Board seventh meeting. Should the QSP reach its target, there would be enough funds to support these projects.

⁵ According to the total funds deposited by the end of 2011, there is a 22% gap in funding to reach the target. Calculations for 2012 have not been included as it is expected that more contributions will be made throughout the year.

⁶ Contribution from European Commission for €860,000 will be disbursed in 2012.

distribution of the financial burden among donors (target b below), reflecting the challenges of the secretariat to fundraise for the Quick Start Programme.

Table II: progress on fundraising targets

Targets	Progress	Secretariat comments and observations
a) By ICCM3, the existing 24 donors to the QSP trust fund should be joined by at least 5 other Governments and 5 non-governmental donors, such as industry and foundations.	No progress demonstrated	
b) By ICCM3, in 2012, when contributions to the QSP Trust fund are due to end, there should be fairer burden sharing among donors.	No progress demonstrated	
c) By ICCM2, 60% per cent of donors to make repeated contributions.	Achieved	19 of the 25 donors (76%) have contributed more than once to the QSP trust fund. In addition a number of donors indicated that their contributions would be multi-year contributions.
d) Leverage 30% above the trust fund income of seed money.	Achieved	In kind contributions declared by 18 contributors since 2006 up to date sum approximately 57.5 million. In kind contributions from approved projects are approximately 7.5 million. Up to \$25.2 million GEF funds have been leveraged with QSP funds for projects in Africa and Asia-Pacific.

5. The first version of the Business Plan endorsed by the Executive Board at its second meeting in April 2007 approved seven fundraising strategies. However, the first two strategies (establish a voluntary and informal fundraising committee of SAICM stakeholders and engage a professional fundraiser) were eliminated by decision of the QSP Executive Board in its sixth meeting in September 2011. Progress on the remaining strategies is as follows:

Table III: Progress on fundraising strategies

Strategies	Progress	Secretariat comments and observations
a) Publicize the positive impact of the QSP to donors.	Progress demonstrated	Updates on the QSP feature in all SAICM newsletters and bulletins. As part of the fifth meeting of the QSP Executive Board, the SAICM secretariat organized a session to present a number of QSP projects which were completed or advanced. The presentations highlighted the results, impacts, achievements and lessons learned for project corresponded to activities aiming to address the three QSP strategic priorities. Additionally, during the Open-Ended Working Group meeting held in Belgrade, Serbia during September 2011, an information-sharing session was held for QSP. Information posters and presentations were made to illustrate the progress of various projects.
b) Publicize QSP contributions made by donors and develop a framework for official recognition and awards	Progress demonstrated	QSP contributions are indicated in all QSP-related meeting documents (SAICM Regional meetings) and on the SAICM web site. An award ceremony to recognize contributors to the QSP and other activities supporting the implementation of the SAICM was held during the second session of International Conference on Chemicals Management (ICCM), 11-15 May 2009. The Board may wish to consider the presentation of similar awards during the upcoming third session of ICCM to be held in September 2012.
c) Calls for QSP support are adopted by all relevant forums in line with OPS paragraph 19.	Achieved	The governing bodies of all member organizations of the Inter-Organization Programme for the Sound Management of Chemicals (IOMC) have adopted resolutions supporting SAICM and its Quick Start Programme. A strategy on sound chemicals management for the fifth GEF replenishment was considered by the GEF Council in November 2010.

d) Develop information and presentation materials and make targeted approaches to potential new donors.	Progress demonstrated	Information bulletins on SAICM and QSP, and the official publication of the SAICM texts are available. The secretariat has also used opportunities to informally approach possible new donors, including from industry. The Executive Director of the United Nations Environment Programme SAICM issued a fundraising letter on 19 June 2009 and the latest on April 2011. Also, the secretariat has prepared fundraising leaflets, including on QSP targeting potential new donors.
e) Use of QSP support as seed money	Progress demonstrated	Activities undertaken by 44 completed projects of the QSP indicate that progress has been achieved in using the QSP as seed money to initiate enabling activities that will lead to further work on chemicals management. In addition, \$4,308,642 QSP funds have been used to leverage GEF funds between 2006 and 2012 to support the POPs Capacity Building Programme LDCs and SIDs in Africa and \$687,419 for the same regional project in Asia-Pacific.

6. Table IV below shows progress on delivery targets on the QSP. Target (a) was achieved in almost all the rounds, while targets (b) through (d) were achieved at all rounds. Target (e) was achieved in 9 out of 11 rounds.

Table IV: Outreach and equitable delivery *targets* for the QSP Trust Fund

Targets	Progress	Secretariat comments and observations
a) The Trust fund Implementation Committee should disburse 100% of available funds in each funding round.	Target achieved in the fourth, fifth, ninth and tenth rounds. The average disbursement rate over eleven rounds was 83.4 ⁷	The target was not achieved during the first and the second round due to the calculation of available funds based on pledges and not on actual deposits. Moreover, the Committee decided that projects to be approved in the first round of application should not exceed approximately 50% of the total pledges at that moment.
b) The Trust fund Implementation Committee should approve civil society projects at up to 10% of available funds in each funding round.	Target achieved. The total average percentage of funding granted to civil society projects over eleven rounds was approximately 11% ⁸	16 projects from civil society are being implemented for which 11% of available resources were allocated. (See Annex C, fig. 2 and 3)
c) The Trust fund Implementation Committee should approve at least one project for at least 75 per cent (57) of the 76 LDCs and SIDs.	In process to be achieved.	Over the eleven rounds the Committee approved projects in 54 LDCs and/or SIDs, representing 71% of all LDCs and SIDs (See Annex C, fig. 4)
d) The Trust fund Implementation Committee should approve at least one project for 65 per cent (95) of the 145 countries on the OECD DAC list.	Target achieved.	Approved projects so far involve 102 ⁹ countries on the OECD DAC list representing 70.3% (See Annex C, fig. 4)
e) The Trust fund Implementation Committee should approve projects from at least four different sectors in each application round.	Target achieved in 9 of out of 11 rounds.	While all approved projects have multi-sectoral participation and/or scope, 96 projects are led by the environment sector. (See Annex C, table 1.)

⁷ The business plan approved in May 2007 provided that the Trust fund Implementation Committee should aim to disburse 100 per cent of available funds (only funds paid into the trust fund account and not just pledged) in each funding round, this started to be applied from the third and subsequent application rounds.

⁸ In the first round, the Committee aimed to approve projects on a ratio of approximately one non-governmental organization project for every 10 governmental projects. In the third round, the Committee interpreted the provision for allocation of 10% of available resources to civil society as an overall target to be achieved during the life-time of the fund.

⁹ Bahamas and Bahrain are not included in the OECD DAC list of ODA

C. Outreach and equitable delivery *strategies* for the QSP Trust Fund

7. Table V shows progress on outreach and equitable delivery strategies for the QSP. The target (a) was achieved in almost all the rounds, while targets (b) through (d) were achieved at all rounds. Target (e) was achieved in 8 out of 10 rounds.

Table V: Outreach and equitable delivery *strategies* for the QSP Trust Fund

Strategies	Progress	Secretariat comments and observations
a) To increase the involvement of regions under-represented in the QSP	Progress demonstrated	During all SAICM regional meetings, the secretariat and/or executing agencies held side events to increase awareness of the QSP and the funding opportunities of the trust fund. (See Annex C, fig 5) In addition the Trust fund Implementation Committee bears in mind the need for geographical balance when allocating project funding.
b) To increase the involvement of all relevant sectors in the QSP.	Progress demonstrated. All sectors are represented in the 146 QSP projects being implemented.	All the projects are multi-sector in scope. However, over the 145 projects prevalence is for the environment sector which shows breakdown of sector represented in each round of applications. (See Annex C, table 1)
c) To respond to all information requests and provide advisory functions for the development of project proposals.	Progress demonstrated	Over twelve rounds, the SAICM secretariat has responded to approximately 325 requests for information on the QSP and the applications procedure. The secretariat has also supported the improvement of 60 project proposals (see Annex C, fig. 6 and 7).
d) Civil society networks applying to the trust fund will receive adequate support from the SAICM secretariat.	Target achieved	Approximately 99 civil society applications have been processed by the secretariat over twelve rounds. All projects received an assessment of their compliance with eligibility and completeness criteria, in particular the need to address “exceptional circumstances” (see Annex C, fig. 6).

II. Fundraising targets for the broader (non-trust fund) QSP

8. The overall target for contributions to the broader QSP is to increase the number of confirmed contributors by 10% for each of the years for which the programme is in operation. Since the beginning of the programme this target has not been reached except for the year 2010, as the number of contributors has fluctuated from year to year. By the end of 2011, eight contributions had been received for the non-trust fund QSP; however, none were from new contributors. The table VI below illustrates the number of contributors as well as the number of new contributors to the non-trust fund. Contributors¹⁰ have been invited by the secretariat to renew their contribution for this year.¹¹

9. As of March 2012 the declared non-trust fund contributions reached a combined total of \$57,485,246 (see table VII below). It is important to note that since the years 2006 - 2007, when the target was met, contributions have not reached their desired target ranges. Additionally, it should be noted that out of 38 confirmed declarations received between the years 2006 to 2012, 21 had not indicated the total amount of their contributions¹².

¹⁰ The contributors for 2006 – 2012 have been the Governments of: Canada, Japan, Switzerland, Sweden, the United Kingdom and the United States of America. Additional non-governmental donors have been: the BASF, International Council of Chemical Associations (ICCA), the Dow Chemical Company (DOW), the International POPs Elimination Network (IPEN), the International Society of Doctors for the Environment (ISDE), the Food and Agriculture Organization of the United Nations (FAO), the Organisation for Economic Cooperation and Development (OECD), the United Nations Development Programme (UNDP), the United Nations Environment Programme (UNEP), the United Nations Industrial Development Organization (UNIDO), the United Nations Institute for Training and Research (UNITAR), and the World Health Organization (WHO).

¹¹ See Annex D featuring the declared contributions for 2010 to 2012. Previous declarations are available on the SAICM website under “non-Trust Fund declarations”

¹² It is important to note that no conclusions can be drawn for the year 2012 yet as the data provided only reaches the first quarter of the year.

**Table VI: number of non-trust fund contributors
2006-2011**

Year	Number of Contributors	New Contributors
2006-2007	12	
2008	10	1
2009	5	1
2010	13	4
2011	8	0
2012	4	0

10. The Executive Board may wish to note that the figures for non-trust fund contributions have been revised following a request received during the sixth meeting of the Executive Board. The Secretariat has prepared a table summarizing the amounts received, excluding the in-kind contributions that did not indicate amounts. During this revision, the Secretariat confirmed that some contributions were previously double counted due to the form in which these were reported, giving the impression of new contributions had been made for the same reporting period, given that the amounts were different for each year reported.

Table VII: declared non-trust fund contributions in USD

Year	Declared Contribution	Target amount (10%) increase	Outcome
2006 -2007	29,250,200	--	
2008	14,313,000	32,175,220	Not achieved
2009	1,750,560	35,392,742	Not achieved
2010	12,171,486	38,932,016	Not achieved
2011	--	42,825,218	Not achieved
2012	--	47,107,739	N/A
Total	57,485,246	196,432,934	

Annex B: Summary table of QSP trust fund pledges between 2006 and 2012

Annex A.I Summary table of Pledges for the QSP Trust Fund															
Donor	2006		2007		2008		2009		2010		2011		2012		Total in USD
	Amount in local currency	Amount in USD	Amount in local currency	Amount in USD	Amount in local currency	Amount in USD	Amount in local currency	Amount in USD	Amount in local currency	Amount in USD	Amount in local currency	Amount in USD	Amount in local currency	Amount in USD	
Australia			AUD 60,000	57,366	AUD 250,000	236,639								0	294,005
Austria	EUR 100,000	131,572	EUR 120,000	159,572	EUR 105,000	156,033	EUR 50,000	73,964	EUR 50,000	67,294	EUR 10,000	13,333		0	601,768
Belgium	EUR 40,000	50,068					EUR 10,000	14,430						0	64,498
Czech Republic					EUR 50,000	66,715			EUR 10,000	12,330				0	79,045
European Commission			EUR 2,400,000	3,108,808	EUR 1,950,000	2,495,873					EUR 1,600,000+ 860,000	2,141,901+ 1,151,227			8,897,719
Finland	EUR 200,000	254,452	EUR 200,000	273,597	EUR 200,000	311,526	EUR 200,000	280,898			EUR 200,000	286,123		0	1,406,596
France	EUR 50,000	65,789				107,503	EUR 60,000	80,753	EUR 100,000	138,888	EUR 200,000	266,666		0	659,599
Germany							EUR 160,000	217,687	EUR 180,000	244,897	EUR 180,000	256,410	180,000	241,286	960,280
Hungary					EUR 10,000	12,936								0	12,936
India		100,000												0	100,000
ICCA									30,000						30,000
Madagascar				5,104		4,542		5,000						5,000	19,646
Republic of Korea				40,000						50,000	USD 50,000	50,000		0	140'000
Romania							EUR 10,000	13,605						0	13,605
Netherlands	EUR 100,000	128,205	EUR 100,000	136,789	EUR 100,000	155,763	EUR 50,000	69,992	EUR 100,000	132,625	EUR 50,000	72,674		0	696,048
Nigeria		50,000						50,000						30,000	130,000
Norway	NOK 3,000,000	485,564	NOK 6,000,000	1,102,941	NOK 6,000,000	848,506	NOK 5,000,000	803,853	NOK 5,000,000	819,000				0	4,059,864
Pakistan										2,009				0	2,009
Slovenia	EUR 20,000	26,350	EUR 20,000	29,213	EUR 120,000	160,808	EUR 20,000	25,830	EUR 90,000	115,935	EUR 70,000	103,703		0	461,839
South Africa		100,000						50,000		100,000		100,000		0	350,000
Spain	EUR 100,000	131,578	EUR 45,000	65,597	EUR 300,000	389,610		389,610	EUR 50,000	65,703				0	1,042,098
Sweden	SEK 25,000,000	3,649,000	SEK 15,000,000	2,266,050			SEK 15,000,000	2,048,525	SEK 14,440,000	2,189,000				0	10,152,575
Switzerland	CHF 200,000	161,419	CHF 150,000	133'496	CHF 150,000	125,330	CHF 200,000	190,043	CHF 100,000	100,000	CHF 100,000	117,233		0	827,521
United Kingdom	GBP 215,000	375,476												0	375,476
United States		200,000		300,000		300'000		300,000		400,000		400,000		0	1,900,000
TOTAL in USD		5,909,473		7,678,533		5,371,784		4,614,190		4,467,681		4,959,270		276,286	33,277,128

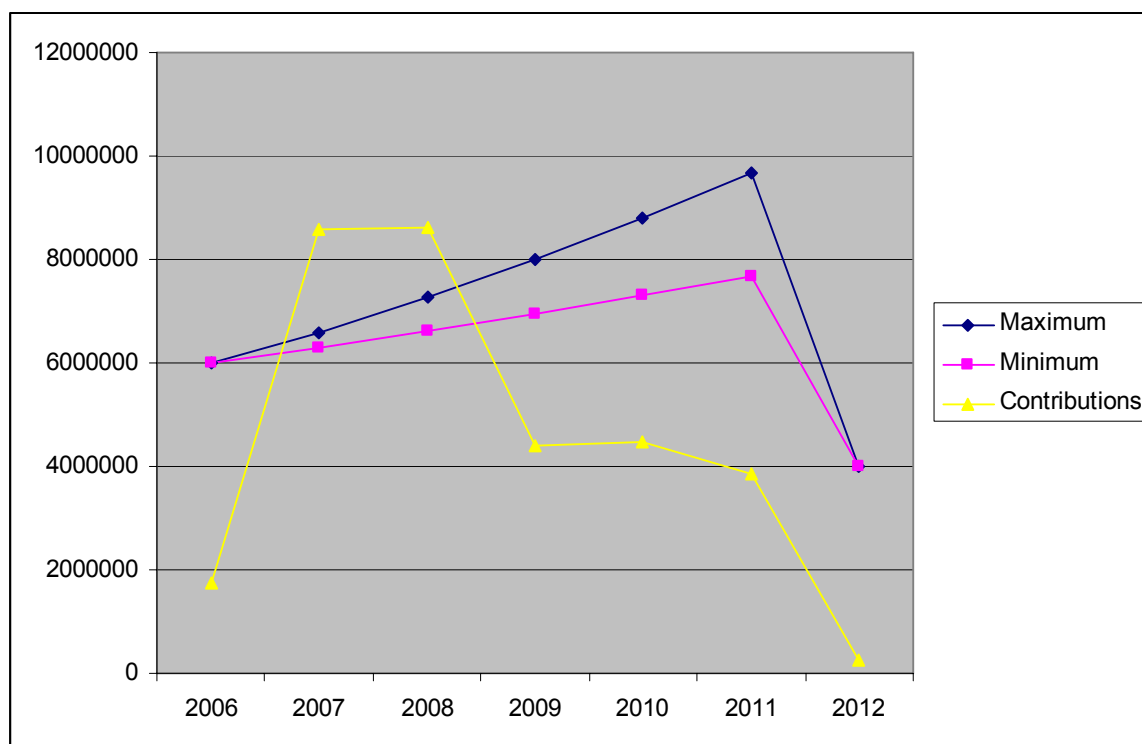
Annex C: Quick Start Programme Statistics and Figures**Figure 1. Annual contributions to the QSP Trust fund against Business Plan targets**

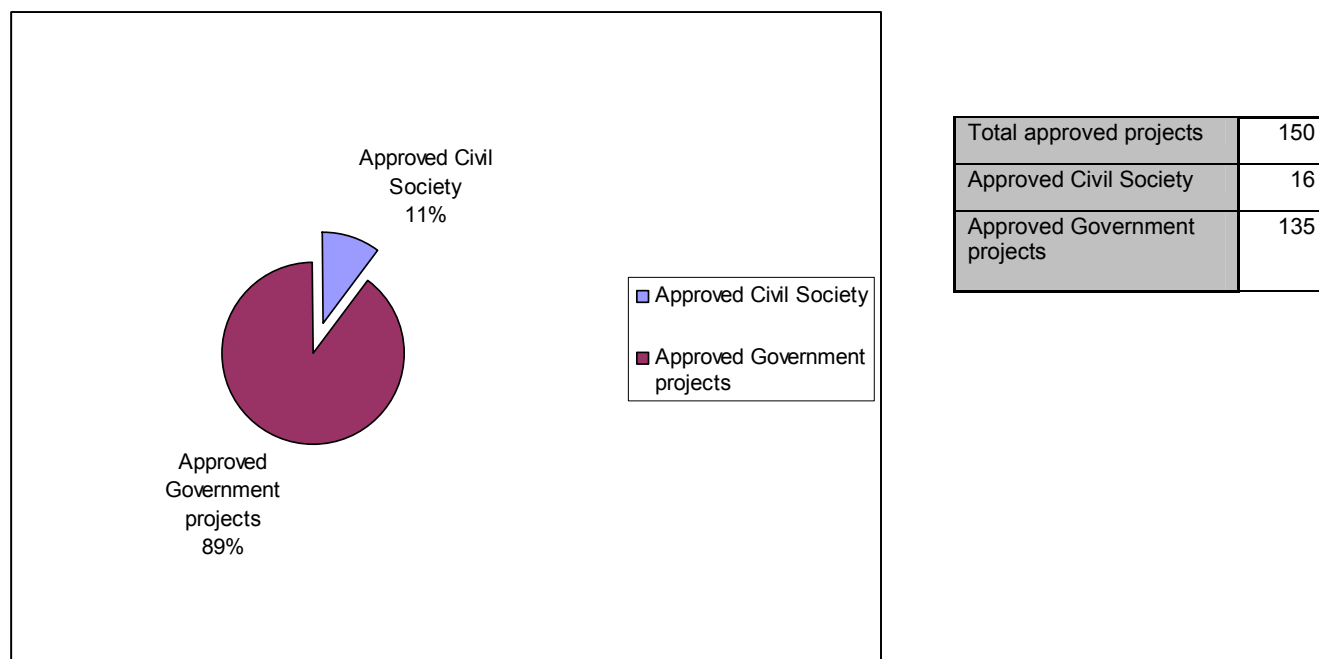
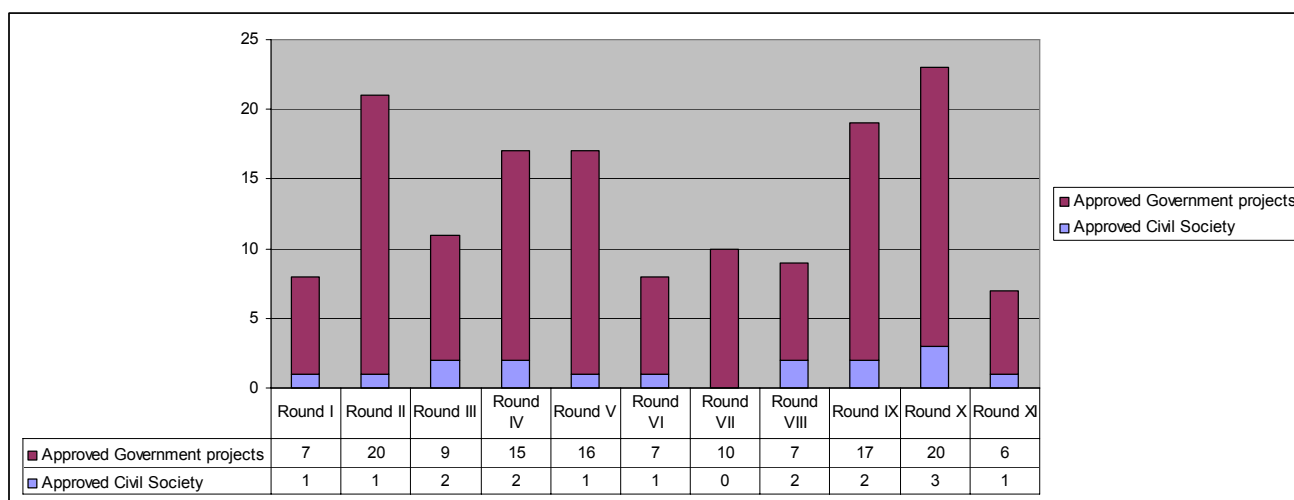
Figure 2. Approved Projects**Figure 3. Approved Government and Civil Society projects per Round**

Figure 4. Coverage of Least Developed Countries (LDC), Small Island Developing States (SIDS) and Developing Countries and Countries with economies with in transition of OECD DAC list.

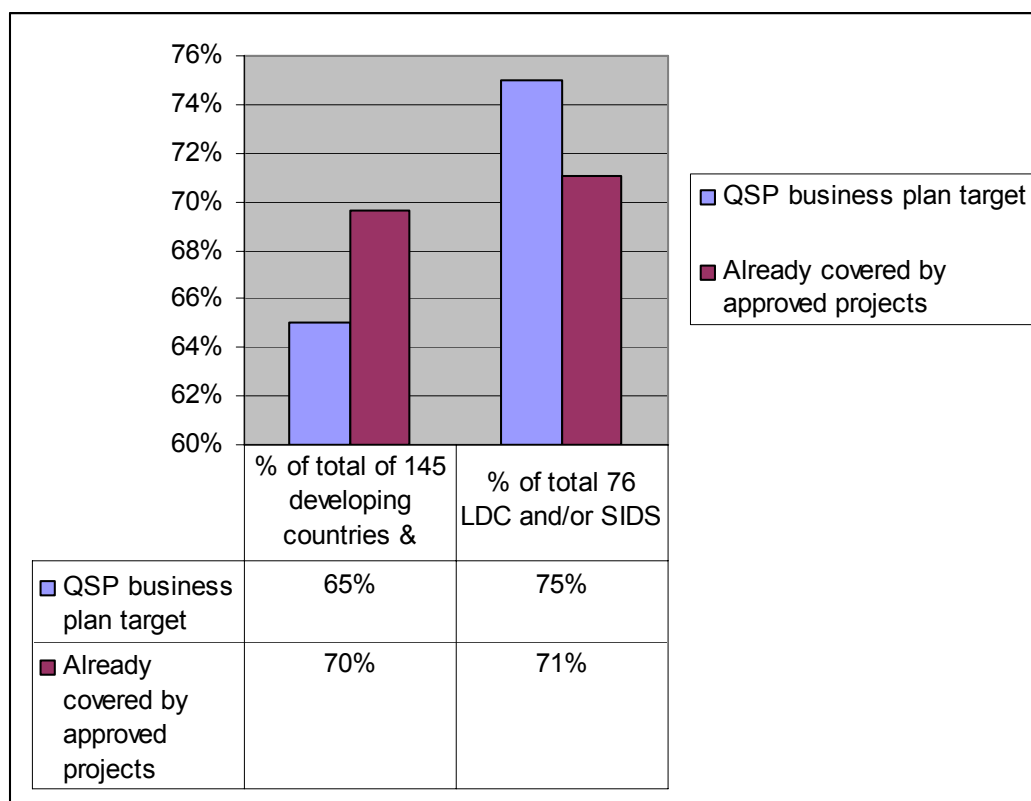
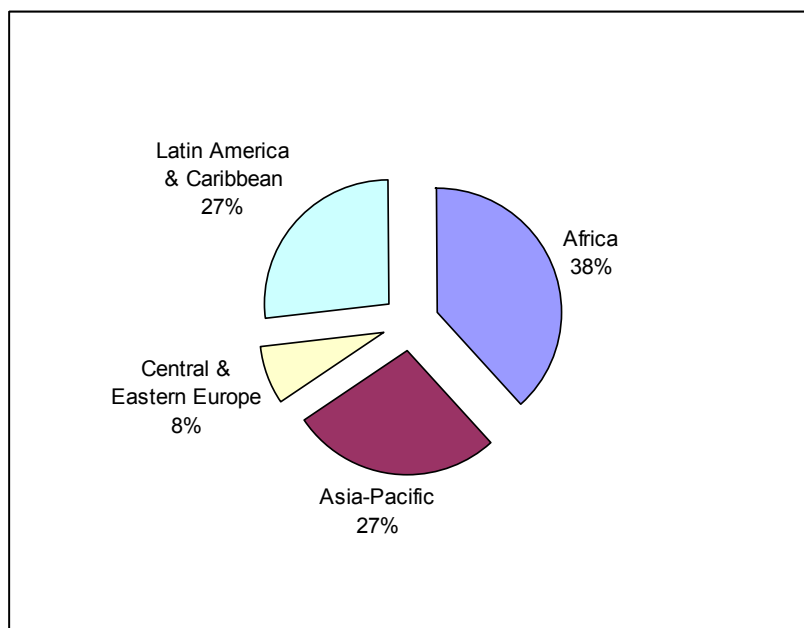
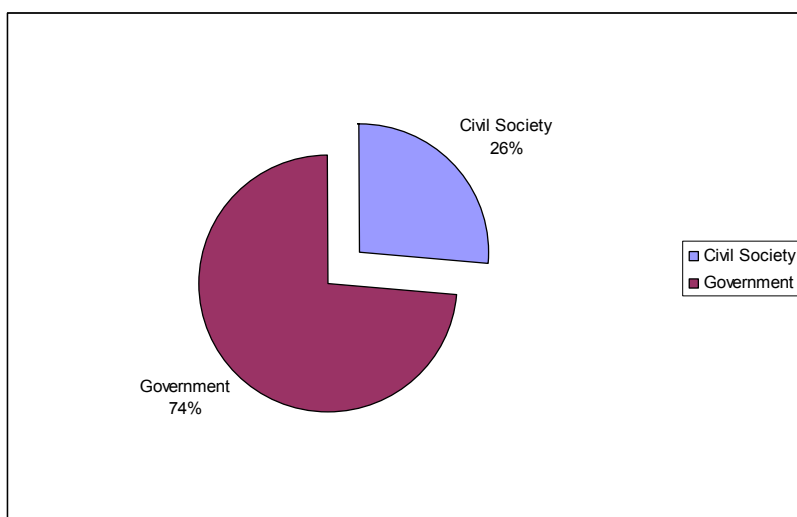


Table 1. Project Number per Sector

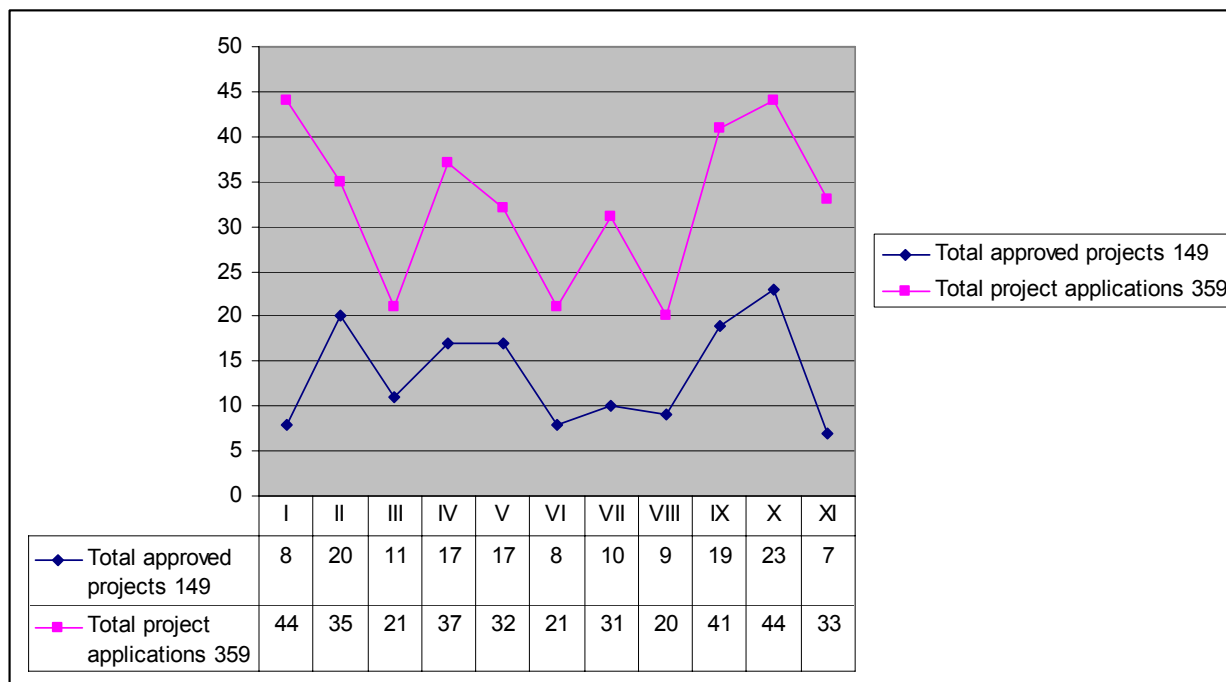
<i>Environment</i>	96
<i>Health</i>	38
<i>Labour</i>	6
<i>Agriculture</i>	12
<i>Science</i>	2
<i>Industry</i>	2
<i>Other/Multisector</i>	44

Figure 5. Regional Distribution of Countries from approved projects.

Countries involved (Government & civil society projects)	104
<i>Africa</i>	<i>40</i>
<i>Asia-Pacific</i>	<i>28</i>
<i>Central & Eastern Europe</i>	<i>8</i>
<i>Latin America & Caribbean</i>	<i>28</i>

Figure 6. Distribution of applications submitted to the QSP Trust fund

Total project applications	385
Civil Society	102
Government	283

Fig 7. Number of applications vs projects approved per round.

Annex D: Contributions to the non-trust fund QSP 2011-2012

Contributors	Declared QSP Contribution	Strategic priority(ies) addressed	Type of contribution	Indicated value (US\$)
WHO	Development of activities to address the priorities for chemical safety including: - Concise International Chemical Assessment Documents (CICADs), -Assessment of Health Impacts of Chemicals. - Tools for Assessing Chemical Risks (including the IPCS Harmonization Project; Environmental Health Criteria and other Methodology Documents) -Production of International Chemical Safety cards. -Advocacy on Chemicals of Public Concern and the WHO Classification of Pesticides by Hazard -Food Safety-related assessments -Poisons Prevention, Information and Management -Technical support to chemicals incidents and emergencies -Implementation of International Conventions and Agreements, including SAICM such as the work of the Global Alliance to Eliminate Lead Paint, the International Health regulations, negotiations for a mercury treaty and the IOMC, the GHS and the Rotterdam and Stockholm Conventions. -Number of activities conducted by WHO Regional Offices. -In addition a WHO staff member is also assigned 60% of her time to contribute as part of the SAICM secretariat and funded by WHO.	a) & b)	In-kind	11 M
UNITAR	-Strengthening capacities for sound chemicals management with an emphasis on assisting countries and regions with SAICM implementation capacities for sound chemicals management including nanotechnology and challenges related to mercury and other heavy metals. SAICM guidance materials developed. -Supporting QSP trust fund projects in 80 countries/entities related to National Profiles, National SAICM Capacity assessments, National SAICM priority setting, strengthening national governance, national chemical management databases, national policies for SAICM implementations, SAICM implementation plans, Globally Harmonized System of Classification and Labelling of Chemicals (GHS) and Pollutant Release and Transfer Registers (PRTR). -Awareness raising in countries about nanotechnology/manufactured materials together with partners such as OECD - Development of guidance materials for SAICM-related activities.	a), b) & c)	In-kind	850,000
	-Enhancing capacity for policy and technical			

Japan	issues concerning the sound chemical management in Bhutan -Enhancing capacity for monitoring of POPs in Thailand.	b) & c)	In-kind	250,000
ICCA	-Active participation in SAICM Regional Meetings in Paris, Nairobi and Lodz. -Capacity-building workshops for chemicals management in developing and emerging economies namely: Korea, Russia, Dubai, Turkey, Thailand, Mexico, China, Belgium and Morocco in 2010. In 2011 workshops took place in Taipei, Jurmala (for three Baltic States), Bratislava, Kiev, Shanghai, Sao Paolo, Sofia, Budapest, Nairobi, Beijing and Manila. Thirteen to fourteen GPS workshop are planned for 2011. -Development of GPS Risk assessment Guidance. -Launch of GPS Chemical Search IT Portal. -Implementation of the ICCA/UNEP Memorandum of Understanding (MoU) comprising of joint organization of training sessions aimed at building capacity of small and medium enterprises (SMEs) with a focus on the developing region especially Africa as well as joint events related to APELL (Awareness and Preparedness for Emergencies at Local Level) and UNEP Flexible Framework and Responsible Production projects. -SAICM Senior Expert Resource Group (retiree expert initiative). -ICCA Member Companies Contributions. -ICCA actively participated in OEWG meeting in Belgrade in November 2011 where contributions were delivered on Emerging Issues: Nanomaterials, Lead in Paints, Chemicals in Products and Perfluorinated Chemicals as well as Electronics Waste, -Contributed to the SAICM electronic tool and published 1 st Update Report of global performance versus the SAICM indicators	b)	In-kind	Not provided
UNEP	-Development and implementation of an integrated guidance and financial instruments for mainstreaming and support coherent national programs to manage harmful substances and hazardous waste. - Small and medium sized enterprises partnership for sound management of harmful substances and hazardous waste. - Flexible framework for addressing chemical accident prevention and preparedness with pilot testing carried out in Cambodia and Philippines and two other countries have started implementation in Mali and Senegal with funding from QSP TF.	b) and c)	In-kind	Not provided
FAO	-Development or updating of National Chemical Profiles and identification of capacity needs for sound chemicals management with regard to pesticides. -Development and strengthening of national pesticides management institutions, plants, programmes and activities to implement the			

	Strategic Approach. -Undertaking analysis inter-agency coordination and public participation activities directed at enabling the implementation of the Strategic Approach by integrating, i.e. mainstreaming.	a), b) and c)	In-kind	\$20,000
IPEN	Following the success of the 2007-2009 Global SAICM Outreach Project, in 2010 IPEN began an additional programme, the international SAICM implementation programme (ISIP). In order to fully utilize its ongoing SAICM development efforts, at the international policy level as well as IPEN's regional hub structure, which operates in all official UN languages with over 700 NGOs in more than 100 countries supporting a wide variety of global plan of action items and SAICM emerging issues with emphasis on the following GPA areas: pesticides, waste, heavy metals, public participation, chemicals in products and hotspots /contaminated areas.	a), b) and c)	In-kind	\$250,000
UNDP	-Support capacity development for countries to ensure sound methodologies when drawing up and implementing national policies -Foster synergies through UNDP's Montreal Protocol/Chemicals unit Strengthen efforts to integrate chemicals and SAICM by better integrating chemicals, POPs as well as MLF and Climate Change efforts into synergetic programmes with sequenced financing from various sources -Integrate Sound Management of Chemicals into MDG-Based Development Planning -Develop a new guidance document on chemicals and gender -Implement UNEP/UNDP Partnership Initiative for the Integration of Sound Management of Chemicals (SMC) Considerations into Development Planning Processes to enable countries to access funding necessary to improve cross-sectoral governance of SMC -Contribute towards enhanced capacities for more than 100 partner countries with a total portfolio value of over \$591 million to achieve SMC -Provide assistance to countries to mobilize environmental finance for the development and implementation of projects that support the Sound Management of Chemicals	b) and c)	In-kind	Not provided
OECD	- Making Test Guidelines all other products freely available on the world wide web, an eChem Portal, which makes the data and assessments in many databases worldwide web accessible and available for free, and the QSAR Tool Box, which makes QSAR methods accessible and available for free and provides a platform for their use	Overall, b) and c)	In-kind	\$876,486

Annex E - Countries eligible for funding under SAICM Quick Start Programme

(2006 to 2011)

Countries / Territories	Developing countries (145) on OECD DAC list**	LDC (49)	SAICM National Focal Point nominated (171)	Eligible for QSP Trust fund	Approved QSPTF projects (as of 11th round)		
					National	Regional/ Multi-country	Civil Society
Afghanistan	DAC: LDC	LDC	✓	Yes	none	none	none
Albania	DAC: LM		✓	Yes	one	none	none
Algeria	DAC: LM		✓	Yes	none	none	none
Andorra				No			
Angola	DAC: LDC	LDC	✓	Yes	none	none	none
Antigua and Barbuda	DAC: UM			No			
Argentina	DAC: UM		✓	Yes	none	none	two
Armenia	DAC: LM		✓	Yes	one	two	one***
Australia			✓	No			
Austria			✓	No			
Azerbaijan	DAC: LM		✓	Yes	one	none	none
Bahamas			✓	Yes	none	one	none
Bahrain			✓	Yes	one	none	none
Bangladesh	DAC: LDC	LDC	✓	Yes	none	none	none
Barbados	DAC: UM		✓	Yes	two	one	none
Belarus	DAC: UM		✓	Yes	one***	one	one
Belgium			✓	No			
Belize	DAC: UM		✓	Yes	two	none	none
Benin	DAC: LDC	LDC	✓	Yes	one	none	none
Bhutan	DAC: LDC	LDC	✓	Yes	one	none	none
Bolivia	DAC: LM		✓	Yes	two	one	one
Bosnia and Herzegovina	DAC: LM			No			
Botswana	DAC: UM		✓	Yes	none	none	none
Brazil	DAC: UM		✓	Yes	none	none	one
Brunei				No			
Bulgaria			✓	No			
Burkina Faso	DAC: LDC	LDC	✓	Yes	one	two	none
Burundi	DAC: LDC	LDC	✓	Yes	one	one	none
Cambodia	DAC: LDC	LDC	✓	Yes	two	two	none
Cameroon	DAC: LM		✓	Yes	one	none	one
Canada			✓	No			
Cape Verde	DAC: LM			No			
Central African Republic	DAC: LDC	LDC	✓	Yes	none	none	none
Chad	DAC: LDC	LDC	✓	Yes	one	one	none
Chile	DAC: UM		✓	Yes	one	two	two
China	DAC: LM		✓	Yes	one	one	none
Colombia	DAC: LM		✓	Yes	Two	none	none
Comoros	DAC: LDC	LDC	✓	Yes	two	none	none
Congo, Republic of the	DAC: LM		✓	Yes	one	one	none
Cook Islands	DAC: UM		✓	Yes	none	two	none
Costa Rica	DAC: UM		✓	Yes	one	one	none
Côte d'Ivoire	DAC: OL		✓	Yes	two one	one	none
Croatia	DAC: UM		✓	Yes	none	none	none

Countries / Territories	Developing countries (145) on OECD DAC list**	LDC (49)	SAICM National Focal Point nominated (171)	Eligible for QSP Trust fund	Approved QSPTF projects (as of 11th round)		
					National	Regional/ Multi-country	Civil Society
Cuba	DAC: UM		√	Yes	one	none	none
Cyprus			√	No			
Czech Republic			√	No			
Democratic People's Republic of Korea	DAC: OL		√	Yes	one	none	none
Democratic Republic of the Congo	DAC: LDC	LDC	√	Yes	one	none	none
Denmark			√	No			
Djibouti	DAC: LDC	LDC	√	Yes	one	one	none
Dominica	DAC: UM		√	Yes	none	none	none
Dominican Republic	DAC: LM		√	Yes	one	none	one
Ecuador	DAC: LM		√	Yes	one	none	none
Egypt	DAC: LM		√	Yes	one	none	one
El Salvador	DAC: LM		√	Yes	one	none	one
Equatorial Guinea	DAC: LDC	LDC		No			
Eritrea	DAC: LDC	LDC	√	Yes	one	none	none
Estonia			√	No			
Ethiopia	DAC: LDC	LDC	√	Yes	two	none	none
Fiji	DAC: UM		√	Yes	none	none	none
Finland			√	No			
France			√	No			
Gabon	DAC: UM		√	Yes	one	one	none
Gambia	DAC: LDC	LDC	√	Yes	one	one	none
Georgia	DAC: LM		√	Yes	one	one	one
Germany			√	No			
Ghana	DAC: OL		√	Yes	one	one	none
Greece			√	No			
Grenada	DAC: UM			No			
Guatemala	DAC: LM		√	Yes	two	none	none
Guinea	DAC: LDC	LDC	√	Yes	one	none	none
Guinea-Bissau	DAC: LDC	LDC	√	Yes	none	none	none
Guyana	DAC: LM		√	Yes	one	none	none
Haiti	DAC: LDC	LDC	√	Yes	one	two	none
Honduras	DAC: LM		√	Yes	two	none	none
Hungary			√	No			
Iceland			√	No			
India	DAC: LM		√	Yes	none	none	none
Indonesia	DAC: LM		√	Yes	one	one	none
Iran	DAC: LM		√	Yes	none	none	none
Iraq	DAC: LM		√	Yes	none	none	none
Ireland				No			
Israel			√	No			
Italy			√	No			
Jamaica	DAC: UM		√	Yes	two	none	none
Japan			√	No			
Jordan	DAC: LM		√	Yes	none	none	none
Kazakhstan	DAC: UM		√	Yes	two	none	one
Kenya	DAC: OL		√	Yes	one	one	one
Kiribati	DAC: LDC	LDC	√	Yes	two	two	none
Kuwait			√	No			

Countries / Territories	Developing countries (145) on OECD DAC list**	LDC (49)	SAICM National Focal Point nominated (171)	Eligible for QSP Trust fund	Approved QSPTF projects (as of 11th round)		
					National	Regional/ Multi-country	Civil Society
Kyrgyz Republic	DAC: OL		√	Yes	three	none	one
Laos	DAC: LDC	LDC	√	Yes	one suspended	one	none
Latvia			√	No			
Lebanon	DAC: UM		√	Yes	none	none	none
Lesotho	DAC: LDC	LDC	√	Yes	one	none	none
Liberia	DAC: LDC	LDC	√	Yes	two	none	none
Libya	DAC: UM		√	Yes	none	none	none
Liechtenstein			√	No			
Lithuania			√	No			
Luxembourg				No			
Macedonia, Former Yugoslav Republic of	DAC: LM		√	Yes	one	none	none
Madagascar	DAC: LDC	LDC	√	Yes	two	one	none
Malawi	DAC: LDC	LDC	√	Yes	one	none	none
Malaysia	DAC: UM		√	Yes	one	none	none
Maldives	DAC: LDC	LDC	√	Yes	one	none	none
Mali	DAC: LDC	LDC	√	Yes	three	one	one
Malta				No			
Marshall Islands	DAC: LM			No			
Mauritania	DAC: LDC	LDC	√	Yes	one	one	none
Mauritius	DAC: UM		√	Yes	one	none	none
Mexico	DAC: UM		√	Yes	one	none	none
Micronesia, Federated States of	DAC: LM			No			
Moldova	DAC: LM		√	Yes	two	none	one
Monaco			√	No			
Mongolia	DAC: LM		√	Yes	none	one	none
Montenegro	DAC: UM			No			
Morocco	DAC: LM		√	Yes	one	none	none
Mozambique	DAC: LDC	LDC	√	Yes	two	none	none
Myanmar	DAC: LDC	LDC	√	Yes	none	none	none
Namibia	DAC: LM			No			
Nauru	DAC: UM		√	Yes	none	none	none
Nepal, Republic of	DAC: LDC	LDC	√	Yes	one	none	one
Netherlands			√	No			
New Zealand			√	No			
Nicaragua	DAC: LM		√	Yes	one	none	one
Niger	DAC: LDC	LDC	√	Yes	one	one	none
Nigeria	DAC: OL		√	Yes	one	none	none
Niue	DAC: LM			No			
Norway			√	No			
Oman	DAC: UM		√	Yes	none	none	none
Pakistan	DAC: OL		√	Yes	none	one	none
Palau	DAC: UM		√	Yes	one	none	none
Palestine	DAC: LM		√	Yes	one suspended	none	none
Panama	DAC: UM		√	Yes	one	none	none
Papua New Guinea	DAC: OL		√	Yes	none	none	none

Countries / Territories	Developing countries (145) on OECD DAC list**	LDC (49)	SAICM National Focal Point nominated (171)	Eligible for QSP Trust fund	Approved QSPTF projects (as of 11th round)		
					National	Regional/ Multi-country	Civil Society
Paraguay	DAC: LM		√	Yes	one	none	one
Peru	DAC: LM		√	Yes	one	one	two
Philippines	DAC: LM		√	Yes	one	one	one
Poland			√	No			
Portugal			√	No			
Qatar			√	No			
Republic of Korea			√	No			
Romania			√	No			
Russian Federation				No			
Rwanda	DAC: LDC	LDC	√	Yes	none	two	none
Saint Kitts and Nevis	DAC: UM			No			
Saint Lucia	DAC: UM		√	Yes	one	none	none
Saint Vincent and the Grenadines	DAC: UM		√	Yes	one	none	none
Samoa	DAC: LDC	LDC	√	Yes	one	two	none
San Marino				No			
São Tomé and Príncipe	DAC: LDC	LDC	√	Yes	none	one	none
Saudi Arabia			√	No			
Senegal	DAC: LDC	LDC	√	Yes	one	one	one
Serbia	DAC: UM		√	Yes	none	one	none
Seychelles	DAC: UM		√	Yes	one	none	none
Sierra Leone	DAC: LDC	LDC	√	Yes	none	none	none
Singapore				No			
Slovakia			√	No			
Slovenia			√	No			
Solomon Islands	DAC: LDC	LDC	√	Yes	none	one	none
Somalia	DAC: LDC	LDC		No			
South Africa	DAC: UM		√	Yes	none	none	none
Spain				No			
Sri Lanka	DAC: LM		√	Yes	two	one	none
Sudan	DAC: LDC	LDC	√	Yes	one	none	none
Suriname	DAC: UM		√	Yes	one	none	none
Swaziland	DAC: LM		√	Yes	one	none	none
Sweden			√	No			
Switzerland			√	No			
Syria	DAC: LM		√	Yes	none	one	none
Tajikistan	DAC: OL		√	Yes	one	one	none
Tanzania	DAC: LDC	LDC	√	Yes	two one	none	two - one suspended
Thailand	DAC: LM		√	Yes	one	one	one
Timor-Leste	DAC: LDC	LDC		No			
Togo	DAC: LDC	LDC	√	Yes	one	none	none
Tonga	DAC: LM		√	Yes	none	one	none
Trinidad and Tobago	DAC: UM		√	Yes	one	none	none
Tunisia	DAC: LM		√	Yes	none	none	none
Turkey	DAC: UM		√	Yes	none	none	none
Turkmenistan	DAC: LM			No			
Tuvalu	DAC: LDC	LDC	√	Yes	none	none	none

Countries / Territories	Developing countries (145) on OECD DAC list**	LDC (49)	SAICM National Focal Point nominated (171)	Eligible for QSP Trust fund	Approved QSPTF projects (as of 11th round)		
					National	Regional/ Multi-country	Civil Society
Uganda	DAC: LDC	LDC	✓	Yes	one	none	two
Ukraine	DAC: LM		✓	Yes	none	none	none
United Arab Emirates			✓	No			
United Kingdom			✓	No			
United States of America			✓	No			
Uruguay	DAC: UM		✓	Yes	one	none	two
Uzbekistan	DAC: OL		✓	Yes	one	none	none
Vanuatu	DAC: LDC	LDC	✓	Yes	none	none	none
Venezuela	DAC: UM		✓	Yes	none	none	none
Vietnam	DAC: OL		✓	Yes	two	none	none
Yemen	DAC: LDC	LDC	✓	Yes	one	none	none
Zambia	DAC: LDC	LDC	✓	Yes	two	none	none
Zimbabwe	DAC: OL		✓	Yes	none	none	none

* In the case of multi-country projects, the dollar value to be used would be the funds assigned to the individual country concerned and not the total value of the overall project.

** Developing countries and countries with economies in transition listed on the OECD Development Assistance Committee (DAC) list of recipients Official Development Assistance,
LDC: Least Developed Countries
OL: Other Low Income Countries
LM: Lower Middle Income Countries & Territories
UM: Upper Middle Income Countries & Territories
SIDS: Small Island Developing States

*** Deferred approval: an application of the corresponding project type, submitted in a previous round, would receive a deferred approval for a later round, subject to the funding available

**** Conditional approval to be confirmed

-  no project has been submitted/approved in this category
-  represent the number of projects that has been approved in this category
-  not eligible
-  28 countries that are eligible but have not yet received funds from QSP Trust fund

NOTE: When appraising the applications, the QSP Trust fund Implementation Committee uses the following criteria:- it gives priority to countries which have not previously had support from the QSP trust fund;- it takes into account whether there had been satisfactory reports on earlier projects involving countries for the second time;- it seeks to avoid duplication of projects and ensure coverage of different QSP strategic priorities;- it seeks to avoid an excessive allocation of resources to individual countries; and- it observes the usual requirements for geographical and sectoral balance.

Annex F: Countries with more than one QSP project (58/104)

Country	N° of projects	Rounds	Executing Agencies	Strategic Priorities
Armenia	3	1st(MC), 3rd, 7th (MC)	UNITAR, none, IPCP	A / B,C / B
Barbados	3	2 nd , 4 th (MC), 7 th	UNITAR, UNEP, UNITAR	A / B / A,B
Belarus	3	3rd (suspended), 4 th (NGO), 9 th ,	UNDP & UNEP, none	B,C / B / A,B,C
Belize	2	4 th , 10 th	UNDP & UNEP, UNEP	B,C / B
Bolivia	4	2 nd , 3 rd (NGO, MC), 5 th (MC), 10 th	UNITAR, none, UNEP, UNITAR	A / B / B / A,B
Burkina Faso	3	1 st (MC), 7 th (MC), 10 th	UNITAR, CLISS, UNITAR	A / B,C / B,C
Burundi	2	2nd, 7th (MC)	UNITAR, none	A / B
Cambodia	4	2 nd , 4 th , 8 th , 8 th (MC)	UNITAR, UNEP, none, BCRC	A / B / B / B
Cameroon	2	8 th (NGO), 9 th	None, UNITAR	B / A,B
Chad	2	2 nd , 7 th (MC)	UNITAR, CILSS	A,B / B,C
Chile	5	1st (MC), 3 rd (NGO, MC), 3 rd (NGO, MC), 7 th , 9 th	UNITAR, none, none, IPCP, UNITAR	A / B / B / B / A,B
China	2	8th(MC), 9th	BCRC, UNITAR	B / A,B
Colombia	2	5 th , 10 th	UNIDO, UNITAR	A,B / A,B
Comoros	2	2 nd , 10 th	UNITAR, UNITAR	A / A,B
Congo (Republic of)	2	1st (MC), 8th	UNITAR, UNITAR	A / A,B
Costa Rica	2	1st, 6th	UNITAR, none	A / A,B,C
Cote d'Ivoire	3	1 st (MC), 4 th , 11 th	UNITAR, Basel Convention Sec., UNIDO	A / B / A,B,C
Djibouti	2	1 st (MC), 6 th	UNITAR, BCRC	A / B,C
Dominican Republic	2	8th, 10th (NGO, MC)	UNITAR, Sustainlabour	A,B / A,B,C
Egypt	2	2 nd (NGO), 5 th	None, UNIDO	B / B
El Salvador	2	3rd, 10th (NGO, MC)	UNIDO, Sustainlabour	B / A,B,C
Ethiopia	2	9 th , 9 th	BCRC, none	B / B
Gabon	2	6th (MC), 8th	UNEP&WHO, UNITAR	B / A,B
Gambia	2	6 th , 7 th	UNITAR, CLISS	A,B / B,C
Georgia	3	1 st (MC), 4 th , 8 th (NGO)	UNITAR, UNITAR, none	A / B / B,C
Ghana	2	2 nd , 7 th	UNITAR, IPCP	A / B
Guatemala	2	2 nd , 10 th	UNITAR, UNITAR	A / A,B
Haiti	3	1st(MC), 4 th (MC), 9 th	UNITAR, UNEP, UNITAR	A / B / A,B
Honduras	2	2 nd , 5 th	UNITAR, UNDP & UNEP	A / B,C
Indonesia	2	4 th (MC), 9 th	WHO, Blacksmith Institute	B / C
Jamaica	2	10 th , 10 th	None, UNITAR	A,B / A,B

Kazakhstan	3	2 nd , 4 th , 11 th (NGO, MC)	UNITAR, UNITAR, UNDP	A / B / A,B,C
Kenya	3	3 rd , 5 th (NGO), 6 th	UNITAR, none, UNEP&WHO	A / B / B
Kiribati	4	2 nd , 7 th , 9 th , 11 th (MC)	UNITAR, WHO, SPREP	A / B / A,B / A,B,C
Kyrgyzstan	4	2 nd , 4 th (NGO, MC), 6 th , 10 th	UNITAR, UNITAR, UNEP&UNDP, UNITAR	A, B / B,C / A,B
Liberia	2	3 rd , 5 th	UNITAR, UNDP & UNEP	A / B,C
Madagascar	3	1 st (MC), 5 th , 9 th	UNITAR, WHO, UNITAR	A / A,B,C / A, B
Mali	5	3 rd , 6 th (MC), 9 th (NGO), 9 th (MC), 10 th	UNITAR, none, UNIDO, PAN, UNITAR	A/ B / A,B,C/ B,C/A,B
Mauritania	2	5 th , 7 th (MC)	UNDP&UNEP, CILSS	A,B,C / B,C
Mozambique	2	9 th , 9 th	FAO, BCRC	B / B
Moldova	3	2 nd , 9 th , 10 th (NGO)	None, UNITAR	A,B / A,B / B,C
Nepal	2	2 nd , 10 th (NGO)	UNITAR, LEADERS	A / B
Nicaragua	2	2 nd , 10 th (NGO)	UNITAR, Sustainlabour	A / A,B,C
Niger	2	7 th (MC), 8 th	CILSS, UNITAR	B,C / A,B
Paraguay	2	3 rd (NGO, MC), 4 th	UNITAR, UNITAR	B / A,B
Peru	3	3 rd , 3 rd (NGO, MC), 5 th (MC)	UNIDO, none, UNEP	A,B / B / B
Philippines	3	4 th , 4 th , 11 th (MC, MC, MC)	None, UNEP, HCWH	A,B / B / B
Rwanda	2	1 st (MC), 7 th	UNITAR, none	A / B
Samoa	3	4 th , 7 th , 11 th (MC)	None, WHO, SPREP	A,B / B / A,B,C
Senegal	3	5 th , 6 th , 9 th (NGO)	UNITAR, none, PAN	A,B / B / B,C
Sri Lanka	3	5 th , 8 th (MC) 10 th	WHO, BCRC, UNEP	A,B / B / B,C
Tajikistan	2	9 th , 10 th	None, UNITAR	A,B,C / A, B
Tanzania	3	4 th , 5 th , 11 th (NGO, MC)	None, none, UNEP	B / B / A, B, C
Thailand	3	4 th (MC), 5 th , 6 th	WHO, none, Chulabhorn Research Institute	B / B / B
Uganda	3	1 st , 5 th (NGO, MC), 9 th (NGO)	UNDP&UNEP, none, UNDP	A / B / B,C
Uruguay	3	3 rd (NGO, MC), 3 rd (NGO, MC), 4 th	None, none, UNIDO	B / B / B
Vietnam	2	9 th , 10 th	UNDP, none	A,B,C / A,B
Zambia	2	5 th , 10 th	UNITAR, WHO	A,B / A, B, C

20 Countries have implemented Strategic Priority A more than once.

42 Countries have implemented Strategic Priority B more than once.

3 Countries have implemented Strategic Priority C more than once.

23 Countries have implemented Strategic Priority A, B and C

MC- Multi Country

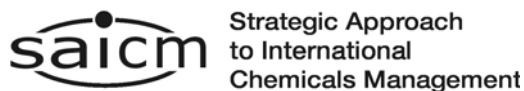
IPCP- International Panel on Chemical Pollution

PAN- Pesticide Action Network

CILSS- Comité Inter-Etats pour la Lutte contre la Sécheresse au Sahel

HCWH – Health Care Without Harm

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Item 4 (b) of the provisional agenda*

**Implementation of and coherence among
international instruments and programmes**

Summary of Projects funded under the Quick Start Programme supporting the implementation of the Multilateral Environmental Agreements (MEAs)

Note by the secretariat

1. The International Conference on Chemicals Management in its resolution I/4 established the Quick Start Programme (QSP) for the implementation of the SAICM objectives, which aims “to support activities to enable initial capacity building and implementation in developing countries, least developed countries, small island developing states and countries with economies in transition”.
2. The strategic priorities of the Quick Start Programme are as follows:
 - a. Development or updating of national chemical profiles and the identification of capacity needs for sound chemicals management;
 - b. Development and strengthening of national chemicals management institutions, plans, programmes and activities to implement the Strategic Approach, building upon work conducted to implement international chemicals-related agreements and initiatives;
 - c. Undertaking analysis, interagency coordination, and public participation activities directed at enabling the implementation of the Strategic Approach by integrating – i.e., mainstreaming – the sound management of chemicals in national strategies, and thereby informing development assistance cooperation priorities.
3. The Quick Start Programme also supports the implementation of the Multilateral Environmental Agreements (MEAs). The Quick Start Programme has supported a total of 26¹ projects since its establishment in 2006 amounting to \$5,999,743² towards the implementation of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal., the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals

* SAICM/ICCM.3/1

¹ Excluding one suspended project entitled “Strengthening the capacity of Djibouti to control the transboundary movements of hazardous wastes and chemicals in the context of the Basel Convention, the International Health Regulations (WHO, 2005) and other relevant MEAs as per necessary, and ensure their environmentally sound management” which was approved in the sixth round of application to be implemented by the Basel Convention Regional Center Senegal (BCRC) in Djibouti. The project was suspended by the Trust Fund Implementation Committee at its 13th meeting.

² This sum includes \$18,289 corresponding to the expenditure of the suspended project in Djibouti.

and Pesticides in International Trade, and the Stockholm Convention on Persistent Organic Pollutants (POPs). The Quick Start Programme has also supported six projects related to the sound management of mercury for a total amount of \$1,434,025.

4. The secretariat has the honour to circulate in the annex to the present note, the summary of QSP projects supporting implementation of the chemical related Multilateral Environmental Agreements (MEAs) in the four regions participating in the SAICM Quick Start Programme for the information of the Conference.

Annex

Summary of projects funded under the Quick Start Programme supporting the implementation of the chemicals related Multilateral Environmental Agreements (MEAs)

Table 1. Overview of QSP Projects supporting the implementation of the MEAs.

Conventions	No. of projects	Funding Granted (USD)	Regions
Basel	6	\$1,437,267	AFR, ASP.
Rotterdam	12	\$2,638,455	AFR, ASP, CEE.
Stockholm	4	\$998,719	AFR, LAC.
Rotterdam, Basel and Stockholm	4	\$925,302 ³	AFR, LAC.
Total	26	\$5,999,743	
Mercury	6	\$1,434,025	ASP, CEE, LAC.

³ This sum includes \$18,289 corresponding to the spent balance reported by the suspended project “Strengthening the capacity of Djibouti to control the transboundary movements of hazardous wastes and chemicals in the context of the Basel Convention, the International Health Regulations (WHO, 2005) and other relevant MEAs as per necessary, and ensure their environmentally sound management” which was approved in the sixth application round to be implemented by the Basel Convention Regional Center Senegal (BCRC) in Djibouti. The project was suspended by the Trust Fund Implementation Committee at its 13th meeting.

Table 2. List of QSP projects supporting the implementation of Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal.

Sl. No.	Round	Project No.	Recipient(s)	Project Title	Executing Agencies	Funding Granted (USD)
1.	4	QSPTF/08/4/GOV/7	Bahrain	Capacity Building for Integrated and Sustainable Chemicals and Hazardous Waste Management	UNITAR	\$250,000
2.	4	QSPTF/08/4/GOV/15	Côte d'Ivoire	Strengthening the capacity of Côte d'Ivoire to control the transboundary movements of hazardous wastes and chemicals in the context of the Basel Convention, the International Health Regulations (WHO, 2005) and other relevant MEAs as per necessary, and ensure their environmentally sound management	Basel Convention Secretariat	\$249,930
3.	9	QSPTF/10/9/GOV/23	Indonesia	Multi-Sectoral Group Action Plan for Integrated Hazardous Waste Management – Case: Lead Waste Recycling and Chemical Management	The Blacksmith Institute	\$250,000
4.	9	QSPTF/10/9/GOV/04	Ethiopia	Strengthening the capacity of Ethiopia to monitor and control the transboundary movements of chemicals and hazardous wastes and ensure their environmentally sound management	BCRC	\$249,982
5.	9	QSPTF/10/9/GOV/05	Mozambique	Strengthening the capacity of Mozambique to monitor and control the transboundary movements of chemicals and hazardous wastes and ensure their environmentally sound management	BCRC	\$249,930
6.	11	QSPTF/12/11/GOV/07	Cook Islands, Kiribati and Samoa	Capacity Building and Institutional Strengthening of Pacific Islands' Management and Disposal of E-Waste	Secretariat of Pacific Regional Environment Programme (SPREP)	\$187,425
Total						\$1,437,267

Table 3. List of projects supporting the implementation of Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade

Sl. No.	Round	Project No.	Recipient(s)	Project Title	Executing Agencies	Funding Granted (USD)
1.	2	QSPTF/07/2/NGO/05	Day Hospital Institute for Development and Rehabilitation of Egypt	National awareness campaign for all stakeholders on the safe use and management of pesticides according to the International Code of Conduct on the Distribution and Use of Pesticides	None	\$199,000
2.	5	QSPTF/08/5/GOV/11	Sri Lanka	Strengthening National Capacities for Sound Management of Priority Industrial Carcinogens and Updating National Chemicals Profile in Sri Lanka	WHO	\$232,539
3.	5	QSPTF/08/5/GOV/09	Morocco	Strengthening National Capacity in safe management of public health pesticides in Morocco	WHO	\$175,000
4.	5	QSPTF/08/5/GOV/23	Thailand	Capacity Building and Awareness Raising Programmes on the Implementation of the Rotterdam Convention in Thailand	none	\$250,000
5.	5	QSPTF/08/5/GOV/17	Madagascar	Recycling/disposal of Insecticide-Treated Nets, exploratory project	WHO	\$250,000
6.	7	QSPTF/09/7/GOV/09	Burkina Faso, Chad, Gambia, Mauritania and Niger	Strengthening pesticide management in the Sahel Institute of the Permanent Interstate Committee for the Drought Control in the Sahel (CILSS) member States	CILSS	\$247,066
7.	8	QSPTF/10/8/NGO/02	Women in Europe for a Common Future (WECF) (Georgia)	Reducing the use of hazardous chemicals in developing countries: potential of implementing safer chemicals including non-chemical alternatives - tools for Georgia and the EECCA region	none	\$172,710
8.	9	QSPTF/10/9/GOV/13	Mozambique	Reducing Risks of Highly Hazardous Pesticides (HHPs) in Mozambique	FAO	\$248,500
9.	9	QSPTF/10/9/NGO/06	Mali and Senegal	Strengthening the capacities of civil society organizations and communities to monitor the pesticides health impacts in West African cotton growing systems	Pesticide Action Network (PAN) Africa	\$235,600

Sl. No.	Round	Project No.	Recipient(s)	Project Title	Executing Agencies	Funding Granted (USD)
10.	9	QSPTF/10/9/NGO/07	Pro-biodiversity Conservationists in Uganda (PROBICOU)	Chemical safety for children at work in Agriculture	UNDP	\$250,000
11.	9	QSPTF/10/9/GOV/07	Ethiopia	Bio-pesticides Registration System Development	none	\$190,540
12.	11	QSPTF/12/11/GOV/12	Malaysia	Preparation of a National Action Plan (NAP) for the Implementation of the Rotterdam Convention in Malaysia	None	\$187,500
Total						\$2,638,455

Table 4. List of QSP projects supporting the implementation of Stockholm Convention on Persistent Organic Pollutants (POPs)

Sl. No.	Round	Project No.	Recipient(s)	Project Title	Executing Agencies	Funding Granted (USD)
1.	4	QSPTF/08/4/GOV/25	Bahamas, Barbados & Haiti	Capacity building for POPs analysis to support the Global monitoring Plan of POP's for effectiveness evaluation of the Stockholm convention	UNEP	\$250,000
2.	4	QSPTF/08/4/GOV/22	Cuba	Capacity building for POPs laboratories in Cuba under multilateral environmental agreements	UNEP	\$250,000
3.	4	QSPTF/08/4/GOV/09	Tanzania	Capacity Enhancement for the Implementation of the Stockholm Convention in the United Republic of Tanzania	None	\$248,819
4.	7	QSPTF/09/7/GOV/07	Burundi & Rwanda	Institutional capacity building for implementing of the Stockholm Convention on POPs and awareness raising on POPs issues	None	\$249,900
Total						\$998,719

Table 5. List of QSP projects supporting the implementation of Basel, Rotterdam and Stockholm Conventions.

Sl. No.	Round	Project No.	Recipient(s)	Project Title	Executing Agencies	Funding Granted (USD)
1.	7	QSPTF/09/7/GOV/05	Mauritius	Mauritius, UNDP and UNEP partnership initiative for SAICM implementation	UNDP	\$249,519
2.	7	QSPTF/09/7/GOV/11	Cook Islands, Kiribati, Samoa, Solomon Islands, and Tonga	Poison information network for the Pacific	WHO	\$249,994
3.	9	QSPTF/10/9/GOV/21	Saint Lucia	Effective Chemicals Management in Saint Lucia	None	\$157,500
4.	10	QSPTF/11/10/GOV/32	Burkina Faso	Strengthening Capacities in Burkina Faso for National SAICM Implementation and Promotion of Synergies among the Stockholm, Basel and Rotterdam Conventions	UNITAR	\$250,000
5.	6	QSPTF/09/6/GOV/09	Djibouti	Strengthening the capacity of Djibouti to control the transboundary movements of hazardous wastes and chemicals in the context of the Basel Convention, the International Health Regulations (WHO, 2005) and other relevant MEAs as per necessary, and ensure their environmentally sound management	Basel Convention Regional Centre (BCRC) Senegal	\$18,289 ⁴
Total						925,302

⁴ The project was suspended by the Trust Fund Implementation Committee at its 13th meeting held on May 2012. According to the latest expenditure report submitted by the executing agency, the expenditure until 29 February 2012 was \$18,289 out of the total funding granted of \$249,930.

Table 6. List of QSP projects supporting the implementation of sound management of mercury:

Sl. No.	Round	Project No.	Recipient(s)	Project Title	Executing Agencies	Funding Granted (USD)
1.	3	QSPTF/07/3/N GO/01	Argentine Society of Doctors for the Environment (AAMMA) - Argentina, Bolivia, Chile, Paraguay, Peru and Uruguay	Integrated regional campaign on minimization of mercury domestic sources with actions of intervention in the community to protect children and women's health	None	\$240,625
2.	4	QSPTF/08/4/GOV/21	Cambodia & Philippines	Protecting human health and the environment from mercury in Artisanal and small scale gold mining (ASGM) in Asia	UNEP	\$250,000
3.	4	QSPTF/08/4/GOV/28	Uruguay	Sound Management for Mercury Products	UNIDO	\$249,800
4.	5	QSPTF/08/5/G OV/25	Bolivia & Peru	Artisanal and Small Scale Gold Mining Regional Project in South America	UNEP	\$249,400
5.	9	QSPTF/10/9/G OV/16	Mali	Reducing mercury risks from Artisanal and small scale gold mining (ASGM) in Mali	UNIDO	\$237,600
6.	11	QSPTF/12/11/ GOV/11	Côte d'Ivoire	Reducing Mercury Risks from Artisanal and Small Scale Gold Mining in Côte d'Ivoire	UNIDO	\$206,600
Total						\$1,434,025

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07 September 2012



English only

International Conference on Chemicals Management

Second session

Geneva, 17–21 September 2012

Agenda item 4 (f)

**Implementation of the Strategic Approach to International
Chemicals Management: information exchange and scientific and technical cooperation**

**Performance of information clearinghouse functions by the
secretariat for the Strategic Approach to International Chemicals
Management**

Note by the secretariat

1. One of the functions of the secretariat for the Strategic Approach to International Chemicals Management (SAICM) as set out in paragraph 28 of the SAICM Overarching Policy Strategy includes the provision of information clearinghouse services. The clearinghouse service is envisaged to be a collection of descriptive information on the Internet. It is to facilitate the provision of advice to countries on the implementation of the Strategic Approach, refer requests for information to relevant sources and facilitate access to information to relevant sources.
2. The clearinghouse is available at the following web address: www.saicm.org/ich/. In addition, Annex I to the present note includes screenshots from the current information clearing house developed by the secretariat, which includes the homepage, the format of information presented in the clearinghouse website and the information submission form.
3. The descriptive information contained in the clearinghouse service is collected in a standard format and in a consistent presentation to enable different individuals, organizations, or geographically-defined communities to collaborate together and promote their available digital information. The clearinghouse is also designed to minimize duplication of efforts in the collection of digital information related to the implementation of the Strategic Approach, and to assist in the coordination of data collection and research activities by standardizing the format and quality of the information presented.
4. Since its inception, the clearinghouse service has incorporated the information contained in the Information Exchange Network on Capacity-building for the Sound Management of Chemicals (INFOCAP). This was done in accordance with a recommendation from the Committee of the Whole, convened during the first session of the Conference in Dubai.
5. A further dimension to the clearinghouse is the provision for individual SAICM stakeholders to present information on their implementation activities, either through links to existing websites or, where none exist, by making the information available through the Strategic Approach clearinghouse. The success of the clearinghouse will be dependent upon the participation and involvement of stakeholders, and the information that is shared between them.
6. The clearinghouse is also envisaged to make provision for regional and other groups of stakeholders to interact electronically to exchange information. A dedicated space is provided for

regional and other groups of stakeholders to share materials specific to the regions, which may be provided in languages other than English¹. A Document Management System (DMS) will be set up to help manage the exchange of information from and between the users in the regional and other groups of stakeholders.

7. The clearinghouse utilizes a Content Management System (CMS) to manage and maintain the daily operations of the services. This decision was made to ensure that the clearinghouse service would be easily maintainable and extendable in the future if so required. The clearinghouse uses readily available web technologies for the publication and discovery of resources, to enable access from a broad range of participants with access to the Internet.

8. The clearinghouse services were not active during most of 2011, owing to technical problems and lack of resources that also affected the performance of the SAICM website. In June 2012, the secretariat engaged the services of an information technology consultant and a public information specialist to support the operation of the information clearinghouse and the SAICM website. Consequently, the clearinghouse services have been reactivated as of August 2012, and the technical problems affecting the SAICM website have also been resolved.

9. As a preventive measure to avoid the technical problems encountered with the clearinghouse previously, an information validation system and user authentication will be set up. The information validation system will ensure that the correct information is given to the relevant areas, and the user authentication system will certify that the information is given from accurate and reliable sources. These improvements will give the information contained in the clearinghouse a degree of protection from unauthorized access and malicious software, as well as add consistency to the way the information is presented across the platform.

10. The Conference may wish to note the progress in the development of the secretariat's information clearinghouse and encourage all SAICM stakeholders to use the clearinghouse service and to participate in its activities by sharing relevant information in the information clearing house.

¹ English is the official language of the SAICM information clearinghouse.

Annex I

Information Clearinghouse Homepage



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The SAICM Information Clearing House is both a centralized place for news relevant to chemicals and a repository of core resources.

The functions of the [SAICM secretariat](#) include to provide information clearing-house services, such as provision of advice to countries on implementation of SAICM, referral of requests for information to relevant sources, and facilitation of access to information and expertise in support of specific national actions. This clearing-house function is performed principally on the basis of this web-based facility. The clearing house also incorporates the Information Exchange Network on Capacity building for the Sound Management of Chemicals (INFOCAP), previously administered by the Intergovernmental Forum on Chemical Safety (IFCS).

Who can contribute to the SAICM ICH?

Only people who have been granted the right to contribute to the SAICM ICH can add information in the form of weblinks and documents.

If you think that your contribution will be valuable, please email us: momotola@chemicals.unep.ch

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Scientific Research

The Chemicals Policy & Science Initiative

Category: [Scientific Research](#)

The [Chemicals Policy and Science Initiative](#) (CPSI) is a project of the Lowell Center for Sustainable Production (Lowell Center) at the University of Massachusetts, Lowell. CPSI achieves its objectives through research and strategic engagement with a range of stakeholders.

Informaworld

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This journal serves as an international forum for the critical review of current knowledge on the broad range of topics in environmental science. The "[Critical Reviews in Environmental Science and Technology](#)" section provides comprehensive and timely reviews by the leading authorities in each subject area. Some topics covered include waste reduction, recycling, and reuse; air, soil, and water contaminant biogeochemistry; environmental toxicology and epidemiology.

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The Journal of Toxicology and Environmental Health Sciences (JTEHS) is an open access journal that provides rapid publication (monthly) of articles in all areas of the subject. [Read more](#)

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This page is hosted by the University of Cambridge and it holds a comprehensive and up-to-date lists of internet-linked chemistry-related journals. [Read more](#)

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Information Clearinghouse Submission Form



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International Conference on Chemicals Management

Third session

Nairobi, 17–21 September 2012

Item 4 (c) of the provisional agenda*

**Implementation of the Strategic Approach to
International Chemicals Management: Strengthening of
national chemicals management capacities**

**8 Years - 8 Actions: An initiative to reach the 2020 goal of
Sound Chemicals Management**

Note by the secretariat

1. The secretariat has the honour to circulate, for the information of participants, in annexes to the present note the “Declaration of intent – towards the 2020 goal for Sound Management of Chemicals” and the launched on 24 April 2012 by the Stockholm plus 40 Partnership Forum for Sustainable Development by the Ministry of the Environment of Sweden related background document “8 Years - 8 Actions: An initiative to reach the 2020 goal of Sound Chemicals Management”.
2. The information is presented as submitted and has not formally been edited.

* SAICM/ICCM.3/1.

Annex I



Stockholm den 25th April 2012



Declaration of intent – towards the 2020 goal for Sound Management of Chemicals

Launched the 24 of April 2012, in tandem with the Stockholm plus 40 Partnership Forum for Sustainable Development, by Minister for Environment Ms Lena Ek

Chemicals are an essential part of our daily lives in today's global economy and therefore a vital component in all three pillars of Sustainable Development. Sustainable Development cannot be realised without managing the challenges and utilising the opportunities that chemicals provide. The Sound Management of Chemicals should therefore be an integrated part in any approach aiming at addressing solutions for Sustainable Development so that significant adverse effects on humans and environments are minimized.

Having taken due consideration to the outcome of the Global Stakeholder Dialogue 8 years -8 actions – An initiative towards the 2020 goal for Sound Chemicals management that was held in Stockholm on 24 April 2012, I Lena Ek, Minister for Environment of Sweden, hereby declare that steps will be taken to:

REINFORCE efforts for further action within the eight areas outlined below under the coming eight years, so that by 2020 chemicals are used and produced in ways that lead to minimization of significant adverse effects on human health and the environment. Innovation is an important driver in these efforts, and more over further action should be governed by the precautionary principle;

STRENGTHEN targeted awareness-raising on Sound Chemicals Management, as a vital mean to reach out to decision makers at all levels of society. In so doing, the costs of inaction as well as the benefits of actions, needs to be communicated;

STEP UP efforts towards enhancing implementation of the eight areas and the approach to do so needs to be efficient, coherent, coordinated and to include a preparedness to handle new and emerging challenges;

SUPPORT new strategic partnerships, taking into account the role and responsibility of the private sector, as a mean of implementation towards the 2020 goal. However, no nation, or any single sector of society can tackle the challenges of Sound Chemicals Management on its own. Working together as strategic partners, will be a key for tackling the challenges and utilizing the opportunities that chemicals can and must play in Sustainable Development.



Taken the above into account, I call for further actions among all stakeholders in the following eight areas:

1. Awareness raising; focusing on increased awareness on Sound Chemicals Management as a key component in Sustainable Development.
2. Access to information; focusing on actions that improve accessibility to clear, timely and appropriate information to decision makers at all levels in the society.
3. Health aspects; focusing on action that would further strengthen the health aspects of Sound Chemicals Management and further integrate chemicals aspects in the health agenda.
4. Substitution; focusing on action toward progressive substitution of chemicals that pose an unmanageable risk to human health and the environment.
5. Resource efficiency; focusing on action towards improved waste prevention and waste management, including prevention of chemicals risks from waste.
6. Chemicals in the development agenda; focusing on action that contributes towards strengthening the linkages between Sound Chemicals Management and the development agenda.
7. Capacity building; focusing on more coherent action towards bridging the gap in differences of capacity to handle the challenges and opportunities for Sound Chemicals Management.
8. International Environmental Governance; focusing on further enhancing cooperation and coordination and an integrated approach to financing for chemicals and waste.

A handwritten signature in black ink, appearing to read 'Lena Ek'.

Lena Ek, Minister for the Environment



REGERINGSKANSLIET

**Ministry of the Environment
Sweden**

Annex II



BACKGROUND DOCUMENT

8 Years – 8 Actions

An initiative to reach the 2020 goal of Sound Chemicals Management

24 April 2012

The sound management of chemicals and waste continues to be a priority area for many countries around the world. In recent years, a significant number of countries have given more importance to this area in recognition of the increasing adverse impact on human health, the environment, national economies and the society at large caused by unsustainable production and use of chemicals.

While significant progress has been made in some parts of the world, there are still differences between and within regions of the global community. Only eight years remain for governments, industry and other stakeholders to achieve the 2020 goal agreed by heads of state in Johannesburg 2002 and further reinforced through SAICM. This calls for all stakeholders to further step up efforts towards reaching the 2020 goal.

From 1972 to 2012 - 40 years of progress in chemicals management

In 1972, Stockholm hosted the first *United Nations Conference on the Environment*. The conference secured a permanent place for the environment on the world's agenda and an Action Plan for the Human Environment was adopted. Among several other issues, the Action Plan recognized the harmful effects of agro-chemicals and called for a strengthening of international programmes for a reduction of these substances' harmful effects. The Action Plan also called for international cooperation regarding the discharge of toxic chemicals, where these affect the aquatic resources of other nations, as well as the development of an International Registry of Data on Chemicals in the Environment.

Twenty years later, Agenda 21 was adopted at the *Earth Summit in Rio de Janeiro in 1992*. Its Chapter 19, entitled "Environmentally Sound Management of Toxic Chemicals, including Prevention of Illegal International Traffic in Toxic and Dangerous Products", recognized that there is a lack of sufficient scientific information for the assessment of risks entailed by the use of a great number of chemicals, and a lack of resources to assess chemicals for which data are at hand. To begin

to address these issues and achieve environmentally sound management of chemicals, six programme areas were proposed. Most of these are still relevant such as for example, information exchange on toxic chemicals and chemical risks, the establishment of risk reduction programmes and strengthening of national capabilities and capacities for management of chemicals.

The increased recognition of the importance of sound management of chemicals has resulted in the goal agreed at the 2002 *Johannesburg World Summit on Sustainable Development* of ensuring that, by the year 2020, chemicals are produced and used in ways that minimize significant adverse impacts on the environment and human health. The WSSD 2002 also encouraged countries to implement the Globally Harmonized System of classification and labelling of chemicals (GHS), with a view to having the system fully operational as soon as possible. The aim of the Strategic Approach to International Chemicals Management (SAICM) adopted in Dubai 2006 is to achieve the agreed 2020 goal by involvement of stakeholders in implementation of needed activities.

Introduction to the stakeholder dialogue "8 Years - 8 Areas for Action towards the 2020 goal for Sound Chemicals Management"

Chemical substances are in many ways crucial for our modern society, they are used in all sectors and countries in the world. Sound Chemicals Management is, as stated in the Dubai Declaration, essential if we are to achieve Sustainable Development, including eradication of poverty. During the last 40 years, significant progress has been made with the development and entry into force of the Vienna Convention/Montreal Protocol, Stockholm, Rotterdam and Basel Conventions on chemicals and wastes-related matters, the launching of the synergies process aiming at enhancing coordination and cooperation among the conventions and a gradual strengthening of the implementation as well as the creation of SAICM and its Quick Start Programme. Furthermore, governments are currently

in the process of negotiating a legally binding instrument on mercury. A number of dangerous substances have already been prohibited or controlled worldwide. At the same time globalization and the increased use of chemicals occurring during the same period have brought new challenges.

In Johannesburg 2002, and reconfirmed in Dubai 2006, Heads of State agreed that by 2020 chemicals are used and produced in a ways that lead to minimization of significant adverse effects on human health and the environment. With eight years remaining to 2020, it is Sweden's view that we all need to reinforce and accelerate our common efforts in aiming to reach the goal.

If we are to make sufficient progress during the eight remaining years, a strong multi-stakeholder involvement is needed and cross-sector cooperation, through partnerships and other means, will need to play a key role.

It is against this background that Environment Minister Lena Ek, together with Ms Nina Crommier, General Director for the Swedish Chemicals Agency, now invites representatives of key actors to an International Dialogue on "8 years - 8 Areas for Action, working towards the 2020 goal for Sound Chemicals Management".

The dialogue seeks to arrive at a common understanding of the importance of the 8 areas and the need to further accelerate implementation on national, regional and global level during the coming years. The 8 areas are intended to reflect key components of SAICM, as well as taking into account relevant decisions from UNEP's Governing Council and ongoing discussion within the Global Chemicals Outlook. The aim is to create a dialogue on how, through better cross-sector cooperation and stakeholder participation, efforts can be made to strengthen implementation of our common commitments. The 8 areas for actions are not to be seen as sequential or in any way undermining the importance of other areas, but rather to represent 8 broad areas that are of crucial importance for Sound Chemicals Management on all levels of society. Although the focus is on the 2020 goal, the scope of the actions is not limited to SAICM, but also intends to strengthen the role of chemicals in Sustainable Development.

In preparation for the dialogue, participants are encouraged to come with good examples of activities relevant for the 8 areas for actions but also, and maybe more importantly, to take the opportunity to contribute with ideas on what activities will be of importance on national, regional or global levels in working towards the 2020 goal and Sustainable Development.

8 Years - 8 Areas for Action

In order to achieve, by 2020, the sound management of chemicals throughout their life cycle so that chemicals are used and produced in ways that lead to the minimization of significant adverse effects on human health and the environment, Sweden sees a need to further strengthen actions for implementation in the 8 areas listed below.

In addition, further implementation of these 8 areas are also aimed at contributing to strengthen the role of Sound Chemicals Management in the Sustainable Development Agenda, in particularly poverty eradication, health and environment degradation, as well as further clarifying which role different stakeholders can play in doing so.

For each of the below areas for actions, we encourage participants in the dialogue to contribute not only with good examples but also with concrete proposals, especially for cross sector activities that will contribute to further implementation.

Sweden calls for further cross-sector cooperation and implementation in the following areas;

1. Awareness raising; focusing on increased awareness on Sound Chemicals Management as a key component in Sustainable Development.

Currently, over 100,000 different substances are used in a wide variety of products that are an integral part of modern life. General awareness that many of these chemicals can cause significant damage if mismanaged is highly important, but today not sufficient. Toxic exposures are often associated with poverty and the lack of Sound Chemicals Management is an impediment to sustainable development. There is a need for national governments and civil society to conduct awareness raising activities about chemicals on a country-by-country basis, or even at local level.

UNEP has led a Costs of Inaction Initiative, to be released in 2012, which aims to raise political awareness of the benefits, stated in economic terms, of providing resources to sound management of chemicals, including strengthening the rationale for inclusion of Sound Chemicals Management priorities into national development plans. The information currently available within this initiative reveals significant economic consequences of continued unsound chemicals management. However, much remains to be done to raise awareness to decision makers in all levels of society.

2. Access to information; focusing on actions that improve accessibility to clear, timely and appropriate information to decision makers at all levels in the society.

Access to information on the health and environmental properties of chemicals is a prerequisite for managing environmental and health risks related to exposure to hazardous chemicals and wastes. Industry needs to provide relevant data for the chemicals that they place on the market. Information is needed by governments, citizens, and industry at all levels to take the informed decisions which are needed to minimize the impacts of chemicals. This is also part of the Overarching Policy Strategy of SAICM.

Addressing the gaps of information on chemicals in products would also enable resource efficiency through safer recycling, thus contributing to a greener economy. Many initiatives are on-going to improve access to information on chemicals, for instance the implementation in many countries of the Globally Harmonized System for classification and labelling, but there are still number of efforts to be made to promote this implementation and to address other significant information gaps.

The information gaps on chemicals in products are recognized within SAICM as an emerging policy issue that warrant global cooperation. Proposed further actions are, e.g., to identify roles and responsibilities of major stakeholder groups, develop guidance on what information on chemicals in products could be transferred and how the information access and exchange can take place to fulfill the needs of all stakeholders throughout the life cycle of products.

3. Health aspects; focusing on action that would further strengthen the health aspects of sound chemicals management and further integrate chemicals aspects in the health agenda.

An important aim of Sound Chemicals Management is the protection of human health. Exposures to toxins from inadequately controlled industry, hazardous products or waste all cause substantial health problems to populations and occasion high costs to the society. Within SAICM, and in consultation with the World Health Organization, a draft strategy for strengthening the engagement of the health sector in the implementation of SAICM has been developed and will be discussed at the next high level meeting for SAICM taking place in September 2012.

It is particularly important to protect children and young people from harm caused by chemicals. This also includes protecting human reproduction, so that chemicals do not harm our chances of having children. Measures to protect children and young people often

mean that adults are also better protected from chemical hazards in their everyday life.

A study by WHO (2011) states that the health cost due to insufficient chemicals management are at least 1.06 million deaths in 2004, which is in the same magnitude as road traffic accidents or malaria. The challenge remains however to make chemicals a more integral part of the health agenda.

4. Substitution; focusing on action toward progressive substitution of chemicals that pose an unmanageable risk to human health and the environment.

Many chemicals that are in use today cause significant damage to people and the environment. Less toxic alternatives exist for several of these chemicals, and alternatives are being developed for many others.

The capacity of industry to innovate is essential and its sense of corporate and social responsibility (CSR) provides a springboard for development of safe business practices and green alternatives around the world. Substitution of hazardous substances in products, clean production technologies and pollution prevention programs assist industry in avoiding future problems and costs.

5. Resource efficiency; focusing on action towards improved waste prevention and waste management, including prevention of chemicals risks from waste.

The growing consumption of products results in a growing and unsustainable demand for resources, including chemicals. Today's flow of materials is also a flow of chemicals.

The UNEP Governing Council decided, in 2011, to call upon governments to consider waste prevention and improving waste management, including in the field of e-waste, as central objectives when adopting and developing their own national sustainable development strategies. Hazardous substances in the life cycle of electrical and electronic products are recognized within SAICM as an emerging policy issue that warrant global cooperation in order to address the risk such products can pose to human health and the environment.

During poorly controlled recycling operations and when recycled materials are used in new applications, unexpected and uncontrolled exposures to humans and the environment may occur. The phasing-out of chemicals of concern in new products would make it safer and more cost efficient to reuse and recycle more materials. If managed in a healthy and environmentally sound manner, the extraction of valuable secondary raw material from wastes can create green business opportunities and decent jobs for millions of people.

6. Chemicals in the development agenda; focusing on action that contributes towards strengthening the linkages between sound chemicals management and the development agenda.

The Dubai Declaration states that the Sound Management of Chemicals is essential if we are to achieve sustainable development, including eradication of poverty, and the elevation and maintenance of living standards in all parts of the world. Toxic exposures both at home and at workplaces are often associated with poverty, as the poorest are frequently those left without the information, education or protection equipment needed to use chemicals safely. Some toxins cause intellectual impairment, which affects the capacity for sustainable economic development. Poorly managed industry, including the informal sector, is a direct impediment to sustainable development.

The agricultural sector is the most important income generator in many developing countries. Emerging information indicates how agriculture yields, household incomes, and GDP can increase with Sound Chemicals Management. Given the potential magnitude of costs of inaction, and the potential development gains, the evidence favours further investment in capacity for downstream management and in upstream management wherever chemicals are produced or imported.

The UNDP-UNEP Partnership Initiative for the Integration of Sound Management of Chemicals into National Development Processes aims to raise awareness of the need and build capacity for improved integration of chemicals management into development agendas, and ultimately to mobilize sustainable financing for Sound Management of Chemicals. However, much remains to be done to fully integrate chemicals management to the national development process.

7. Capacity building; focusing on more coherent action towards bridging the gap in differences of capacity to handle the challenges and opportunities for Sound Chemicals Management.

One of the objectives of SAICM is capacity building. The Secretary General's report to the 19th session of the Commission for Sustainable Development in 2011 identified that a strong national infrastructure for Sound Management of Chemicals is essential to achieve sustainable chemicals management. An efficient infrastructure for management of chemicals in each country is crucial in order to ensure the safety of the citizens and the protection of the environment. However, national authorities are still often not in

place or understaffed and the allocation of roles and responsibilities for the tasks involved in chemicals management are still not defined in many countries.

The UNEP Guidance on the Development of Legal and Institutional Infrastructures and Measures for Recovering the Costs of National Administration (UNEP LIRA Guidance) addresses the development of proposals for national legal and institutional infrastructures for Sound Management of Chemicals.

Legislation plays a crucial role and is most often needed to define the specific objectives to be reached; roles and responsibilities of the stakeholders involved; instruments and tools that can be used; and distribution of costs between stakeholders. Institutional arrangements give operational reality to policies by organizing the available resources, human, technical, financial, for decision making implementation, compliance and enforcement. Industry has a key role to play in the Sound Management of Chemicals in both developing and developed countries, and private sector action is critical towards reducing the costs to manage chemicals and wastes.

8. International Environmental Governance; focusing on further enhancing cooperation and coordination and an integrated approach to financing for chemicals and waste.

The 12th special session of the UNEP GC/GMEF reiterated in decision SS.XII/5 the request to the UNEP Executive Director to facilitate and support an inclusive, country-driven consultative process on the challenges to and options for further enhancing cooperation and coordination in the chemicals and wastes cluster in the long term. Moreover, the Executive Director was also requested in decision SS.XII/4 to continue to provide support to the consultative process on financing options for chemicals and wastes with a view to further elaborating a final outcome based on the integrated approach to financing Sound Management of Chemicals and wastes.

Both processes are of vital importance for facilitating and strengthening implementation at the national, regional and global levels. To ensure a more efficient and effective use of both financial and human resources towards enhanced impact, it is critical that governments and other relevant stakeholders, including industry and civil society, continue to support and promote both processes. Only through a rethinking and an enhancement of existing governance and financing structures in the chemicals and wastes cluster will it be possible to enhance the capacity of governments, thus making possible increased efforts in the chemicals and wastes cluster at all levels.

International Conference on Chemicals Management

Third session

Nairobi, 17–21 September 2012

Item 4 (b) of the provisional agenda*

**Implementation of and coherence
among international instruments and programmes**

**Enhanced coordination across the United Nations system,
including the Environment Management Group**

Note by the secretariat

1. The secretariat has the honour to circulate, for the information of participants, the report of the Executive Director on Enhanced coordination across the United Nations system, including the Environment Management Group, dated 2 December 2011. The report was originally made available under the symbol UNEP/GCSS.XII/10.
2. The UNEP secretariat continues to work with governments towards the implementation of the decision, recognizing the continuing challenges to organize meetings due to the heavy agenda in the chemicals and wastes area.
3. The document is available in languages at the following link:
www.unep.org/gc/gcss-xii/docs/working_docs.asp.

* SAICM/ICCM.3/1



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**Governing Council -
of the United Nations
Environment Programme**

**Twelfth special session of the Governing Council/
Global Ministerial Environment Forum**

Nairobi, 20–22 February 2012

Item 4 of the provisional agenda*

Emerging policy issues: environment and development

**Enhanced coordination across the United Nations system,
including the Environment Management Group**

Report of the Executive Director

Summary

Pursuant to paragraph 4 of decision 26/11 of the Governing Council of the United Nations Environment Programme, the document provides a progress report on the work of the Environment Management Group and suggests that the Council adopt a decision in that regard.

The report is presented together with directions for further work, as decided by the senior officials of the Group at their seventeenth meeting, on 19 September 2011. It presents information on the Group's contribution to the United Nations Conference on Sustainable Development in terms of enhanced coherence in programming environmental activities in the United Nations system, including mainstreaming, and enhanced sustainability of policies, management practices and operations in the United Nations system.

* UNEP/GCSS.XII/1.

I. Suggested action

1. The Governing Council may wish to consider the adoption of a decision along the following lines:

The Governing Council,

Recognizing the role of the United Nations Environment Programme in enhancing coordination and collaboration across the United Nations system to achieve greater coherence in environmental activities,

Recalling its decision 26/11, on enhanced coordination across the United Nations system, including the Environment Management Group,

Welcoming the efforts of the Executive Director, including in his capacity as Chair of the Environment Management Group, and those of the Group's members, in promoting cooperation across the United Nations system on environmental activities,

Expressing appreciation for the progress report prepared under the guidance of the senior officials of the Environment Management Group at their seventeenth meeting and as presented by the Executive Director,¹

Commending the Group on its progress in facilitating cooperation across the United Nations system to assist Member States in implementing the environmental agenda,

Welcoming in particular the Group's contribution to the tenth session of the Conference of the Parties to the United Nations Convention to Combat Desertification in Those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa, and its decision to continue its support for the drylands agenda across the United Nations system,

Welcoming also the Group's contribution to the preparatory process for the United Nations Conference on Sustainable Development through its reports "Working towards a Balanced and Inclusive Green Economy: A United Nations System-wide Perspective" and "Advancing the Environmental and Social Sustainability in the UN System",²

1. *Supports* the Group's continued efforts to mainstream environmental considerations into activities at the programme, management and operational levels in close cooperation with the United Nations System Chief Executives Board for Coordination and its subsidiary bodies;

2. *Encourages* the Group to continue to promote coherence in environmental activities across the United Nations system, including by mainstreaming environmental concerns into sectoral programmes, through such measures as:

- (a) Contributing to the implementation of the international agenda on biodiversity and, in particular, the Strategic Plan for Biodiversity 2011–2020 adopted by the Conference of the Parties to the Convention on Biological Diversity at its tenth meeting;³

- (b) Preparing a United Nations system-wide action plan for the period 2012–2018 on follow-up to its report on drylands⁴ for consideration by the Conference of the Parties to the United Nations Convention to Combat Desertification in Those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa, at its eleventh session;

- (c) Supporting consideration by Member States of the concept of the green economy in the context of sustainable development and poverty eradication, one of the themes of the United Nations Conference on Sustainable Development;

3. *Also encourages* the Group to continue its consultations on advancing the framework for environmental and social sustainability in the United Nations system and to move towards environmental sustainability management systems and climate neutrality in the United Nations;

4. *Requests* the Executive Director in his capacity as Chair of the Group to provide a progress report on the Group's work to the Governing Council/Global Ministerial Environment Forum at its twenty-seventh session;

1 UNEP/GCSS.XII/10.

2 To be published on the Group's website at www.unemg.org.

3 Decision X/2, annex.

4 "Global Drylands: A UN system-wide response".

5. *Invites* the Executive Director in his capacity as the Chair of the Group to transmit a progress report on the Group's work to the governing bodies of the Group's member organizations, through the heads of those organizations, for their information and perusal.

II. Introduction

2. The Governing Council, in its decision 26/11 on enhanced coordination across the United Nations system, including the Environment Management Group, expressed appreciation for a progress report prepared under the guidance of the senior officials of the Group at their sixteenth meeting and presented by the Executive Director of the United Nations Environment Programme (UNEP). It commended the Group on its progress in facilitating cooperation across the United Nations system to assist Member States in implementing the environmental agenda.

3. In referring to the need for continued cooperation with the United Nations System Chief Executives Board for Coordination and its subsidiary bodies, the Council encouraged the Group to continue to promote coherence in programming environmental activities in the United Nations system, including by mainstreaming environmental concerns into sectoral programmes. It encouraged further work in the area of biodiversity, desertification, the green economy and sustainability in the United Nations system, and requested the Executive Director in his capacity as Chair of the Group to submit a progress report on the Group's work to the Council/Forum at its twelfth special session.

4. The present progress report may assist the Council in performing its mandate of providing general policy guidance for the direction and coordination of environmental programmes within the United Nations system, as set out in General Assembly resolution 2997 (XXVII) of 15 December 1972. In this context, the Council may consider its role in contributing to the coherence of the environmental pillar. It may wish again to express itself on the directions that the Group's further work should take, given that the Group's members, as demonstrated in the report on environment in the United Nations system (UNEP/GC.26/INF/23), constitute a unique and diverse set of environmental capacity and competence. In doing so, it may also wish to further the practice of informing the General Assembly of the Group's work pursuant to resolution 58/209 of 23 December 2003.

5. The seventeenth meeting of the senior officials of the Group took place in New York on 19 September 2011, during the sixty-sixth session of the General Assembly. It was hosted by the United Nations Development Programme (UNDP), and co-chaired by Mr. Achim Steiner, Executive Director of UNEP and Chair of the Environment Management Group, and Ms. Rebeca Grynspan, Under-Secretary-General and Associate Administrator of UNDP. The senior officials segment was preceded by a technical segment. The documentation and report of the meeting can be found at www.unemg.org.

6. At that meeting, the senior officials considered the strategic directions for the Group's work in the light of progress made and expectations voiced by Group members and by intergovernmental bodies such as the Governing Council. They welcomed the opportunity to inform the Governing Council and, through it, the General Assembly, of their work. They expressed appreciation for the guidance received from the Council and requested the Chair to continue the practice of circulating a draft of the Group's report on its work to Group members for their comments, and to submit the final report to the Governing Council at its twelfth special session. They encouraged the Group members to make the report available to their governing bodies as appropriate.

7. The present report, which has been reviewed by the Group members pursuant to a decision taken at the seventeenth meeting, sets out the progress made in implementing the Group's workplan to date and the directions set by the senior officials in relation to the workplan for the coming period. The workplan is implemented through open-ended, time-bound issue management groups and consultative processes.

8. All the reports and/or publications referred to herein are available on the Group's website at www.unemg.org.

III. Contributions by the Group to the United Nations Conference on Sustainable Development

9. At their seventeenth meeting, the senior officials noted that the Group's work and products were receiving increased attention in intergovernmental processes. It was felt that Group was well placed to contribute to the United Nations Conference on Sustainable Development, especially in the area of

green economy, through the report “Working towards a Balanced and Inclusive Green Economy: A United Nations System-wide Perspective”.

10. The Group also resolved to continue its work in advancing the agenda for environmental and social sustainability in the United Nations based on the report “Advancing the Environmental and Social Sustainability of the UN system”. It agreed that the matter should also be brought to the attention of the United Nations System Chief Executives Board for Coordination through the appropriate channels.

11. It was noted that the Group’s achievements were relevant to discussions on the institutional framework on sustainable development, especially in relation to the future shape of an inter-agency cooperation structure for sustainable development and its interface with intergovernmental entities. It was recognized that the Group’s achievements resulted from, among others:

(a) Its focus on the enhancement of human well-being, which had served as a common denominator of relevance to the mission of all Group members and as such had functioned as an agent of integration;

(b) Its interaction with relevant intergovernmental bodies, which had helped the Group to support Member States in advancing the international environmental agenda in a balanced manner;

(c) Its issues-focused approach, a jointly owned agenda and a facilitative support structure, which had helped bring member agencies together.

12. Upon the senior officials’ request, the Executive Director, in his capacity as Chair of the Group, submitted a response to the invitation from the Preparatory Committee for the United Nations Conference on Sustainable Development at its second session. That response described the Group’s work on the green economy and on the development of a framework for environmental and social sustainability in the United Nations system, and set out Group members’ views on the lessons learned from the revitalization of the Group, to serve as input into the institutional framework for sustainable development.

IV. Enhanced coherence in programming environmental activities in the United Nations system, including mainstreaming

A. Issue management group on biodiversity

13. At their sixteenth meeting, the senior officials decided to continue the work of the issue management group on biodiversity based on the report “Advancing the biodiversity agenda – a UN system-wide contribution”. The report was submitted to and acknowledged by the Conference of the Parties to the Convention on Biological Diversity in its decision X/2. By its decision X/8, the Conference called upon the Group to contribute to the international decade on biodiversity 2011–2021. By its decision X/2, it also invited the Group, “in building on its report to the tenth meeting of the Conference of the Parties to identify measures for effective and efficient implementation of the Strategic Plan across the United Nations system and provide a report on its work to the Conference of the Parties at its eleventh meeting through the Working Group on Review of Implementation and the Subsidiary Body on Scientific, Technical and Technological Advice”.

14. Actions have also been encouraged by the Secretary-General of the United Nations and the Bureau and the Subsidiary Body on Scientific Technical and Technological Advice of the Convention on Biological Diversity.

15. By its decision 26/11, the UNEP Governing Council welcomed in particular the Group’s contribution to the tenth meeting of the Conference of the Parties to the Convention on Biological Diversity and its follow-up decision to continue its support for the implementation of the biodiversity agenda across the United Nations system. It also encouraged the Group to contribute to the international agenda on biodiversity, including in the implementation of the relevant decisions of the Conference of the Parties to the Convention on Biological Diversity at its tenth meeting.

16. At their fourth meeting, held on 16 February 2011 and co-chaired by the Executive Secretary of the Convention on Biological Diversity and the Secretary-General of the Convention on International Trade in Endangered Species of Wild Fauna and Flora, the members of the issue management group on biodiversity agreed to map their current activities and initiatives in support of the Strategic Plan for Biodiversity 2011–2020, with a view to providing a basis for an agreed approach to an effective and efficient United Nations system-wide contribution to the Strategic Plan, possibly in the form of an implementation plan. The Environment Management Group secretariat was tasked with circulating a matrix for that purpose.

17. At their seventeenth meeting, the senior officials noted the high expectations with regard to the Group's ability to deliver results in the area of inter-agency cooperation on biodiversity. They also noted the efforts by the issue management group on biodiversity to align implementation of the report "Advancing the biodiversity agenda – a UN system-wide contribution" with support for the Strategic Plan for Biodiversity 2011–2020, and requested the Group to accelerate its efforts to develop a practical and pragmatic approach to the implementation of the tasks entrusted to it, and to report on progress to the Secretary-General, the UNEP Governing Council and the Conference of the Parties to the Convention on Biological Diversity.

18. The senior officials decided to extend the issue management group's work until 2012 and to expand its terms of reference to include a wider and longer-term coordination role, so as to advance synergies and inter-agency cooperation on biodiversity in close coordination with existing mechanisms such as the Liaison Group of the Biodiversity-related Conventions and the United Nations Development Group. They also invited the secretariat of the Convention on Biological Diversity to serve as a permanent co-chair of the issue management group with other members serving as co-chairs on a rotational basis.

19. At its fifth meeting, held in Montreal, Canada, on 9 November 2011 in the margins of the fifteenth meeting of the Subsidiary Body on Scientific, Technical and Technological Advice of the Convention on Biological Diversity and co-chaired by representatives of the secretariat of that convention and the Food and Agriculture Organization of the United Nations, the issue management group agreed on a United Nations system-wide approach to map the foundation for supporting the implementation of the Strategic Plan for Biodiversity 2011–2020. Such mapping would provide a picture of the United Nations system-wide support for the targets, which would then serve a basis for inter-agency cooperation for the provision of support for the implementation of the targets, including cooperation at the national level in support of national biodiversity strategies and action plans. At its sixth meeting, to be convened in Paris at the invitation of the United Nations Educational, Scientific and Cultural Organization, the group will discuss its actions and progress.

B. Issue management group on land

20. The senior officials established an issue management group on land in 2009, with a focus on drylands, to propose modalities for a United Nations system-wide contribution to the implementation of the 10-year strategic plan of the United Nations Convention to Combat Desertification in Those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa. By its decision 26/11, the Governing Council encouraged Group to prepare a United Nations system-wide contribution to the tenth session of the Conference of the Parties to the Convention.

21. The issue management group met twice electronically to conclude a working draft of its report on drylands, which was then presented as a conference room paper and at a side event during the second special session of the Committee on Science and Technology of the Convention and the ninth session of the Committee for the Review of the Implementation of the Convention, on 17 February 2011 in Bonn, Germany. The aim was to solicit views and guidance from parties and agencies on the report and on next steps. Member States took note of the draft report with appreciation.

22. The Environment Management Group was recognized at the session as a key and specific vehicle for increasing complementarity and synergies among the Rio conventions.⁵ The parties proposed that the Convention secretariat should take steps to ensure that the views expressed would be compiled and annexed to the report for consideration by the Conference of the Parties at its tenth session, to be held in Changwon, Republic of Korea, from 10 to 21 October 2011. Issues raised by member States and stakeholders were taken into account when finalizing the report.

23. At their seventeenth meeting, the senior officials welcomed with appreciation the preparation by the issue management group of the report "Global Drylands: A UN system-wide response" and approved the report, including the statement by the executive heads of Group's member organizations, which was then submitted to the Conference of the Parties at its tenth session. They decided to continue the issue management group's work for another two years with a view to implementing the findings of the report and the statement by the executive heads, and responding to any requests made by participants at the high-level meeting of the General Assembly on addressing desertification, land degradation and drought in the context of sustainable development and poverty eradication held on 20 September 2011, by the Conference of the Parties at its tenth session and by participants in the

⁵ See document ICCD/CRIC(9)/INF.9 and para. 38 of document ICCD/CRIC(9)/16, which invites support for the establishment of partnership agreements with, and synergistic initiatives in, the three Rio conventions.

preparatory process for the United Nations Conference on Sustainable Development. The group could also consider other land-related issues that warranted its action.

24. The drylands report was presented as an information document (ICCD/CRIC(10)/INF.1) for further consideration and guidance by the Conference of Parties at its tenth session. The Conference of the Parties took note of the report and requested the Executive Secretary to follow up on its implementation in close cooperation with the Environment Management Group and to prepare a specific 2012–2018 action plan on that follow-up for consideration by the Conference of the Parties at its eleventh session.

C. Issue management group on the green economy

25. The issue management group on the green economy was established by the senior officials at their fifteenth meeting to assess how the United Nations system could more coherently support countries in making the transition to a green economy and to work on joint and consistent messaging on measures needed to support the transition.

26. A progress report on the group's work was made available to participants at the first intersessional meeting of the United Nations Conference on Sustainable Development, on 10 and 11 January 2011. By its decision 26/11, the Governing Council encouraged the Environment Management Group to prepare a contribution by the United Nations system, identifying existing studies on the green economy, to the preparatory process for the United Nations Conference on Sustainable Development.

27. Thirty-five members of the United Nations system have been engaged, through the issue management group, in drafting a report on the green economy. At their seventeenth meeting, the senior officials welcomed the progress made by the group, including its submission of a preliminary report to the Preparatory Committee for the United Nations Conference on Sustainable Development at its second session, on 7 and 8 March 2011. They requested the group:

(a) To reflect United Nations system-wide perspectives on the issue in the report, to be entitled "Working Towards a Balanced and Inclusive Green Economy: A UN System-wide Perspective";

(b) To draft a draft executive summary of the main findings of the report, and of the joint preamble statement of the United Nations System Chief Executives Board for Coordination, for appropriate consideration during the preparatory process for the United Nations Conference on Sustainable Development, by 1 November;

(c) To finalize the report for approval by members in time for the second intersessional meeting of the United Nations Conference on Sustainable Development, on 15 and 16 December 2011.

28. The senior officials decided to extend the group's work for another year for it to finalize and submit the report and follow up on the report's recommendations, taking into account any follow-up work that might be requested by the Conference. The Group's work in this respect has been submitted as part of the preparatory process for the Conference.

D. Consultations on the environmental pillar of the institutional framework on sustainable development

29. By its decision 26/1, on international environmental governance, the Governing Council invited the Preparatory Committee for the United Nations Conference on Sustainable Development, in its consideration of the institutional framework for sustainable development, to consider the options for broader institutional reform identified in the Nairobi-Helsinki Outcome of the Consultative Group of Ministers or High-level Representatives on International Environmental Governance as a contribution to strengthening the institutional framework for sustainable development by improving international environmental governance.

30. A report on progress in following up on that decision was provided to the senior officials at their seventeenth meeting. They expressed interest in being kept informed of international environmental governance reform efforts, especially on issues of relevance to the Group's role in contributing to a balanced integration of the economic, environmental and social pillars in the institutional framework for sustainable development.

31. They requested the Executive Director to submit the views expressed during the meeting on the institutional framework on sustainable development and the Group's future role in advancing the inter-agency dimension of international environmental governance in the context of the institutional

framework on sustainable development as part of the Group's input into the preparatory process for the United Nations Conference on Sustainable Development. The Group's work in this respect has been submitted as part of the preparatory process for the Conference.

V. Enhanced sustainability of policies, management practices and operations in the United Nations system

A. Consultations on advancing the framework for environmental and social sustainability in the United Nations system

32. At their sixteenth meeting, the senior officials welcomed the progress made in the consultative process on environmental and social safeguards, which was launched to assess possible conceptual frameworks that could provide a balanced approach to the challenge of cross-cutting environmental and social issues, flexibility and accountability, and expressed support for the continued development of options for a possible system-wide approach to environmental and social safeguards based on a review of existing policies and guidelines.

33. By its decision 26/11, the Governing Council encouraged the Group to continue advancing the sustainability of policies, management practices and operations in the United Nations system, and the establishment of an agreement to put in place a process for environmental impact assessment and the use of environmental and social safeguards in respect of projects taken up directly by the organizations of the United Nations system.

34. The consultative process continued in the form of a consultative group and a drafting group. A mapping exercise and inter-agency review of existing practices and policies pertaining to social and environmental performance in the United Nations system were undertaken. Given the variety of practices, emphasis was laid on experiences shared by early adopters of environmental and social assessment practices, such as the International Fund for Agricultural Development, UNDP, the World Bank and the World Health Organization. The results of the consultation took the form of a draft report, a joint statement and a framework for environmental and social sustainability in the United Nations system including safeguards as a possible instrument to be used, which were endorsed by the senior officials at their seventeenth meeting on the understanding that the statement would be revised and annexed to the present report. The statement and framework are set out in the annex to the present report, without formal editing.

35. The senior officials requested the Chair of the Environment Management Group:

(a) To inform the Secretary-General of the initiative, to invite him to provide a foreword to the report and to submit the report as part of the preparatory process for the United Nations Conference on Sustainable Development;

(b) To bring the issue, through the appropriate channels, to the attention of the United Nations System Chief Executives Board for Coordination at its meeting in 2012.

36. They also agreed to continue the consultative process on environmental and social sustainability for another year in order to support the implementation of the statement, and:

(a) Further to develop a community of good practice or resource centre to share knowledge and lessons learned;

(b) Further to coordinate with the issue management group on environmental sustainability management to ensure synergies;

(c) To explore options for issues under consideration, such as a common support and knowledge-sharing function; accountability; and identification of ways to go beyond managing risks and benefits and also "do good";

(d) To identify options to ensure comparable social expertise to complement the environmental competence of Environment Management Group members.

37. The Group's work in this respect has been submitted as part of the preparatory process for the United Nations Conference on Sustainable Development.

B. Issue management group on environmental sustainability management

38. Recalling that the issue management groups on climate neutrality and on sustainable procurement had been merged into a group on sustainability management with a mandate until the end

of 2012, the senior officials in 2010 requested the group to prepare by September 2011 a strategic plan for sustainability management in the United Nations system in view of the need to anchor sustainability in the system's internal management and operational structures.

39. By its decision 26/11, the Governing Council encouraged the Environment Management Group to continue supporting the implementation of the United Nations climate-neutral strategy and advancing the sustainability of policies, management practices and operations in the United Nations system, including sustainable procurement.

40. The second common greenhouse gas inventory for the United Nations system was released at the meeting of the United Nations System Chief Executives Board for Coordination held in Nairobi in April 2011. It included the emissions inventories of 52 United Nations organizations, described their emission reduction efforts to date and provided a summary snapshot of draft emissions reduction strategies that United Nations organizations were preparing to reduce their environmental footprints. The latest data illustrate that the United Nations system in 2009 accounted for a footprint of 1.7 million tons of carbon dioxide equivalent.

41. An improved system for reporting greenhouse-gas emissions has been tested with valuable support from the United Nations Department of Field Support and the International Civil Aviation Organization. In line with the recommendations of the Environment Management Group's strategy for a climate-neutral United Nations, and the specific request in this regard formulated by the Chief Executives Board (CEB/2007/2), the group developed a recommended approach for voluntary offsetting of greenhouse-gas emissions for United Nations organizations by Environment Management Group members. All United Nations organizations represented in the issue management group have been preparing specific emission reduction strategies with defined targets and timelines for particular activities. A help-desk service has been maintained by the Sustainable United Nations facility to provide issue management group members with training and tailored advice on inventories, emissions reduction strategies and other issues relevant to the implementation of the climate-neutral strategy.

42. Official travel of staff, meeting participants, experts and others contribute to approximately half the total climate footprint of the United Nations system. In 2011, two studies aimed at identifying options for streamlining United Nations travel policies and practices to reduce related emissions and budgets were finalized. The first related to United Nations travel policies and the second, drafted in collaboration with the United Nations information and communications technology network, focused on the opportunities offered by electronic communications as a tool to reduce the need to travel and to make more efficient use of existing technologies and staff time.

43. Greenhouse-gas emissions from buildings also account for much of the United Nations climate footprint as a result of the Organization's presence in over 500 locations. A working group on sustainable facilities management, supported by the Sustainable United Nations facility, was established within the Inter-Agency Network of Facilities Managers in March 2010 to tackle some of these issues.

44. A support package to assist United Nations agencies with sustainable procurement has been concluded, with 10 product-specific guidelines on sustainable procurement, a "Buying for a Better World" guide and an online training module produced as a collaborative effort between UNEP, the United Nations Office for Project Services, the International Labour Organization and the Procurement Network. In response to a specific request made by the senior officials at their sixteenth meeting, a communications strategy on sustainable procurement has been developed in collaboration with the Procurement Network working group on sustainable procurement. Furthermore, the Procurement Network included sustainable procurement among its five strategic priorities and thus in the standing elements of its workplan. The issue of sustainable procurement in the United Nations was further discussed by the Fifth Committee of the General Assembly at its sixty-fifth session, in September 2010, leading to the decision that the issue merited further attention by the Committee before its consideration by the General Assembly at its sixty-seventh session.

45. A proposal for a strategic plan for sustainability management in the United Nations system was developed in response to the specific request made by the senior officials at their sixteenth meeting. Launched in June 2010, the "Greening the Blue" platform has become a widely respected communications and knowledge-sharing tool within the United Nations system and beyond. Links with networks of the High-Level Committee on Management and other common United Nations networks for facilities management, travel, procurement, communications and information and communication technologies have been nurtured by their involvement in relevant issue management group publications, methodologies and activities. Consequently, some networks are reaching out to one another to maximize synergies focused on efficiencies and emission reductions in United Nations buildings.

46. At their seventeenth meeting, the senior officials welcomed the efforts made in United Nations organizations to reduce emissions within the limited resources available. They renamed the issue management group the “issue management group on environmental sustainability management”. They also welcomed and approved a recommended approach for voluntary offsetting of greenhouse-gas emissions by Group members entitled “carbon credits – recommendations for selection and procurement”.

47. They also approved a strategic plan for sustainability management in the United Nations system, intended to move it towards a consistent, systematic and cost-effective approach to sustainability management, and acknowledged the importance of providing common system-wide support for the implementation of the strategic plan, on the understanding that the funding options presented were indicative and would be subject to further consideration. They requested the secretariat to identify possible options for a common structure to support the implementation of the strategic plan and for resourcing the structure’s operation.

48. They requested the Chair to inform the Secretary-General and the Chief Executives Board about the strategic plan to support the establishment of sustainability management systems in all United Nations organizations.

49. In line with the strategic plan and drawing on existing work, the senior officials committed themselves to moving towards the introduction of organization-specific sustainability management systems and to endeavouring to identify appropriate resources for implementation. They requested the issue management group:

(a) To contribute to the preparation of the third edition of the report “Moving Towards a Climate Neutral UN”, to be released at the meeting of the Chief Executives Board in April 2012;

(b) To provide input as Environment Management Group contributions to the preparatory process for the United Nations Conference on Sustainable Development by 1 November 2011 as part of efforts to advance environmental and social sustainability in the United Nations system;

(c) To continue sharing knowledge, communication, training and awareness-raising activities, in particular based on the “Greening the Blue” platform, on issues such as sustainable buildings, procurement, sustainable events, travel and e-communications, and to maintain the links created with related inter-agency networks;

(d) To identify resources and possible partnerships to develop a tutorial for the United Nations system aimed at enhancing a culture of sustainability and enabling staff in their respective categories to contribute to the success of emissions reduction strategies and sustainability management;

(e) To undertake other activities as might be needed and possible within existing resources, to maintain the momentum of the United Nations climate-neutral and overall sustainability effort.

Annex

Joint statement by executive heads of Environment Management Group members on advancing environmental and social sustainability in the United Nations system

We, the Executive Heads of Agencies, Funds, Programmes and Departments, of the United Nations,

Are convinced that the promotion of human well-being and global sustainability hinges on environmental protection and social and economic development,

Bear in mind the responsibility of the United Nations system to embody the internationally accepted environmental and social principles in its internal management as well as to support their application by partners and stakeholders; and the need to reduce risks and unintended negative impacts, and maximize benefits to people and their environment in a coherent and integrated way within the UN system,

Are conscious of the efforts by those United Nations system entities that have already developed environmental and social safeguards to mitigate the environmental and social impacts and risks of their activities before the adoption of a common approach to advancing environmental and social sustainability in the United Nations system,

Are mindful of the need for the UN system to internalize the internationally agreed norms of the sustainability agenda at the level of policy/strategy, programme/project, and facilities/operations management through a common framework for environmental and social sustainability, including through safeguards, risk management, institutional learning, capacity-building, simplification, coherence, and transparency,

Are recognizing the wealth of experience across the UN system to ensure the environmental and social impacts and risks of activities are well managed, which has informed the development and adoption of this common approach,

We hereby commit ourselves, proceeding in a phased manner, to use the Framework for Advancing the Environmental and Social Sustainability in the UN System annexed to this statement as a means of furthering the organization's sustainability performance, including by:

(a) Moving our respective organizations towards strengthening environmental and social sustainability in our activities, and to endeavour to find the necessary resources to realize the increased efficiency and operational safety gains of such a common approach; and

(b) Supporting the further development and implementation of a UN system-wide framework for environmental and social sustainability including environmental and social safeguards; for monitoring collective efforts; and for reporting back to the Governing Bodies of our respective organizations on progress made, good practice, and lessons learned.

We make this commitment with a view to show leadership by increasing institutional accountability for the environmental and social sustainability of our activities. We do this to further enable the UN system to work smarter and safer, respond more effectively to emerging issues and stakeholder needs, and better harness lessons from shared experience.

<i>Annex to joint statement by Executive Heads of EMG Members</i> A Framework for Advancing the Environmental and Social Sustainability in the UN System	
Vision	The environmental and social sustainability of the UN is enhanced, thereby contributing to its mission to promote and protect human well-being in line with internationally agreed declarations, conventions, standards and covenants.
Rationale	The UN system has a long history of promoting positive environmental and social outcomes. While many parts of the organization have individually internalized sustainability goals, the UN acting as One can do even more. By developing of a common environmental and social sustainability framework, the UN will strengthen its leadership role and better support Member States to further the global sustainability agenda at all levels. Specifically, the framework allows the organization to: - Lead by example: by enhancing institutional capabilities and credibility through strengthening the internalization of the environmental and social principles it advocates, thereby contributing more effectively to the achievement of internationally agreed goals and targets related to sustainability; - Work safer and smarter: by reducing risks and maximizing benefits through an integrated approach to informed decision-making; - Respond more effectively: by better addressing emerging issues and stakeholder needs in a timely manner, and by being an attractive and trusted implementing partner; - Leverage knowledge and experience: by improved information sharing and working in a more efficient, coherent, accountable and transparent manner.
Objective	The UN system enhances its sustainability by internalizing internationally accepted environmental and social principles at the three entry points of policy/ strategy, programmes/ projects and facilities/ operations through individual and collective approaches that address associated risks and maximize opportunities.

Expected outcomes	Outputs for individual entities
1. Enabling Conditions Enabling conditions are strengthened and established for the internalization of internationally accepted environmental and social principles within UN entities.	a) A clear, coherent vision and policy is established that relates environment and social issues to the mission and work of the organization.
	b) Internal capacities to implement the vision and policy, and raise awareness among staff to ensure environmental and social sustainability is embraced.
	c) Adequate resources are available to achieve the institutional goals of the vision and policy.
	d) A continuous cycle of improvement by reviewing the effectiveness of outcomes and activities in order to enhance the organization's environmental and social performance.
2. Implementation entry-points Environmental and social considerations are systematically integrated into service delivery mechanisms to achieve desired results, using the following three management entry-points to encompass the work of the UN system:	

Policy / Strategy UN system supports the development of policies and strategies that embed a broad view of sustainability and avoid unnecessary trade-offs or harm to people and the environment.	a) A process for integrating environmental and social sustainability considerations into relevant policies and strategies is implemented, for example through conducting or supporting strategic level assessment.
Programmes / Projects Environmental and social considerations are systematically integrated in all programme and project cycles including, for example, through the use of environmental and social assessment.	a) An environmental and social assessment framework (including safeguards) is developed and implemented that includes screening, review, management plans, monitoring, accountability and transparency. b) The consideration of environmental and social performance objectives is integrated into existing management approaches, such as partnerships and networks.
Facilities / Operations Procedures and practices for integrating environmental and social considerations into management practices and support systems for operations, premises, travel, procurement, and use of information technology which contributes to sustainable development.	a) A sustainability management system is established which encompasses measures for moving the UN entity towards climate neutrality. b) Sustainable practices in building management, procurement and information and communication technologies are developed. c) Sustainable practices to address areas not covered by the Sustainability Management strategy, such as social aspects of facilities and operations management, are developed.

Collective Actions
1. Demonstrate <i>system-wide commitment</i> for the advancement of environmental and social sustainability of the UN system through support for a common approach to the use of environmental and social sustainability measures as outlined in the proposed framework. 2. Adopt <i>minimum requirements</i> for the internalization of environmental and social sustainability measures across the three entry-points. 3. Keep the advancement of the use of environmental and social sustainability measures under review and continue <i>the sharing of knowledge and lessons learned</i> among UN entities to strengthen coherence and leverage efficiencies. 4. Consider the need for a support and knowledge sharing function to assist UN organizations to: 1) internalize enhancement of their environmental and social sustainability measures, 2) build capacity and share learning; 3) centralize accountability, reporting and evaluation.

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**Implementation of the Strategic Approach to International
Chemicals Management:**

Financial and technical resources for implementation

**National Implementation of SAICM: A Guide to Resource,
Guidance, and Training Materials of IOMC Participating
Organizations**

Note by the secretariat

1. The secretariat has the honour to circulate, for the information of participants, in the annex to the present note “A guide to resource, guidance, and training materials of IOMC Participating Organizations on the National Implementation of the Strategic Approach (August 2012 edition).
2. The information is presented as submitted and has not formally been edited.

Annex

National Implementation of SAICM: A Guide to Resource, Guidance, and Training Materials of IOMC Participating Organizations

August 2012 Edition



This publication was developed in the IOMC context. The contents do not necessarily reflect the views or stated policies of individual IOMC Participating Organizations.

The Inter-Organization Programme for the Sound Management of Chemicals (IOMC) was established in 1995 following recommendations made by the 1992 UN Conference on Environment and Development to strengthen cooperation and increase international coordination in the field of chemical safety. The Participating Organizations are FAO, ILO, UNDP, UNEP, UNIDO, UNITAR, WHO, World Bank and OECD. The purpose of the IOMC is to promote coordination of the policies and activities pursued by the Participating Organizations, jointly or separately, to achieve the sound management of chemicals in relation to human health and the environment.

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1. PURPOSE AND OVERVIEW OF THE DOCUMENT

Following adoption of the Strategic Approach to International Chemicals Management (SAICM) at the International Conference on Chemicals Management (ICCM) in February 2006, countries have initiated implementation of SAICM, including development of national SAICM implementation plans. To inform country deliberations and related capacity building initiatives, the participating organizations (POs) of the Inter-Organization Programme for the Sound Management of Chemicals (IOMC) have prepared this Guide. It raises issues countries may want to consider in preparing for, developing, and implementing their SAICM implementation plans and points to existing resources, guidance and training materials available through IOMC POs for particular SAICM work areas.¹

The IOMC recognizes that countries are starting from different stages of development with regards to their national programmes for the sound management of chemicals and will therefore have different requirements for guidance materials and tools to assist the implementation process. Furthermore, countries will have different priorities for strengthening their capacities for the sound management of chemicals, priorities that may be captured under the specific work areas. These factors generate a demand for a flexible resource guide that allows countries to identify and access a portfolio of materials tailored to suit their specific needs in planning for the implementation of SAICM.

The structure of the document is as follows. Following this introduction, section 2 summarizes relevant programmes of the IOMC organizations. Section 3 provides a brief summary of SAICM, including a review of the main outcomes of SAICM as contained in the three key texts agreed upon at the ICCM, the Dubai Declaration, the Overarching Policy Strategy (OPS) and the Global Plan of Action (GPA). Section 4 points to resource documents relevant to developing an enabling platform—or governance framework—at the national level for effective and coordinated SAICM implementation. Issues addressed in this section include: integrating chemicals management into national development priorities; developing a sound institutional and programmatic national framework; effective project planning, implementation, monitoring and evaluation; legislation and enforcement; and involvement of the private sector and civil society. Finally, section 5 focuses on specific substantive topics for strengthening chemicals management issues included in SAICM.

¹ The materials included in this document have been developed by the participating organizations of the IOMC. This 2012 edition is an update of the original 2008 edition. The participating organizations are the Food and Agriculture Organization (FAO), the International Labour Organization (ILO), the United Nations Development Programme (UNDP), the United Nations Environment Programme (UNEP), the United Nations Industrial Development Organization (UNIDO), the United Nations Institute for Training and Research (UNITAR), the World Health Organization (WHO), the World Bank and the Organisation for Economic Co-operation and Development (OECD).

2. OVERVIEW OF RELEVANT PROGRAMMES OF IOMC PARTICIPATING ORGANIZATIONS

2.1 FAO²

The FAO has a mandate for international cooperation to raise levels of nutrition and standards of living, to improve agricultural productivity, and to better the condition of rural people. The FAO Conference, which meets every two years, is the supreme governing body of the FAO. FAO has a system of regional and country offices that play an important role in the design and delivery of capacity building activities. Plant Protection posts exist in the Regional Offices in Africa (Ghana), Asia and the Pacific (Thailand), Latin America (Chile), and the Near East (Cairo), and in the sub-regional offices in Addis Ababa, Ankara, Barbados, Budapest, Harare, Libreville, Panama, Western Samoa, and Tunis. At FAO Headquarters in Rome, of particular relevance are FAO's Plant Protection Service (which also hosts the Joint Rotterdam Convention Secretariat with UNEP Chemicals, Geneva) and FAO's Legal Office, as well as its Technical Co-operation Department which facilitates direct assistance/capacity building to developing countries through its Technical Cooperation Programme (TCP).

2.1.1 Pesticide Risk Reduction Group, AGPMC³

The Pesticide Risk Reduction Group (AGPMC), part of the Plant Production and Protection Division of the Agriculture Department, addresses international aspects of plant protection and closely cooperates with regional and national plant protection organizations and programmes. The programme addresses plant quarantine in the *Secretariat to the International Plant Protection Convention*, setting standards, exchanging information and fostering cooperation. Concerning pesticide management, the programme promotes the implementation of the *International Code of Conduct on the Distribution and Use of Pesticides*; it implements with UNEP the *Rotterdam Convention* and, with WHO, makes recommendations for maximum residue levels as well as for pesticide specifications. On pest management, the Service supports the establishment of Integrated Pest Management (IPM) strategies and hosts the Global IPM-Facility consisting of FAO, UNDP, UNEP and the World Bank.

Pesticide Management and Implementation of the Code of Conduct: The Pesticide Risk Reduction Group (PRRG) covers a wide range of capacity building activities, which include development of national pesticide registration and control schemes; strengthening of national technical and physical facilities to enforce pesticide regulatory schemes more effectively; provision of various types of training on the appropriate and efficient use of pesticides for farmers, extension workers, retailers and medical personnel; facilitating computerised exchange of information and networking on pesticides, regulatory issues and on other technical matters among cooperating countries; and undertaking national and regional survey missions on laboratory infrastructures for pesticide analysis and helping to establish/strengthen such infrastructures.

PRRG also provides, through standard setting bodies on pesticides, references for countries on limits of pesticide residues and for pesticide product quality. The Joint FAO/WHO Meeting on Pesticide Residues (JMPR) is the scientific body for the establishment of

² See <http://www.fao.org>

³ See <http://www.fao.org/ag/agp/agpp/Default.htm>

CODEX maximum residue limits for pesticides. The Joint FAO/WHO Meeting on Pesticide Specifications (JMPS) develops international quality criteria for pesticides used in agriculture and public health so that the quality of products can be judged either for regulatory purposes or in commercial dealings. Thus the specifications help to reduce the trade, sale and use of inferior pesticide products. Many countries, industrialized and developing ones, adopt these international standards as their national standards.

Prevention and Disposal of Obsolete Pesticides: FAO is the only UN-agency with a programme aiming at enabling countries to dispose of obsolete pesticide (chemical) stocks and to prevent further accumulation of such stocks. The FAO Obsolete Pesticides Project, initiated through Dutch trust funds, maintains the world-wide inventory on obsolete pesticides, which today is estimated to amount to 500.000t. FAO/AGPP has executed various disposal operations in Africa, Latin America and the Near East supported by various donor countries and agencies. This unit was instrumental in the creation and implementation of the African Stockpiles Programme (ASP) and is continuing the programme of support to African countries, Eastern Europe, Caucasus and Central Asia, Caribbean and Pacific and Asia for the elimination and prevention of obsolete pesticides, with GEF, EU and bilateral donor support.

Integrated Pest Management (IPM): AGPP supports the establishment of IPM programmes, including the application of biological control and weed management. IPM increases the sustainability of farming systems, and IPM programmes are considered economically sustainable as they reduce farmers' dependence on procured inputs such as pesticides. FAO promotes IPM through awareness raising and support to the development of field programs and policy reform.

IPM is a key element of FAO's approach to Sustainable Crop Production Intensification (SCPI) which is encompassed in the publication *Save and Grow*.⁴ This approach promotes production systems that conserve natural resources and use agricultural methods that build on ecological processes. Substantial IPM based programmes are currently being implemented in South East Asia, the Near East and North Africa and West Africa, with national projects in many other countries.

Secretariat of the Rotterdam Convention: The Secretariat for the Rotterdam Convention is collocated at FAO AGPMR in Rome and with UNEP Chemicals in Geneva.⁵

2.1.2 FAO Legal Office⁶

FAO's Legal Office provides legal advisory services to governments on a range of issues, including plant protection and pesticides registration. Working with the technical services of FAO, it helps governments prepare laws, regulations, agreements and other legal texts, advises on institutional structures and compliance with international law. An element of most advisory projects is capacity building through participatory training of national officials and consultants.

⁴ See www.fao.org/ag/save-and-grow

⁵ See <http://www.pic.int>

⁶ See http://www.fao.org/Legal/index_en.htm

2.1.3 FAO Technical Cooperation Department⁷

Through its Technical Cooperation Programme (TCP), FAO allocates limited resources to its member states to meet the most pressing development needs in agriculture. On pesticide matters technical assistance has been provided for various areas supporting capacity building, such as drafting pesticide legislation, strengthening pesticide management and control capacities, building laboratory capacity or facilitating pesticide disposal operations. The Technical Cooperation Programme also liaises with donors from governments, international institutions and the private sector to mobilize and direct resources to prioritized country needs. In many situations such projects include elements on pesticide management in the context of sustainable crop production intensification.

2.2 ILO⁸

The International Labour Organization is a UN specialised agency that seeks the promotion of social justice and internationally recognised human and labour rights. The ILO formulates international labour standards in the form of Conventions and Recommendations, setting minimum standards of basic labour rights. The member States of the ILO meet at the International Labour Conference in June of each year in Geneva. The Conference establishes and adopts international labour standards, and elects the Governing Body which is the executive council of the ILO.

ILO capacity building activities for sound chemicals management are integrated within its overall activities for occupational safety and health and are undertaken in the context of the ILO Infocus Programme on Safety and Health at Work and the Environment (Safework).

2.2.1 Safework⁹

While based in Geneva, Safework works through a decentralised network of occupational safety and health experts in the field to facilitate cooperation and elaborate international standards and instruments to establish the minimum levels that should be reached and maintained (e.g. ILO Convention 170). Regional and country field programmes and offices are in place in all regions of the world. For practical improvements for workplace chemical safety, the participation of workers and employers at the national level in the formulation of national policy is essential. Also at the enterprise level, worker-management collaboration is critical. SafeWork promotes such collaboration at the national and enterprise levels. Safework technical cooperation activities assist to implement these instruments at the national level with the aim to improve working conditions at the work place.

Technical cooperation projects, and regional training seminars and symposia, have been held in all the developing and transition regions. Assistance is provided, for example, to:

- Promote and aid in the implementation of the globally harmonised systems for classification and labelling (GHS) as part of the UNITAR/ILO Global GHS Capacity Building Programme;
- Develop legislation, strengthen national institutions through training;
- Translate documentation related to occupational safety and health into local languages;

⁷ See <http://www.fao.org/tc>

⁸ See <http://www.ilo.org>

⁹ See <http://www.ilo.org/public/english/protection/safework/standard.htm>

- Promote the use of international chemical safety cards (ICSCs);
- Use Training Modules on Chemical Safety in order to introduce safe use of chemicals at places of work, to present classification systems for the labelling and transport of dangerous goods, to allow the reading and use of chemical safety cards, to give a basic overview of toxicology, and to disseminate information on selected, widely-used hazardous substances; and
- Provide special support to developing countries in the form of technical cooperation projects, as well as the provision of safety and health information, via the International Occupational Safety and Health Information Centre's (CIS) network.

2.3 UNDP¹⁰

UNDP promotes the sound management of chemicals as an important component of the global poverty reduction effort. In line with its role as the UN's development network, UNDP advocates the importance of addressing issues related to chemicals management and chemically linked pollution in developing countries by encouraging integration of rigorous chemicals management schemes into MDG-based national development policies and plans. UNDP also works with countries to identify necessary resources and sources of funding to improve their chemicals management regimes to achieve desired results.

Within the framework of the Strategic Approach to International Chemicals Management (SAICM), UNDP advocates for the integration of sound chemicals management priorities into national environmental and poverty reduction planning frameworks and helps countries access resources to improve their chemical and waste regimes.

UNDP uses a global network on the ground in 177 countries to help the UN system and its partners to raise awareness and track progress, while it connects countries to the knowledge and resources needed to achieve MDGs. The UNDP Executive Board is made up of representatives from 36 countries around the world, who serve on a rotating basis and meet three times per year.

With the support of the Global Environment Facility (GEF), the Multilateral Fund (MLF) for the Implementation of the Montreal Protocol, UNDP's Environment and Energy Thematic Trust Fund, the SAICM Quick Start Programme Trust Fund (QSPTF) and various other donors and partners, UNDP helps countries reduce the vulnerability of their poor to health and environmental stresses; facilitates the integration of environmental issues into national environmental and poverty reduction planning frameworks; and helps increase access to the best available and affordable alternative technologies.

UNDP chemicals-related capacity building activities are mainly coordinated by the Energy and Environment Group, more specifically by the Montreal Protocol Unit / Chemicals. Chemicals Management activities are implemented in close cooperation with UNDP's Country Offices.

UNDP helps countries to improve their chemicals management and attain the MDGs by providing assistance in the following areas:

- Integrate the sound management of chemicals into national development plans and policies;

¹⁰ See <http://www.undp.org>

- Manage chemicals of particular concern for pro-poor policies (POPs, ODS, heavy metals and others); and
- Strengthen national capacities on integrated waste management, including waste prevention, reuse and recycling, and disposing a range of waste streams.

2.3.1 Integrating Sound Management of Chemicals into National Development Planning

To improve their chemicals management regime, UNDP assists countries to integrate the Sound Management of Chemicals (SMC) into national development plans and strategies through:

- Provision of technical guidance, and
- Assistance in catalyzing environmental finance.

The UNDP Guide for Integrating the Sound Management of Chemicals into MDG-Based Development Planning¹¹ provides a systematic approach to countries to help assess their capacity for sound management of chemicals, identify needs, and ultimately integrate identified priorities into national MDG-based development policies and plans. The UNDP Guide is based on applied, practical experience accumulated in a number of pilot countries under the UNDP-UNEP Partnership Initiative.

UNDP-supported activities entail:

- Baseline analysis to determine the degree of integration of SMC into national development planning and to assess the adequacy of such strategies in terms of protecting the environment and human health;
- In-depth assessment of national chemical management issues relevant to national development planning;
- Identification of chemicals management opportunities likely to result in concrete environmental, health and economic benefits as a result of introducing sound management practices and determination to what extent these could be integrated into national MDG-based development planning;
- Determination of economic costs and benefits of SMC interventions (such as policy/regulatory options, SMC practices, etc.);
- Developing policy and regulatory frameworks to facilitate the implementation of selected priorities and their subsequent integration; and
- Improving the integration of chemicals management priorities into national discussions, development processes, policies and plans.

These activities are not only targeted at influencing national plans, but also at sector strategies and local level implementation. The overall aim is to establish enduring institutional processes within government ministries and the wider stakeholder community to bring about the sound management of chemicals – focusing on the government bodies responsible for poverty reduction and growth policies, while strengthening the role of environmental agencies and non-governmental actors. The process also entails fostering national budget commitments, in partnership with donor assistance, following the integration of chemical management priorities into national policy and planning documents.

¹¹ See http://www.undp.org/content/undp/en/home/librarypage/environment-energy/chemicals_management/integrating-sound-management-of-chemicals-into-mdg-based-development-planning.html

2.3.2 Managing Chemicals of Concern (Persistent Organic Pollutants, Ozone Depleting Substances, Heavy Metals)

There is an established link between poverty and the increased risk of exposure to toxic and hazardous chemicals. Exposure of poor people to toxic chemicals is often strongly correlated to geography. In urban settings, low-income or minority populations typically reside in neighborhoods considered undesirable, such as areas adjacent to industrial zones. These places can be major sources of environmental exposure to toxic chemicals, originating from factories, landfill sites, incinerators, and/or hazardous waste dumps (with controlled or uncontrolled leakage).

In rural areas, where three-quarters of the world's poor live, most chemical exposure is linked to pollution brought by waterways as well as the use of pesticides in agriculture. The improper use, management, and storage of pesticides and chemical fertilizers can result in contamination of air, food, soil, and drinking water (e.g. through pesticide and nitrate run-off), leading to increased human exposure and associated health risks.

Certain groups of chemical substances are of particular concern for poor and vulnerable population groups as well as the environment which provides these communities with livelihoods.

UNDP's work prioritizes the sound management of such groups of substances including:

Persistent Organic Pollutants

With grants from the Global Environment Facility (GEF), UNDP is supporting the implementation of POPs projects in more than 50 countries world-wide, addressing a variety of national and Stockholm Convention on Persistent Organic Pollutants priorities, as well as GEF Strategic Objectives.

UNDP supports the reduction and elimination of all types of POPs contaminants included under the Stockholm Convention, covering a multitude of sectors and activities:

- Updating of National Implementation Plans (NIPs);
- Sound management and disposal of POPs pesticides, including the promotion and introduction of POPs-free alternatives;
- Sound management of PCB stockpiles, including inventories, sound disposal, strengthening of legal frameworks and enforcement capacity;
- Reducing releases of unintentional POPs (UPOPs) and brominated flame-retardants resulting from unsound waste management processes/practices as well as recycling operations (e.g. e-waste, health-care and municipal waste etc.);
- Gradual implementation of best available techniques (BAT) and best environmental practices (BEP) for existing as well as new POPs sources; and
- Minimization of exposure levels of communities living close to contaminated areas.
- Incorporating POPs issues into national development planning processes, and analyzing country development strategies to ensure that there is no increased POPs burden.

Wherever possible and appropriate, UNDP POPs activities are undertaken within a country's framework for sound management of chemicals, to ensure national coordination among chemicals-related activities in support of regional or global conventions and agreements on chemicals.

Ozone Depleting Substances

UNDP provides financial and technical assistance to developing countries and countries with economies in transition to protect the ozone layer and safeguard the global climate.

With the financial support of the Multilateral Fund for the Implementation of the Montreal Protocol (MLF), the Global Environment Facility (GEF) and bi-lateral donors, UNDP helps countries to meet their commitments under the Montreal Protocol on Substances that Deplete the Ozone Layer, phase-out HCFCs and introduce Ozone and Climate friendly alternatives through:

- Institutional capacity development;
- Policy and regulatory interventions;
- Validation and demonstration of alternative technologies (low carbon, zero ODP); and.
- Setting-up national financial mechanisms to access, combine and sequence different sources of environmental financing funding to meet Montreal Protocol compliance and address climate co-benefits.

Since 1992, UNDP has implemented 2,200 projects in 124 countries. UNDP's portfolio of ozone-related projects has a cumulative total value exceeding US\$ 643 million and to date has prevented the release of over 68,000 tonnes of ODS into the atmosphere.

Heavy Metals

To protect public health and the global environment from the impacts of heavy metals, such as mercury and lead, UNDP, with financial support from the Multilateral Fund, GEF and bi-lateral donors, is supporting countries through the following means:

- Advocating for and supporting the phase-out of mercury containing products from the healthcare sector (e.g. thermometers and sphygmomanometers) in Argentina, India, Latvia, Lebanon, Philippines, Senegal and Vietnam, among other countries;
- Conducting country-specific assessments of electronic and electric waste streams and its processing, including waste components of particular concern, such as mercury and lead, and subsequently putting in place plans to manage this waste in an environmentally sound manner;
- Introducing management schemes that support the waste aspects of obsolete equipment (including mercury waste stream), which arise when more environmentally friendly and energy efficient appliances are being introduced (e.g. as a result of refrigerator replacement programmes);
- Introduction of Best Environmental Practices (BEP) and Best Available Technologies (BAT) to e-waste processing to avoid harmful releases of heavy metals and other hazardous substances; and
- Policy and regulatory interventions.

2.3.3 Chemicals Waste Management

Reducing UPOPs Emissions from Uncontrolled Waste Burning

With GEF grants and in support of the Stockholm Convention, UNDP supports initiatives in the field of non-hazardous waste management that aim to reduce releases of Unintentional Persistent Organic Pollutants (UPOPs). Such emissions result from the uncontrolled and

indiscriminate burning of household waste posing significant threats to human and environmental health.

Particularly in countries where large volumes of municipal waste are generated on a daily basis and where sound waste management systems do not exist or are limited, municipal waste is often uncontrollably burned at dump sites and landfills in order to recuperate valuable waste streams (e.g. metals) as well as to compact waste volumes.

To address challenges with respect to waste management and to reduce UPOPS emissions, UNDP provides developing countries and their cities with planning and policy advice as well as technical assistance focusing on UPOPs reduction from uncontrolled burning. As a part of national efforts to establish Integrated Waste Management Strategies, the recuperation, recycling and marketing of valuable waste streams is an integral part.

Programmes on Hazardous Waste Streams

In addition to the overall support for general waste management, mostly with grants from the Global Environment Facility (GEF), UNDP implements programmes managing a number of hazardous waste streams that are particularly problematic due to their human health and environmental consequences. Such waste streams often concern past environmental liabilities, stockpiles of hazardous waste or highly contaminated sites, but also address obsolete consumer appliances and other special waste streams. In particular UNDP programmes cover:

Management of PCB Containing Waste

In spite of the cessation of production, PCBs continue to be a pollutant of major concern on an international scale. There are a substantial amount of PCBs still in use due to the long lifetime of power equipment, such as transformers, and the exemption made in many countries for their contained use until end-of-life of the equipment.

To ensure that PCBs are managed in a way minimizing human exposure and environmental releases, UNDP supports sizeable PCB management programmes in the following ten countries: Argentina, Brazil, Ghana, Kazakhstan, Kyrgyzstan, Latvia, Mexico, Morocco, Slovak Republic and Uruguay.

Obsolete Pesticides

UNDP assists countries in the implementation of obsolete pesticides projects through building countries' capacity to soundly manage and dispose of obsolete pesticides. UNDP is currently assisting a handful of countries, including China, Georgia, Honduras, Mauritius, Nicaragua and Vietnam with pesticide waste management initiatives. There are several multi-contaminant projects implemented by UNDP that include important obsolete pesticide components.

Healthcare Waste Management

A partnership between UNDP, the World Health Organization (WHO), and other major donors and stakeholders, is assisting several countries (including Argentina, India, Latvia, Lebanon, Philippines, Senegal and Vietnam, among others) in developing and maintaining

best healthcare waste management practices in ways that are both locally appropriate and globally replicable. The programme's ultimate goal is protection of public health at the local level as well as the protecting the global environment from the impacts of dioxin and mercury releases.

2.4 UNEP¹²

UNEP is a programme of the UN General Assembly and has a mandate for coordination, and integration, of actions within the UN with respect to problems relating to the environment and for integrating a large number of separate efforts by intergovernmental, non-governmental, national and regional bodies. The UNEP Governing Council is the principle governing and legislative body for UNEP and usually meets every two years.

UNEP's activities on chemicals and waste are covered under its subprogramme on harmful substances and hazardous waste. The subprogramme assists countries and regions in managing the life cycles of chemicals substances and waste that could pose a threat to the environment and human health. For more than 30 years, UNEP's work has supported initiatives related to specific chemicals or to critical elements of their life cycles. UNEP's work includes efforts to reduce risks from mercury, heavy metals, pesticides, persistent organic pollutants (POPs) and other chemicals of global concern.

The activities are centred on the following three expected accomplishments:

1. Increased capacities of States and other stakeholders to assess, manage and reduce risks to human health and the environment posed by chemicals and hazardous waste;
2. Coherent international policy and technical advice provided to States and other stakeholders for managing chemicals and hazardous waste in a more environmentally sound manner, including through better technology and best practices; and
3. Appropriate policy and control systems for harmful substances of global concern are developed and being implemented in line with international obligations of States and mandates of relevant entities.

2.4.1 Increased capacities of States and other stakeholders to assess, manage and reduce risks to human health and the environment posed by chemicals and hazardous waste

The aim is to help countries to increase their capacities for sound management of chemicals and hazardous waste within a life cycle approach. It covers data collection, the assessment and management of chemicals, the implementation of scientifically designed hazardous waste management systems and the strengthening of chemical and hazardous waste legislation and regulatory frameworks. In collaboration with UNDP and other United Nations entities through relevant inter-agency processes, it will promote the mainstreaming of chemical safety in development agendas and the active involvement of all relevant sectors to achieve coherent and effective regulatory, voluntary and market-based policies at the national level and, when relevant, at the sub-regional level. It will also promote and facilitate public access to information and knowledge on chemicals and hazardous waste, including impacts on human health and the environment.

¹² See <http://www.unep.org>

The activities under this expected accomplishment covers:

- Mainstreaming of sound management of chemicals in order to ensure attention and sustainable financing for sound management of chemicals and hazardous waste as part of development policies and plans;
- Information access and exchange in order to strengthening capacity to access and exchange national, regional and international information;
- Sound production and use of chemicals through developing, testing and transferring the technical tools, methodologies and frameworks necessary for the environmentally sound and safe production and use of chemicals;
- Small and medium sized enterprises (SME) partnerships for sound management of chemicals in order to build capacity of SMEs to manage the harmful substances they use and the hazardous waste they produce; and
- Environmentally sound management of chemicals through provision of technical tools for the environmentally sound management of hazardous waste.

2.4.2 Coherent international policy and technical advice is provided to States and other stakeholders for managing harmful chemicals and hazardous waste in a more environmentally sound manner, including through better technology and best practices

The aim is to advance the international agenda on chemicals through the implementation of the environmental component of the Strategic Approach to International Chemicals Management, the subprogramme will support the development of policy- and science-based advice and guidelines to Governments and other stakeholders on risk assessment and management; raise awareness of potential adverse effects of chemicals, including hazardous waste; and address emerging issues. It will also contribute to the development of methodologies and tools for monitoring and evaluating progress in sound management of chemicals and hazardous waste.

The activities under this expected accomplishment covers:

- Secretariat support to the Strategic Approach to International Chemicals Management (SAICM);
- Development of global assessment (e.g. the Global Chemicals Outlook) of the production, trade, use, impacts, management and control of harmful substances and hazardous waste to inform the international community;
- Risk assessment and management in order to reduce the risks posed by chemicals and hazardous waste through coherent risk assessment and life-cycle management approaches, methodologies and guidance;
- Destruction technologies through coherent information on technologies for the destruction of harmful substances and hazardous waste and policy frameworks for their implementation; and
- Reporting progress through provision of governments and the international community with the means to monitor, evaluate and report on progress towards sound management of harmful substances and hazardous waste.

2.4.3 Appropriate policy and control systems for harmful substances of global concern are developed and in place in line with States international obligations and mandates of relevant entities

The aim is to support the development of internationally agreed chemical management regimes, particularly for mercury but also for other metals if requested by Governments, and to support the evolution of existing internationally agreed multilateral environmental agreements in the chemicals and waste cluster, the subprogramme will assist countries, multilateral environmental agreement secretariats and other stakeholders in their efforts to address highly hazardous substances. This will include assisting countries in the implementation and enforcement of chemical and hazardous waste-related multilateral environmental agreements and other international initiatives (for example, the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities) related to chemicals of global concern, such as mercury, persistent organic pollutants and ozone-depleting substances, and in addressing emerging issues related to chemicals and hazardous waste. In line with decision SS.X/1 of the Governing Council/Global Ministerial Environment Forum, the strengthening of cooperation and coordination between the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade and the Stockholm Convention on Persistent Organic Pollutants could contribute positively to the implementation of the principles defended by those Conventions for the management of harmful substances and hazardous waste, building on the agreement reached in Bali at the simultaneous extraordinary meetings of the Conferences of the Parties to those Conventions.

The activities under this expected accomplishment covers:

- Reducing the risks to environment and human health from anthropogenic releases of mercury;
- Addressing risks from lead and cadmium by reducing the anthropogenic uses of lead and cadmium in products and industry sectors that give rise to particular exposure concerns;
- Strengthening the chemicals and waste MEAs through provision of technical assistance to strengthen implementation and monitoring of the multilateral environmental agreements on chemicals and waste;
- Combating illegal trade in order to reduce illegal trafficking in harmful substances and hazardous waste, initially in the Asia-Pacific and West-Asia regions; and
- Supporting regional seas agreement to prevent the further degradation of the marine environment from harmful substances and hazardous waste derived from land based activities.

2.5 UNIDO¹³

UNIDO is a specialised agency of the United Nations dedicated to promoting sustainable industrial development in developing countries and countries in economic transition. The General Conference, composed of all Member States, meets once every two years. The General Conference approves the work programme and budget of UNIDO, and reviews implementation of the programme, budget and General Conference decisions.

¹³ See <http://www.unido.org>

Sound chemicals management is mainstreamed into UNIDO's Green Industry strategy that focuses on decoupling resource use and waste generation from industrial development and promoting the growth of productive sectors and entrepreneurship in developing and transition countries. An important element of Green Industry is fundamentally about greening of all industry through resource efficient and cleaner production (RECP), with a long-term focus on continuously improving environmental performance and resource productivity of any enterprise, regardless of its sector, size or location.

Through optimization of the productive use of natural resources (materials, energy and water) by enterprises and other organizations, it is envisaged to prevent and/or minimize the generation of waste and emissions. At the same time, RECP leads to an improved use of chemicals and reduces the risks to people and communities from enterprises and other organizations and supporting their own development. Investigating and developing new services and business concepts such as Chemical Leasing for sound chemicals management and waste minimization is an inherent part of RECP.

UNIDO's sound chemicals management activities are promoted mainly by its Environment Management Branch (EMB) and also the Montreal Protocol Branch (MPB).

2.5.1 Environmental Management Branch¹⁴

EMB includes three units:

- Cleaner and Sustainable Production Unit
- Stockholm Convention Unit
- Water Management Unit

Resource Efficient and Cleaner Production (RECP) Programme¹⁵

Within the Green Industry strategy and based on the experience gained from the Global Cleaner Production Programme, the UNIDO Cleaner and Sustainable Production Unit has developed, jointly with UNEP, the UNIDO-UNEP RECP programme, to address the need to promote the adaptation and adoption of RECP methods, technologies and systems by enterprises and other organizations in developing and transition countries. This includes RECP thematic applications, for example, in the field of safe and responsible production, which aims at developing, promoting and implementing responsible practices and technologies for chemical-intensive sectors of industry, including synthesis, formulation and application of industrial chemicals.

UNIDO, in close cooperation with the existing Cleaner Production Centres (CPCs), assist the enterprises from the national industrial priority sectors in the implementation of sound chemicals management. Specifically they build national capacity for the implementation of projects in RECP and sustainable chemicals management and provide technical assistance to their clients in the implementation of practical sustainable chemicals management activities. The assistance provided includes sound waste management through the minimization of waste generation and resource-efficiency, and the promotion of environmentally sound technologies. These activities are carried out taking into consideration all international chemicals-related conventions, agreements and initiatives.

¹⁴ See <http://www.unido.org/doc/18260>

¹⁵ See <http://www.unido.org/doc/4460>

Moreover, UNIDO assists countries in formulating sustainable industrial policies that encourage cleaner production and enhance and promote transfer of environmentally sound technologies. UNIDO supports sound chemicals management at source to prevent emissions of dangerous chemicals to the environment, reduce waste loads and promote cleaner treatment and disposal aiming at increasing productivity and facilitating market access. It provides capacity building and technical assistance at the governmental, institutional and enterprise level.

A global network for Resource Efficient and Cleaner Production (RECPnet) has been officially established, with the support of UNIDO and UNEP, in November 2010 by 41 inaugural signatories to its Charter. The global RECPnet is a not-for-profit initiative to bundle and utilize existing capacities of NCPCs and RECP service providers, which objective is to contribute to the effective promotion and implementation of RECP and to foster North-South and South-South collaboration and transfer of methods, policies and technologies.

Chemical Leasing (ChL)¹⁶

UNIDO Cleaner and Sustainable Production Unit has launched in March 2005 a project to promote Chemical Leasing business models in developing and transition countries. Chemical Leasing is a service-oriented business approach to respond to the global changes in international policies of the chemical sector and encourages efficient chemicals management and innovation. The key element is a shift in paradigm away from the focus on increasing sales volume of chemicals towards a more service- and value-added approach. Within a ChL agreement, the users only pay for the services rendered by the chemicals (e.g for volume of water treated, number of parts painted, lengths of pipes cleaned, etc.) and not for the volume of chemicals consumed. The result can be seen in environmental advantages, enhanced resource efficiency as well as in consequential economic benefits for both chemicals suppliers and users of chemicals

In 2007, UNIDO developed the first detailed definition of Chemical Leasing in close collaboration with the International Working Group on Chemical Leasing which includes representatives from governments, industry, the consultant sector, EU, UNEP and UNIDO.

UNIDO's on-going projects in Brazil, Colombia, Croatia, Egypt, Mexico, Russia, Serbia, Sri Lanka, Uganda and Ukraine are implemented in close cooperation with the respective Cleaner Production Centres (CPCs) and show the applicability and impact of the concept to different industries. The main elements of the projects are awareness raising, national capacity building and demonstration projects. The CPCs play a crucial role in the process of identifying local companies and other relevant stakeholders and facilitating the project's implementation

¹⁶ **UNIDO definition of chemical leasing:** Chemical leasing is a service-oriented business model that shifts the focus from increasing sales volume of chemicals, toward a value-added approach. The producer mainly sells the functions performed by the chemical and functional units are the main basis for payment. Functions performed by a chemical might include: number of pieces cleaned, amount of area coated, etc. Within chemical leasing business models, the responsibility of the producer and service provider is extended and may include the management of the entire life cycle. Chemical leasing strives for a win-win situation. It aims to increase the efficient use of chemicals while reducing the risks of chemicals, and protecting human health. It improves the economic and environmental performance of participating companies, and enhances their access to new markets.

Electronic Waste

UNIDO Cleaner and Sustainable Production Unit is implementing projects on e-waste in Uganda and Tanzania, covering all relevant stages of e-waste management: development of a detailed inventory to get an in-depth view on the situation in the concerned country; design of a take-back system to make sure a great percentage of obsolete EEE will reach the formal waste stream; establishment of a manual dismantling facility, where a first level recycling will take place, according to environmental and health standards. The facility will be connected to downstream partners on a national and international level to ensure appropriate treatment of all output fractions. As far as possible the fractions will be treated at national facilities; however the hazardous parts will most likely be exported to Europe or Asia for further end-processing at an international smelter.

UNIDO is lead member of the focal area on e-waste under the Global Partnership on Waste Management.

Sound management of mercury in Artisanal and Small-Scale Gold Mining (ASGM)¹⁷

UNIDO has been involved in this field since 1994 with active or past projects in about 20 countries. It is now widely recognised that the sector is the largest user and emitter of mercury to the environment. A global project financed by the GEF and implemented between 2002 and 2007 contributed to bring the issue in the forefront of the environmental discussions. UNIDO produced a number of guidelines during this project, including the “Protocols for Environmental and Health Assessment of Mercury Released by Artisanal and Small-Scale Gold Miners” and the “UNIDO Technical Guidelines on mercury management in artisanal and small-scale gold mining”. The UNIDO approach is to educate the miners and mining communities on the risks of mercury use, to transfer cleaner and more efficient technologies that eliminate mercury emissions (close-circuit amalgamation) and, in the long term, transfer non-mercury techniques. This is accompanied by capacity building at the government level as well. Since 2008, UNIDO is the co-lead agency of the Artisanal and Small-Scale Gold Mining area of the UNEP Global Mercury Partnership. UNIDO is actively working with its partners to assist countries in addressing their ASGM issues adequately and to ensure that the issue is properly addressed in the forthcoming internationally binding agreement on mercury.

POPs

With regard to POPs, UNIDO's services build up national capacities in the management of POPs and provide assistance to developing countries and countries with economies in transition in developing their national implementation plans (NIPs) as provided for in the Stockholm Convention. UNIDO has also developed several post-NIP projects in different areas such as introduction of BAT/BEP strategies to the industrial sector, Sound Management of PCBs and PCB wastes, removal of barriers for transfer on non-combustion technologies, management of sites contaminated with POPs, treatment and management of Medical wastes, strengthening institutions, regulations and enforcement capacities for effective and efficient implementation of the NIPs.

UNIDO endeavours to promote non-combustion technologies for the destruction of POPs waste and stockpiles through two pilot demonstration projects underway in Slovakia and the

¹⁷ See <http://www.unido.org/en/doc/9668>

Philippines. Promotion also extends through another global support project provided uniquely to NGOs in 40 countries to enable/maximize participation of NGOs in the NIPs development process and to eventually obtain ratification of the Stockholm Convention in these countries. Both projects are funded by the GEF.

2.5.2 Montreal Protocol Branch¹⁸

UNIDO is an implementing agency for the Montreal Protocol Multilateral Fund and assists developing and transition countries under this service module to phase out ODS with assistance for policy, strategy and programme design; institutional support; and enterprise level technical assistance.

2.6 UNITAR¹⁹

UNITAR is an autonomous body within the UN with a mandate to enhance the effectiveness of the UN through training and research. To meet this aim, UNITAR provides training to assist countries in meeting the challenges of the 21st century; conducts research to explore innovative training and capacity building approaches; and forms partnerships with other UN agencies, governments and NGOs for the development and implementation of training and capacity building programmes that meet countries' needs. UNITAR is governed by a Board of Trustees (BOT) which provides overall guidance to the Institute, approves its work programme, and adopts its budget.

UNITAR's Chemicals and Waste Management Programme (CWM) in Geneva emphasises cooperation among national stakeholders and international partner organizations in order to foster an integrated approach to chemicals management capacity building. UNITAR's activities are exclusively funded through external resources.

2.6.1 Programmes to Facilitate Integrated Chemicals Management and SAICM Implementation

Infrastructure and Capacity Assessments: UNITAR provides guidance, training, and technical support to assist countries in assessing their existing legal, institutional, administrative, and technical infrastructure for sound chemicals management, analysing existing capacities, gaps and needs, and undertaking initial priority setting (e.g. National Profiles, GHS situation analysis).

Integrated National Programmes for Chemicals and Waste Management: UNITAR assists countries to establish and strengthen a collaborative framework at the national level which can provide a foundation for effective and coordinated action to address both national chemicals and waste management priorities as well as the implementation of international chemicals and wastes-related agreements and initiatives, including SAICM.

SAICM Enabling and Implementation Activities: UNITAR established a SAICM implementation programme in 2006 which began with a 2006-09 pilot phase, followed by a 2010-12 phase. In the pilot phase, country projects took place in Belarus, Mongolia, Pakistan, Panama, and Tanzania over a period of three years. The 2010-12 phase focused on

¹⁸ See <http://www.unido.org/doc/5072>

¹⁹ See <http://www.unitar.org/cwm>

strengthening capacities for sound chemicals management with an emphasis on assisting countries and regions with SAICM implementation, specifically nanotechnology and addressing challenges related to mercury. Core support for the programme is provided by the Government of Switzerland.

UNITAR also supports QSP Trust Fund projects. To date, UNITAR has been serving as the international executing agency for 81 projects supported by the QSP Trust Fund (Rounds 1-12). Projects cover a range of topics including, inter alia: National Profiles, National SAICM Capacity Assessments, national SAICM priority setting, strengthening national governance, national chemicals management databases, national policies for SAICM implementation, SAICM implementation plans, Globally Harmonized System of Classification and Labelling of Chemicals (GHS), and Pollutant Release and Transfer Registers (PRTR).

2.6.2 Specialised Training and Capacity-building Programmes

Implementation of the GHS: This UNITAR/ILO GHS programme provides guidance documents, training materials, expert training and educational, awareness-raising and resource materials regarding the GHS. UNITAR/ILO are the designated focal point for capacity building in the UN ECOSOC Subcommittee of Experts on the GHS (SCEGHS). UNITAR, along with ILO and OECD, also initiated at the WSSD the Global Partnership for Capacity Building to Implement the GHS.

Design and Implementation of Pollutant Release and Transfer Registers (PRTR): UNITAR assists countries in the design and implementation of national PRTR systems through multi-stakeholder processes and is implemented in cooperation with OECD and UNEP.

Chemicals and Waste Convention Implementation: UNITAR provides support to countries to implement the Basel, Rotterdam, and Stockholm Conventions. This includes assisting countries with Stockholm Convention National Implementation Plan development/updating and implementation; PCB elimination and POPs emissions reporting; and National Action Plan development, in cooperation with the Secretariat of the Rotterdam Convention. An information document on the linkages between the GHS and the chemicals and waste conventions is also under development.

Nanotechnology/Manufactured Nanomaterials: UNITAR has embarked with partners such as OECD, and within the framework of the IOMC, to raise awareness in countries about nanotechnology/manufactured nanomaterials, including the implications for developing and transition countries as nano-based or nano-containing products are traded across borders. Activities include a series of regional awareness-raising workshops for all UN developing and transition countries. UNITAR also supports pilot projects to assist countries to develop programmatic capacities to address nano issues at the national level.

Mercury: UNITAR supports projects in developing and transition countries to prepare mercury emissions inventories using UNEP's Toolkit for Identification and Quantification of Mercury Emissions. In addition, UNITAR has provided countries with guidance to assist them to prepare national plans to reduce risks related to mercury.

UNITAR also executes a number of supporting services for capacity building, including the provision of "virtual libraries" on a variety of topics (National Profiles, GHS, PRTR) and the organization of global thematic workshops to facilitate an exchange of experience and to

identify practical steps which countries can take to systematically address certain topics of national chemicals management.

2.7 WHO²⁰

WHO, a specialised agency of the UN, strives for the attainment by all people of the highest levels of health, defined to include physical, mental and social well-being. The World Health Assembly, the supreme decision-making body of the WHO, meets once a year in May. In addition to its Headquarters, located in Geneva, WHO has six regional offices each with its own programme geared to the particular health problems of the countries it serves. Regional offices are governed by Regional Committees, with representatives of the countries in the region. There are also WHO country offices in most of the 194 Member States of the World Health Assembly.²¹

Capacity building activities of WHO related to chemical safety is undertaken largely through the International Programme on Chemical Safety (IPCS) and through regional offices and country offices. WHO/IPCS Programmes with a strong capacity building component include the following:

2.7.1 Chemical Safety at WHO Headquarters

*Poisons centres and emergency response*²²: The IPCS programme on Poisoning Prevention and Management seeks to build capacity in countries to prevent and manage human exposures to chemicals.

*IPCS INTOX Project*²³: Through a worldwide network of poison centres, first-aid and clinical management information are offered on a 24-hour basis. In addition, IPCS is responsible for the organization of a number of training courses throughout the world. Training courses are also carried out in coordination with WHO Regional Offices and organizations with an interest in this area.

Chemical Incidents: Training to countries is provided on the public health management of chemical incidents in accordance with the International Health Regulations (2005), including prevention, preparedness, detection and alert, response and recovery.

*Risk Assessment*²⁴: The WHO develops chemical risk assessment methodologies, conducts risk assessments of chemicals and provides training to strengthen capacities for human health risk assessment in countries. delivers training in chemical risk assessment.

Pesticides for Public Health: The WHO Pesticide Evaluation Scheme (WHOPES) was set up in 1960. WHOPES promotes and coordinates the testing and evaluation of pesticides for public health. It functions through the participation of representatives of governments, manufacturers of pesticides and pesticide application equipment, WHO Collaborating Centres and research institutions.

²⁰ See <http://www.who.int>

²¹ See <http://www.who.int/countries/en>

²² See http://www.who.int/ipcs/capacity_building/poisons/en

²³ See <http://www.who.int/ipcs/poisons/intox/en>

²⁴ See http://www.who.int/health_topics/risk_assessment/en

2.8 World Bank²⁵

The mission of the World Bank is to fight poverty and improve living standards of people in the developing world. As a financier of development and poverty reduction initiatives, the Bank provides lending and non-lending services, policy advice, technical assistance and knowledge to low and middle income countries for health, agriculture, infrastructure, energy, waste management and many other purposes. Capacity building for chemicals management under the Bank takes place within larger projects and programs in related sectors; through analytical and advisory assistance; and via chemicals-based projects funded through trust funds, global partnerships and international environmental financial mechanisms.

The World Bank Group's Environment Strategy 2012-2022 lays out an ambitious agenda to support 'green, clean, resilient' paths for developing countries, as they pursue poverty reduction and development in an increasingly fragile environment. Recognizing that countries cannot 'grow dirty and clean up later', the Bank Group is encouraging low-emission development strategies and innovative financing for renewable energies, climate-smart agriculture, and lower-carbon cities. It is also supporting pollution management through river clean-up and legacy pollution projects, using carbon finance funds to scale up use of cleaner stoves to reduce indoor pollution for women and children, and developing partnerships with the private sector to spur cleaner production standards and strategies.

A key element of the World Bank's assistance is to help build capacity and transfer good technical and policy practices. This is achieved through systematic priority-setting assessments such as country-level diagnostic studies and strategic environmental assessments that encourage environmental issues to be considered at the early stages of the decision-making process, as well as to integrate them into the policy dialogue and poverty reduction and country assistance strategies.

The World Bank's emphasis on national implementation and the use of country systems also allows for considerable capacity building throughout project implementation across sectors. For example, certain categories of projects will require an environmental and pest management plan to be conducted by the loan recipient. In doing so, countries develop in-country skills and institutions which specialize in risk management.

In addition, based on client countries priorities and demand, the Bank is also engaged in investment projects that directly address issues of relevance to the SAICM such as remediation of legacy pollution hot spots from a variety of contaminants, including PCBs and mercury.

As an implementing agency for the Multilateral Fund (MLF) for the Implementation of the Montreal Protocol and for the Global Environment Facility (GEF), the Bank is actively involved in enhancing client country capacity in for sound chemicals management, and in investments to reduce health and environmental impacts from hazardous substances.

POPs projects co-financed by the GEF and supported by the Bank are assisting countries in addressing all aspects of POPs management, including PCB management and disposal, obsolete pesticides management and disposal, production closure and remediation, and

²⁵ See <http://www.worldbank.org>

reduction of releases of un-intentionally produced POPs from industrial sectors and unsound waste management.

Under the MLF, the World Bank works closely with its country partners to develop country-specific approaches to help them meet treaty obligations on phasing out ozone depleting substances. Using its comparative advantage, the Bank has promoted sector and national approaches that give maximum flexibility to the countries to take the lead in overall implementation, direct funding to priority areas and develop complementary policies.

2.9 OECD²⁶

The OECD, based in Paris, was established in 1960 and now includes thirty four member countries sharing a commitment to democratic government and the market economy. The senior decision-making body is the Council of OECD ambassadors that can agree on Council Acts. The OECD Environment, Health and Safety Programme²⁷ includes the Chemicals Programme, as well as work on pesticides, biocides, chemical accidents, harmonisation of regulatory oversight in biotechnology, Pollutant Release and Transfer Registers (PRTRs), and the safety of novel foods and feeds. The main areas of work of OECD related to capacity building activity include the following:

Mutual Acceptance of Data (MAD): OECD works with non-members on their adherence to this legally binding OECD system. Non-members are full participants with the same rights and obligations as OECD countries, once they have adhered.

Good Laboratory Practice (GLP): These principles are used for the quality assurance of data and set out managerial concepts concerning the organization of test facilities as well as the conditions under which safety studies are planned, performed, monitored, recorded and reported. They are a critical element for MAD. OECD gives courses for training inspectors from member and non-member countries.

Chemical Accidents Programme: This programme began in 1988 and addresses prevention, preparedness and response related to accidents involving hazardous substances. Guiding Principles and Safety Performance Indicators are in use widely also outside the OECD. Recently, this programme has launched a document, *Corporate Governance for Process Safety: Guidance for Senior Leaders in High Hazard Industries*.

Pollutant Release and Transfer Registers (PRTRs): OECD work on PRTRs was initiated in 1993, as a follow-up to UNCED, with a project to prepare guidance for and promote the development of PRTRs. Many technical tools for use in developing and implementing PRTRs are freely available on the web.

²⁶ See <http://www.oecd.org/home>

²⁷ <http://www.oecd.org/ehs>

3. BACKGROUND ON SAICM

3.1 Summary of the SAICM Process

The SAICM development process, which started formally through a series of sessions of a Preparatory Committee (PrepComs) commencing in 2003, included a number of key milestones, including:

- UNEP Governing Council, February 2002;
- World Summit on Sustainable Development, September 2002;
- World Health Assembly, May 2003;
- International Labour Conference, June 2003;
- World Summit, September 2005;
- SAICM PrepComs 1, 2, and 3;
- First session of the International Conference on Chemicals Management (ICCM), February 2006;
- Second session of the ICCM, May 2009;
- First meeting of the Open-ended Working Group (OEWG), November 2011; and
- Third session of the ICCM, September 2012.

The development process was multi-sectoral and multi-stakeholder in nature, involving representatives of governments, NGOs and intergovernmental organizations (IGOs) drawn from sectors such as agriculture, environment, health, industry, and labour. UNEP, IOMC, and the Intergovernmental Forum on Chemical Safety (IFCS) were co-convenors of the process.

Development of SAICM culminated with its adoption by the ICCM at its first session, which was held in Dubai in February 2006. SAICM consists of three core documents (see below), supplemented by four resolutions adopted by the ICCM on implementation arrangements, the Quick Start Programme, a tribute to the Government of the United Arab Emirates and on the IFCS. The second and third sessions of the ICCM were held in May 2009 and September 2012, respectively, in order to, inter alia, review implementation and take stock of progress.

3.2 Main Outcomes of SAICM

The overall objective of the Strategic Approach is to support the achievement of the 2020 goal agreed at the 2002 Johannesburg World Summit on Sustainable Development (WSSD). The main outcomes of the SAICM process are three key documents²⁸:

Dubai Declaration on International Chemicals Management

The Dubai Declaration, adopted by Ministers, heads of delegation and representatives of civil society and the private sector, provides an agreed overview of the political commitments made for SAICM. It reflects their "...firm commitment to the Strategic Approach and its implementation." In particular, it reinforces the importance of issues such as the linkage of sound chemicals management to sustainable development and poverty eradication, contribution of SAICM to the MDGs (Millennium Development Goals), implementation of

²⁸ http://www.saicm.org/index.php?option=com_content&view=article&id=73&Itemid=475

international agreements, and the roles of non-governmental stakeholders and importance of partnerships.

Overarching Policy Strategy (OPS)

The OPS provides information on the scope of SAICM, identifies needs for effective SAICM implementation, and outlines objectives, principles, and financial and implementation arrangements. The five categories of SAICM objectives found in the OPS are:

- Risk reduction;
- Knowledge and information;
- Governance;
- Capacity-building and technical cooperation; and
- Illegal international traffic.

The Global Plan of Action (GPA)

The GPA is a more detailed document that outlines proposed work areas, activities, actors, timeframes, targets, and indicators of progress related to SAICM implementation. The GPA contains 36 work areas, and 273 activities, structured in accordance with the five categories of SAICM objectives set out in the OPS. It is recommended for use and further development as a working tool and guidance document for stakeholders implementing SAICM. Implementation of the Strategic Approach at the national level (including the initial “enabling phase”) is suggested to include the development of national implementation plans. The activities listed in the GPA are included as Annex 4.

Initial capacity building activities for implementation of Strategic Approach objectives are supported, *inter alia*, by a Quick Start Programme (QSP).²⁹ The QSP contains a voluntary, time-limited trust fund, administered by UNEP, and may include multilateral, bilateral and other forms of cooperation. The objective of the QSP is to “support initial enabling capacity building and implementation activities in developing countries, least developed countries, small island developing States and countries with economies in transition” (ICCM Resolution I/4).

3.3 Strengthening National Capacities for SAICM Implementation and the Sound Management of Chemicals

Capacity building refers to the process by which individuals, groups, organizations, institutions and countries develop their abilities, individually and collectively, to perform functions, solve problems and achieve objectives. Thus, capacity building is not necessarily linked to external assistance activities. With respect to chemicals management, capacity building includes all activities by governments, the private sector and civil society to achieve specific objectives and perform specific functions in order to reach the 2020 goal for the sound management of chemicals.

When planning and implementing a capacity building project or activity, key questions are: *What exactly is a project or specific activity meant to achieve? Which functions need to be performed (and by whom) to achieve a specific project objective or goal?* Goals requiring

²⁹ SAICM OPS, para. 19. See also http://www.saicm.org/index.php?option=com_content&view=article&id=104&Itemid=498.

capacity building may be broad and general, such as achieving the sound management of chemicals by the year 2020. Or they can be more specific and pragmatic, such as meeting obligations of a specific convention/protocol (e.g. the ILO Chemicals Convention; the Stockholm Convention; the Vienna Convention and its Montreal Protocol) or a specific standard (such as the GHS), or a pesticide registration system.

Last but not least, capacity building takes place at the national, regional, and local levels as well as in the private sector and civil society, and it is at these levels that progress must be measured. External support activities, such as those provided by IOMC Organizations, can only be facilitative and supportive in nature.

3.4 Elements of a National Chemicals Management System

In developing and agreeing on Agenda 21, Chapter 19, Programme Area E, countries agreed that a national chemicals management system should include a number of elements, which include the following:

- (a) adequate legislation,
- (b) information gathering and dissemination,
- (c) capacity for risk assessment and interpretation,
- (d) establishment of risk management policy,
- (e) capacity for implementation and enforcement,
- (f) capacity for rehabilitation of contaminated sites and poisoned persons,
- (g) effective education programmes, and
- (h) capacity to respond to emergencies.

One of the successes of SAICM is that it elaborates and provides further details for several of the above elements of Programme Area E of Chapter 19. Another challenge, both for countries and international organizations involved in capacity building, is to create bridges and identify synergies between strengthening the elements of a national infrastructure for sound chemicals management, as provided for by the above elements, and capacity building activities aimed at implementing a particular convention and its existing protocols.

3.5 Phased Approach to National SAICM Implementation

The Overarching Policy Strategy proposes that implementation of the Strategic Approach begin with an enabling phase to build the necessary capacity to develop, with stakeholder participation, a national Strategic Approach implementation plan. The plan should take into account existing national elements such as:

- Legislation;
- National profiles;
- Action plans;
- Stakeholder initiatives and gaps;
- Priorities; and
- Needs and circumstances.

The OPS also notes that subsequent implementation phases should focus on implementing specific action plans, including through the use of partnerships. In order to sustain an integrated approach to managing chemicals, each Government should establish arrangements for implementing the Strategic Approach on an interministerial institutional basis, to ensure

the representation of all national departmental and stakeholder interests. A Strategic Approach national focal point should be established in each country to facilitate the communication and information dissemination.

A challenge for countries committed to implementing SAICM will be to assess their current situation, identify priorities in line with national needs and circumstances, and implement actions in a coordinated and integrated way with the involvement of all actors and stakeholders. Fortunately, many countries and organizations involved in chemicals management are not starting from scratch and have, for example, completed National Chemicals Management Profiles (which document and assess the current infrastructure and capacities for chemicals management) or National Implementation Plans under the Stockholm Convention (which outline actions to be taken towards fulfilling obligations under the Convention).

4. DOCUMENTS TO FACILITATE THE DEVELOPMENT OF A GOVERNANCE FRAMEWORK FOR NATIONAL SAICM IMPLEMENTATION

This section of the document provides an overview of resource, guidance and training materials that are available through the IOMC to support countries in implementing an enabling phase for SAICM implementation. This phase would focus on development of national governance structure for SAICM implementation involving key sectors and stakeholder, completing a situation and gap analysis, and setting priorities for action plan development. Relevant resource documents have been grouped around major themes raised by SAICM including:

- Integrating Chemicals Management into National Development Priorities;
- Developing a Sound Institutional and Programmatic National Framework;
- Effective Project Planning, Implementation, Monitoring and Evaluation;
- Participation of the Private Sector and Non Profit Civil Society; and
- Legislation and Enforcement.

4.1 Integrating Chemicals Management into National Development Priorities

Organizations that provide support for chemicals-related capacity building activities at the national level are calling for such activities to be reflected in a country's overall national development priorities. National priorities related to chemicals management can be reflected in a number of ways, for example, through their appearance in a national sustainable development strategy, or a national poverty reduction paper. This issue has also been raised by countries, IGOs, and other participants as an important factor during the ongoing deliberations on SAICM. If chemicals-related activities are not identified in development plans that represent the result of consensus-building at the national level, donor support to chemicals-related activities may be less likely.

Mechanisms for Integrating Chemicals Management into Development Priorities

Relevant materials relating to the integration of chemicals management into national development priorities include the following:

FAO				
Strategic Programme 2006-2011 for the implementation of the revised version of the International Code of Conduct on the Distribution and Use of Pesticides http://www.fao.org/ag/agp/agpp/pesticid/Cod e/Download/Strategyguideline06.pdf	FAO	2006	29 pp.	English
UNDP				
Integrating the Sound Management of Chemicals into MDG-Based Development Planning	UNDP BDP Montreal Protocol Unit / Chemicals	2012	67 pp.	English

UNDP-UNEP Partnership Initiative: Integration of SMC into Development Planning	UNDP BDP Montreal Protocol Unit/ Chemicals	2012	12 pp.	English, French, Spanish
Practitioner's Guide: Capacity Development for Environmental Sustainability	UNDP Capacity Development Group	2011	95 pp.	English, French
Chemicals and gender	UNDP BDP Montreal Protocol Unit/ Chemicals	2011	26 pp.	English, Spanish
Enabling local success: A Primer on Mainstreaming Local Ecosystem-Based Solutions to Poverty-Environment Challenges	UNDP Poverty and Environment Initiative	2011	76 pp.	English
Managing Chemicals for Sustainable Development: Sound Management of Persistent Organic Pollutants, Ozone-depleting Substances and Other Chemicals http://www.undp.org/chemicals/	UNDP BDP Montreal Protocol/ Chemicals Unit	2007	28 pp.	English, French, Spanish

UNEP				
Research Guide for Assessing National Capacities for Environmental Economics in Developing Countries and Countries with Economies in Transition http://www.unep.org/hazardoussubstances/Portals/9/Mainstreaming/UNEP%20UNDP%20PI_Eco/Research%20Guide%20for%20Assessing%20National%20Capacities%20for%20Env.Economics%20in%20DCs%20and%20CEITs.pdf	UNEP/ DTIE Chemicals Branch	2010	7 pp.	English
Supplemental Cost-Benefit Economic Analysis Guidance http://www.unep.org/hazardoussubstances/Portals/9/Mainstreaming/UNEP%20UNDP%20PI_Eco/Supplemental%20Costs%20Benefit%20Economic%20Analysis.pdf	UNEP/ DTIE Chemicals Branch	2009	28 pp.	English
Curriculum Outline for a 5-Day Training Course in Economic Cost-Benefit Analysis Relevant to Policies for Sound Management of Chemicals (SMC) http://www.unep.org/hazardoussubstances/Portals/9/Mainstreaming/UNEP%20UNDP%20PI_Eco/Curriculum%20Outline%20for%20Training.pdf	UNEP/ DTIE Chemicals Branch	2009	8 pp.	English

UNIDO				
Preparing for HCFC phase-out: Fundamentals of uses, alternatives, implication and funding for Article 5 countries	UNIDO	2009	229 pp	English

UNITAR				
Resource Mobilization for the Sound Management of Chemicals and Waste http://www2.unitar.org/cwm/publications/inp.aspx	UNITAR	2011	24 pp.	English, French
Fact Sheets on Bilateral Assistance for Chemicals Management http://www2.unitar.org/cwm/publications/inp.aspx	UNITAR	2001	72 pp.	English

WORLD BANK				
Opportunities for Integrating Sound Chemicals Management into Development Planning: An Information Paper http://www.unep.org/delc/Portals/119/Opportunitiesformainstreamingworldbank%20paper.pdf	World Bank	2006	43 pp.	English
Integrating Environmental Considerations in Policy Formulation: Lessons from Policy-Based SEA Experience http://siteresources.worldbank.org/INTUNITFESSD/Resources/integratingenvironmental.pdf	World Bank	2005	86 pp.	English
Strategic environmental assessment in policy and sector reform : conceptual model and operational guidance http://siteresources.worldbank.org/ENVIRONMENT/Resources/244380-1236266590146/Policy_SEA_WB.pdf	World Bank	2011	226 pp.	English

OECD				
Greening Development: Enhancing Capacity for Environmental Management and Governance. <i>This guidance outlines a number of steps to be considered when building capacity for greening national development planning, national budgetary processes and key economic sector strategies</i> http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=COM/ENV/EPOC/DCD/DAC(2011)1/FINAL&docLanguage=En	OECD	2012	100 pp.	English, French, Spanish

Strategic Environmental Assessment in Development Practice: Review of Recent Experience. <i>This report showcases on-ground experience of applying Strategic Environmental Assessment (SEA) in developing country context. It presents key findings from applications of SEA in nice countries: Vietnam, Bhutan, Namibia, Mauritius, Benin, Ghana, Sierra Leone, Honduras, and Montenegro. Based on these case studies, the report suggests six recommendations to improve SEA practice in developing countries</i> http://www.oecd.org/document/47/0,3746,en_2649_201185_49917935_1_1_1_1,00.html	OECD	2012	123 pp.	English
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4.2 Developing a Sound Institutional and Programmatic National Framework

A number of countries have taken steps to link their chemicals management capacity activities and projects within a national “programmatic” framework for the sound management of chemicals. A core feature of a programmatic approach is that it represents a long term national commitment to chemicals management where relevant government sectors establish and participate in a national chemical safety coordinating mechanism, while maintaining their independence to execute individual components and projects within their mandate and competence. Development of a *National Programme for the Sound Management of Chemicals* allows countries to conduct a strategic evaluation of progress made and challenges faced at the national level towards reaching the WSSD 2020 goals and the targets established by SAICM.

Establishing an Interministerial Coordination Mechanism

UNDP				
Integrating the Sound Management of Chemicals into MDG-Based Development Planning	UNDP BDP Montreal Protocol Unit/ Chemicals	2012	67 pp.	English
CP #07: Multi-Stakeholder Engagement Processes http://www.capacity.undp.org/indexAction.cfm?module=Library&action=GetFile&DocumentAttachmentID=1945	UNDP BDP/ CDG	2006	29 pp.	English

UNEP				
Test Version. Draft. Guidance on the development of Legal and Institutional Infrastructures for Sound Management of Chemicals and measures for Recovering Costs of national Administration http://www.unep.org/hazardoussubstances/Po	UNEP/ DTIE Chemicals Branch	2012	84 pp.	English

rtals/9/Mainstreaming/LIRA-Country%20Workshop/LIRA%20Guidance/LIRA%20Guidance_Test%20version_01.2012.pdf				
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UNITAR				
Guidance for Developing a National Nanotechnology Policy and Programme http://www.unitar.org/cwm/sites/unitar.org.cwm/files/UNITAR_nano_guidance_Pilot_Edition_2011.pdf	UNITAR	2011	80 pp.	English
Guidance for Developing SAICM Implementation Plans http://www2.unitar.org/cwm/publications/inp.aspx	SAICM Secretariat/ UNITAR/ IOMC	2009	61 pp.	Arabic, Chinese, English, French, Russian, Spanish
Developing and Sustaining an Integrated National Programme for Sound Chemicals Management http://www2.unitar.org/cwm/publications/inp.aspx	UNITAR	2004	72 pp.	Arabic, Chinese, English, French, Russian, Spanish
Interministerial Coordination for the Sound Management of Chemicals – Thematic Workshop Final Report http://www2.unitar.org/cwm/publications/inp.aspx	UNITAR	2002	39 pp.	English
Interministerial Coordination for Sound Chemicals Management, Guidance Note – 2001 Edition http://www2.unitar.org/cwm/publications/inp.aspx	UNITAR	2001	18 pp.	English, French, Russian, Spanish
Key Elements of a National Programme for Chemicals Management and Safety http://www2.unitar.org/cwm/publications/cw/inp/key_elements.pdf	UNITAR/ IOMC	1998	115 pp.	English

Setting National Priorities

UNDP				
Implementing the Paris Declaration on Aid Effectiveness	UNDP Capacity Development Group	2011	32 pp.	English

UNITAR				
Preparing a National Profile to Assess Infrastructure and Capacity Needs for Chemicals Management: A Guidance Document (2nd Edition 2012) http://www2.unitar.org/cwm/publications/inp.aspx	UNITAR/IOMC	2012	99 pp.	English, French, Spanish
Developing a Capacity Assessment for the Sound Management of Chemicals and National SAICM Implementation: Guidance Document http://www2.unitar.org/cwm/publications/inp.aspx	UNITAR/IOMC	2007	47 pp.	Arabic, Chinese, English, French, Spanish, Russian
Organizing a National Priority Setting Workshop for the Sound Management of Chemicals http://www2.unitar.org/cwm/publications/inp.aspx	UNITAR	2005	31 pp.	English, French, Spanish

Information Exchange Mechanisms

UNEP				
Chemical Information Exchange Network Internet training: participant's manual	UNEP	2002	76 pp.	English

UNIDO				
Green Industry Platform for high-level governmental, business and civil society leaders	UNIDO	2012	Web-based portal	English
Global Network of Resource Efficient and Cleaner Production (RECPnet) www.recpnet.org	UNIDO-UNEP	2011	Web-site	English

UNITAR				
Preparing a National Profile to Assess Infrastructure and Capacity Needs for Chemicals Management: A Guidance Document (2nd Edition 2012) http://www2.unitar.org/cwm/publications/inp.aspx	UNITAR/IOMC	2012	99 pp.	English, French, Spanish
Information Exchange for Sound Chemicals Management, Guidance Note – 2001 Edition http://www2.unitar.org/cwm/publications/inp.aspx	UNITAR	2001	12 pp.	English, French, Spanish

Strengthening National Information Systems and Information Exchange for the Sound Management of Chemicals: Observations and Conclusions of an International Expert Meeting. Thematic Session (No.1) http://www2.unitar.org/cwm/publications/tw.aspx	UNITAR	1998	42 pp.	English
OECD				
OECD Environmental Outlook to 2050: The Consequences of Inaction; Chapter 6 – Health and Environment http://www.oecd.org/document/46/0,3746,en_2649_37465_49742254_1_1_1_37465,00.html	OECD	2012	57 pp. (Ch.6)	English, French
Cutting Costs in Chemicals Management; HOW OECD HELPS GOVERNMENTS AND INDUSTRY http://www.oecd.org/dataoecd/55/4/47813784.pdf	OECD	2010	46 pp.	English, French
Guidance on definitions of key terms for new chemical notification http://www.oecd.org/officialdocuments/displaydocumentpdf/?cote=env/jm/mono(2007)13&doclanguage=en	OECD	2007	6 pp.	English
Pilot Phase of the OECD parallel process for the notification of new chemicals. <i>The Parallel Process refers to a company notifying to multiple jurisdictions and authorizing participating governments to sharing information when conducting their reviews</i>	OECD	2006	8 pp.	English
OECD Environmental Outlook for the Chemicals Industry http://www.oecd.org/dataoecd/7/45/2375538.pdf	OECD	2001	164 pp.	English

4.3 Effective Project Planning, Implementation, Monitoring and Evaluation

Through specific projects concrete progress can be made towards building capacities for the sound management of chemicals and achievement of the WSSD 2020 Goal. In the perspective of the IOMC, a number of characteristics contribute towards the sustainable impact of capacity building projects. These include, for example:

- Multi-sectoral and multi-stakeholder consultation/participation in project design and implementation;
- Sound project planning, monitoring and evaluation;
- Evaluation of the sustainability of the capacity and infrastructure;

- Building on the experiences gained and lessons learned from previous projects and activities; and
- Solid linkages of project and activity goals to overall programmatic priorities.

Project Planning

UNDP				
Integrating the Sound Management of Chemicals into MDG-Based Development Planning	UNDP BDP Montreal Protocol Unit/ Chemicals	2011	67 pp.	English
Practitioner's Guide: Capacity Development for Environmental Sustainability	UNDP Capacity Development Group	2011	95 pp.	English, French

UNEP/UNIDO				
Organization, Management and Governance Practices: a primer for providers of services in Resource Efficient and Cleaner Production	UNIDO, UNEP	2010	37 pp.	English
Manual on operations under multilateral environmental agreements: Montreal Protocol on Substances that Deplete the Ozone Layer and Stockholm Convention on Persistent Organic Pollutants	UNIDO	2009	181 pp.	English
Cleaner Production Toolkit - One step ahead makes a difference	UNIDO	2007	CD and on-line	English, Spanish

UNITAR				
Guidance on Action Plan Development for Sound Chemicals Management, Guidance Document – 2009 Edition http://www2.unitar.org/cwm/publications/inputs.aspx	UNITAR	2009	65 pp.	Arabic, Chinese, English, French, Russian, Spanish
Developing a Gantt and PERT Chart, Draft Training Manual http://www2.unitar.org/cwm/publications/pop.s.aspx	UNITAR	2004	19 pp.	English
Synergies for Capacity Building under International Agreements Addressing Chemicals and Waste Management http://www2.unitar.org/cwm/publications/inputs.aspx	UNITAR	2004	18 pp.	English, French

Strengthening National Capabilities and Capacities for the Sound Management of Chemicals: Observations and Conclusions of an International Expert Meeting – Montezillon, Switzerland, August 1996 http://www2.unitar.org/cwm/publications/irm.aspx	UNITAR	1996	57 pp.	English
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WORLD BANK				
Practical Guidebook on Strategic Planning in Municipal Waste Management http://www.bertelsmann-stiftung.de/cps/rde/xbr/SID-0A000F14-369496FA/bst_engl/SolidWasteGuidebook.pdf	World Bank	2003	103 pp.	English

Monitoring and Evaluation

FAO				
Guidelines on Monitoring and Observance of the Code of Conduct http://www.fao.org/ag/AGP/AGPP/Pesticid/Code/Guidelines/Monitoring.htm	FAO	2006	32 pp.	English

UNDP				
Handbook on Planning, Monitoring and Evaluating for Development Results	UNDP	2009	220 pp.	English

UNEP				
Standardized Toolkit for Identification and Quantification of Dioxin and Furan Releases: Air, Water, Land, Products, Residues: 2nd edition http://www.chem.unep.ch/Pops/pcdd_activities/toolkit/default.htm	UNEP	2005	253 pp.	Arabic, English, Russian, Spanish
Standardized Toolkit for Identification and Quantification of Dioxin and Furan Releases: Air, Water, Land, Products, Residues: 1st edition	UNEP	2003	234 pp.	Arabic, English, French, Russian

UNIDO				
Sustainability Criteria - Chemical Leasing http://www.chemicalleasing.com/sub/down.htm	UNIDO	2012	4 pp.	English
Enterprise Level Resource Productivity and Pollution Intensity Indicators: a primer for small and medium enterprises, UNIDO and UNEP, 2010	UNIDO, UNEP	2010	56 pp.	English

4.4 Legislation and Enforcement

Legislation and associated regulations comprise an important component of national chemicals management. Overarching legislation can establish a generic legal framework for the control of chemicals and make the basic principles of sound chemicals management legally binding. The legislative framework should be integrated across all sectors and should seek to address the entire life cycle of chemicals, including importation, manufacture, processing, storage, transport, use, disposal and recycling. The existence of a comprehensive and well coordinated legal framework can help to avoid piecemeal, overlapping, or conflicting regulations.

Legislation, Regulations and Policies—General

FAO				
International Code of Conduct on the Distribution and Use of Pesticides http://www.fao.org/ag/AGP/AGPP/Pesticid/code/PM_Code.htm	FAO	2005	36 pp.	Arabic, Chinese, English, French, Spanish
UNEP				
Test Version. Draft. Guidance on the development of Legal and Institutional Infrastructures for Sound Management of Chemicals and measures for Recovering Costs of national Administration http://www.unep.org/hazardoussubstances/Po rtals/9/Mainstreaming/LIRA-Country%20Workshop/LIRA%20Guidance/LIRA%20Guidance_Test%20version_01.2012.pdf	UNEP/DTIE Chemicals Branch	2012	84 pp.	English
Indicators-based Environmental Performance Assessment for China's Total Emission Reduction Policy during the 11th FYP (2006-2010) <i>Prepared by: Yang Weishan, Dr. Zhao Xuetao and Mr. Cao Dong, CEDAA/Center for Environmental Data Application & Analysis, CAEP/Chinese Academy for Environmental Planning CAEP</i>	UNEP CAEP	2012	54 pp.	Chinese, English
A Flexible Framework for Addressing Chemical Accident Prevention and Preparedness. Guidance: http://www.unep.fr/scp/sp/saferprod/pdf/UN_Flexible_Framework_WEB_FINAL.pdf	UNEP/DTIE Sustainable Consumption and Production Branch	2010	188 pp.	English
Guide on the Development of National Laws to Implement the Rotterdam Convention	UNEP/FAO	2005	60 pp.	English, French, Spanish

Protecting human health and the environment: a guide to the Rotterdam Convention on hazardous chemicals and pesticides	UNEP	2004	20 pp.	English
Guidance to Designated National Authorities (DNAs) on the Operation of the Rotterdam Convention	UNEP/FAO	2004	31 pp.	English, French, Spanish
Decision Guidance Documents on chemicals subject to the PIC procedure	UNEP/FAO	2002-2006		English

UNIDO

UNIDO Green Industry: policies for supporting green industry	UNIDO	2011	88 pp.	English
POPs in Africa: Skillshare and Workshop (July 2002, Tanzania). Ratifying and Implementing the Stockholm Convention	IPEN/UNIDO	2003	5 pp.	English

UNITAR

Development of a National Capacity Assessment and National Action Plan for Implementation of the Rotterdam Convention: Guidance Document http://www2.unitar.org/cwm/publications/rotterdam_convention.aspx	UNITAR/UNEP/FAO	2009	55 pp.	English, French
Developing and Strengthening National Legislation and Policies for the Sound Management of Chemicals – Final Report http://www2.unitar.org/cwm/publications/tw.aspx	UNITAR	1999	62 pp.	English, French

WHO

Events of international public health concern, including chemical events – International Health Regulations (2005) http://www.who.int/ihr/en/	WHO	On-going since 2007		Arabic, Chinese, English, French, Russian, Spanish
Children's health and environment: developing action plans. Lucianne Licari, Leda Nemer, and Giorgio Tamburlini http://www.euro.who.int/document/E86888.pdf	WHO Regional Office for Europe	2005	94 pp.	English
Children's environment and health action plan for Europe: fourth Ministerial Conference on Environment and Health, Budapest, Hungary, 23-25 June 2004 http://www.euro.who.int/document/e83335.pdf	WHO Regional Office for Europe	2004	13 pp.	English

Public Health and Chemical Incidents: Guidance for National and Regional Policy Makers in the Public/Environmental Health Roles http://www.who.int/ipcs/publications/en/Public_Health_Management.pdf	WHO	1999	118 pp.	English
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WORLD BANK				
Study on Financing the Destruction of Unwanted Ozone-Depleting Substances through the Voluntary Carbon Market http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/ENVIRONMENT/EXTTMP/0,,contentMDK:22587937~menuPK:1247163~pagePK:148956~piPK:216618~theSitePK:408230~isCURL:Y,00.html	World Bank	2010	129 pp.	English
The Global Pursuit of the Sound Management of Chemicals http://siteresources.worldbank.org/INTPOPS/Publications/20486416/GlobalPursuitOfSoundManagementOfChemicals2004Pages1To67.pdf (part I) http://siteresources.worldbank.org/INTPOPS/Publications/20486423/GlobalPursuitOfSoundManagementOfChemicals2004Pages68To83.pdf (part II)	World Bank	2004	83 pp.	English
Toxics and Poverty: The Impact of Toxic Substances on the Poor in Developing Countries http://siteresources.worldbank.org/INTPOPS/Publications/20486400/TOXICStext917w.pdf	World Bank	2002	57 pp.	English

OECD				
Proceedings of the OECD Workshop on Non-Regulatory Initiatives for Chemical Risk Management http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=OCDE/GD(97)97&docLanguage=En	OECD	1997	200 pp.	English

Pesticides Legislation and Policies

FAO				
Pesticide Legislation Guidelines: National Pesticide Law Reform: A Guide (In preparation)	FAO			

Pest and Pesticide Management Policy Guidelines: Guidelines on pest and pesticide management policy development (<i>In preparation</i>)	FAO			
Guidelines for legislation on the control of pesticides (<i>Planned to be updated</i>) http://www.fao.org/ag/AGP/AGPP/Pesticid/C ode/Guidelines/Legislation2.htm	FAO	1989	16 pp.	English

UNITAR/UNEP

Decision Trees to Assist with the Implementation of the Stockholm Convention http://www2.unitar.org/cwm/publications/pops.aspx	UNITAR/ UNEP	2009	15 pp.	Arabic, Chinese, English, French, Russian, Spanish
Preparing/Updating a National Profile as Part of a Stockholm Convention National Implementation Plan, Companion Guidance Note http://www2.unitar.org/cwm/publications/pops.aspx	UNITAR/ UNEP	2003	38 pp.	English, French, Spanish

WHO

Management of Public Health Pesticides http://www.who.int/whopes/recommendations/en/ http://www.who.int/whopes/en/	WHO/ Pesticide Evaluation Scheme (PES)	On-going	Web-site	English, French, Spanish
The WHO Recommended Classification of Pesticides by Hazard and Guidelines to Classification http://www.who.int/ipcs/publications/pesticides_hazard/en/	WHO	2009	78 pp.	English
Global Strategic Framework for Integrated Vector Management http://www.searo.who.int/LinkFiles/Publications_and_Documents_OMS_CDS.pdf	WHO	2004	15 pp.	English

OECD

Pesticide Compliance and Enforcement Best Practice Guidance (<i>About to be published</i>)	OECD	2012	45 pp.	English
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Policies for Pollution Prevention and Cleaner Production

GEF/UNDP/UNIDO				
Identification, assessment and prioritization of Pollution Hot Spots	UNIDO	2002	142 pp.	

UNIDO				
Manual on the Development of Cleaner Production Policies – Approaches and Instruments. Guidelines for National Cleaner Production Centers and Programmes; One step ahead makes a difference <i>Training Kit</i> http://www.unido.org/en/doc/5136	UNIDO	2002	141 pp.; CD and on-line	English

WORLD BANK				
Getting to Green - A Sourcebook of Pollution Management Policy Tools for Growth and Competitiveness http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/ENVIRONMENT/0,,contentMDK:22856237~pagePK:210058~piPK:210062~theSitePK:244381,00.html#	World Bank	2012	Various documents	English
General Environmental, Health and Safety Guidelines http://www1.ifc.org/wps/wcm/connect/Topics_Ext_Content/IFC_External_Corporate_Site/IFC+Sustainability/Sustainability+Framework/Environmental%2C+Health%2C+and+Safety+Guidelines/	World Bank (IFC)	2007	99 pp.	Arabic, Chinese, English, French, Russian, Spanish

OECD				
Need for Research and Development Programmes in Sustainable Chemistry http://www.oecd.org/dataoecd/9/55/2079870.pdf	OECD	2002	27 pp.	English
Extended Producer Responsibility - A Guidance Manual for Governments http://www.oecdbookshop.org/oecd/display.asp?sfl=identifiers&stl=972001041PI	OECD	2001	161 pp.	English

4.5 Participation of the Private Sector and Non Profit Civil Society in Chemicals Management

Civil society and the private sector have major roles in chemicals management capacity building. The private sector, in particular industry, can be a net contributor to supporting capacity building, especially given increasing calls by government for this sector to work in partnerships for sustainable development. Where industry is involved, systems can be developed that work on a cost recovery basis to ensure sustainability. Civil society will be

involved in certain aspects of chemicals management capacity building activities. Multilateral organizations such as the GEF and the Multilateral Fund for the Implementation of the Montreal Protocol, for example, recognize the potential of civil society and the private sector to assist governments in the "delivery" of chemicals-related commitments.

Voluntary Initiatives in the Private Sector

UNDP/PPPUE/IBLF				
Public Private Partnership Resources and Tools http://www.capacity.undp.org/index.cfm?module=ActiveWeb&page=WebPage&s=public_private_partn	UNDP/PPPUE	2004	Web-site	English
Business and the MDGs: A Framework for Action <i>This booklet by UNDP and the Prince of Wales International Business Leaders Forum (IBLF) suggests a framework of three kinds of activities: core business, social investment and philanthropic, and engagement in policy dialogue and advocacy action.</i> http://www.iblf.org/resources/general.jsp?id=56	UNDP/IBLF	2003	32 pp.	English

UNEP				
Responsible Production - A Framework for Chemical Hazard Management for Small and Medium Sized Enterprises http://www.unep.fr/scp/sp/saferprod/initiatives.htm#rp	UNEP/DTIE Sustainable Consumption and Production Branch		Web portal	English
Responsible Production Learners and Trainers Companion	UNEP/DTIE Sustainable Consumption and Production Branch	2011	Interactive CD	English
Responsible Production Booklet: a Framework for Chemical Hazard Management for Small and Medium Sized Enterprises. Incorporating best practice from Safer Production, APELL and Corporate Social Responsibility http://www.unep.fr/scp/sp/saferprod/pdf/Responsible_Production_Framework.pdf	UNEP/DTIE Sustainable Consumption and Production Branch	2010	87 pp.	Arabic, Chinese, English, French, Spanish, Thai, Vietnamese

Responsible Production Guidance and Toolkit http://www.unep.fr/scp/sp/saferprod/pdf/Responsible_Production_Toolkit.pdf	UNEP/ DTIE Sustainable Consump- tion and Production Branch	2010	137 pp.	Arabic, Chinese, English, French, Spanish, Thai, Vietna- mese
Responsible Production Training Package http://www.unep.fr/scp/sp/saferprod/pdf/Responsible_Production_Training_Package.pdf	UNEP/ DTIE Sustainable Consump- tion and Production Branch	2010	137 pp.	Chinese, English

UNIDO				
UNIDO Green Industry Platform	UNIDO	2012	Web plat- form	English
ChL annual report 2011	UNIDO	2012	41 pp.	English
Chemical leasing toolkit	UNIDO	2011	CD	English
Chemical leasing: a global success story	UNIDO	2011	32 pp.	English
Applying sustainability criteria for ChL business cases at the global level	UNIDO	2011	46 pp.	English
ChL website www.chemicalleasing.com	UNIDO	2009	Web- site	English
Chemical Leasing goes global Selling Services Instead of Barrels: A Win-Win Business Model for Environment and Industry	UNIDO/ Federal Ministry of Agriculture, Forestry, Environment and Water Management of Austria	2008	245 pp.	English
The Chemical Leasing (ChL) approach, a new and innovative instrument to promote sustainable management of chemicals	UNIDO	2006	Video	English
Sustainable Supply Chains – The Global Compact Case Studies	UNIDO	2005	30 pp.	English
Survey of Small and Medium Enterprises in the Global Compact	UNIDO	2004	55 pp.	English
CORPORATE SOCIAL RESPONSIBILITY Implications for Small and Medium Enterprises in Developing Countries, Box 12: Sector Focus: Chemicals	UNIDO	2002	1 p.	English

UNITAR				
PRTR guidance package http://www2.unitar.org/cwm/publications/prtr.aspx	UNITAR	2012		English

WORLD BANK				
Industry Sector Guidelines, including on pulp and paper, crop production, waste management, pesticide formulation, cement manufacturing (<i>Individual documents</i>) http://www1.ifc.org/wps/wcm/connect/Topics_Ext_Content/IFC_External_Corporate_Site/IFC+Sustainability/Sustainability+Framework/Environmental%2C+Health%2C+and+Safety+Guidelines/	World Bank (IFC)	2007	Various documents	English

Capacities of Civil Society

UNDP				
Integrating the Sound Management of Chemicals into MDG-Based Development Planning	UNDP BDP Montreal Protocol Unit/ Chemicals	2012	67 pp.	English
The Future of Participatory Civil Society Assessments: A Conceptual Analysis	UNDP	2011	46 pp.	English
A Users' Guide to Civil Society Assessments	UNDP	2010	68 pp.	English
UNDP and Civil Society Organizations: A Policy of Engagement http://www.undp.org/content/undp/en/home/librarypage/operations/donors_partners/civil_society/undp_and_civil_societyorganizations/apolicyofengagement.html	UNDP	2001	12 pp.	English

UNITAR				
Preparing a National Profile to Assess National Capacities for Implementation of Principle 10 of the Rio Declaration http://www.unitar.org/egp/publications	UNITAR	2008	91 pp.	English, French, Spanish
Preparing a National Profile to Assess National Capacities for Implementation of the Aarhus Convention http://www.unitar.org/egp/publications	UNITAR	2004	100 pp.	English, Russian

WORLD BANK				
Issues and Options for Improving Engagement Between the World Bank and Civil Society Organizations http://siteresources.worldbank.org/CSO/Resources/Issues_and_Options_PUBLISHED_VERSION.pdf	World Bank	2005	75 pp.	English

OECD				
Proceedings of the OECD Workshop on Non-Regulatory Initiatives for Chemical Risk Management http://www.oecd.org/officialdocuments/displaydocument/?doclanguage=en&cote=ocde/gd(97)97	OECD	1997	200 pp.	English

5. RESOURCE DOCUMENTS ADDRESSING SPECIFIC TOPICS OF CHEMICALS MANAGEMENT

This section provides references to a range of documents developed by IOMC POs in support of specific chemicals management capacity building activities. In light of the complexity of chemicals management and the diversity of programmes and documents available, documents have been grouped in five main sections, with sub-sections as appropriate. The five main sections include:

- Information generation and dissemination;
- Risk management/reduction;
- Education and awareness raising;
- Accident prevention and control; and
- Analytical and laboratory capacity.

In developing the structure, care has been taken to build upon the agreed SAICM objectives and to take into consideration prior work in the area of national chemicals management, namely Chapter 19 of Agenda 21. Table 1 provides an overview of the main categories and indicates those SAICM objectives to which they relate.

Table 1: Overview of main categories

Subsection	SAICM Objective				
	Risk reduction	Knowledge and information	Governance	Capacity building and technical cooperation	Illegal international trade
Information generation and dissemination	x	x	x	x	x
Risk management/reduction	x			x	x
Accident prevention and control	x	x		x	
Education and awareness raising	x	x		x	
Analytical and laboratory capacity		x		x	x

5.1 Information Generation and Dissemination

Information is pivotal to a successful chemicals management programme. Ideally, the information should be comprehensive, validated and up-to-date. For the purposes of chemicals management, information is required to: identify chemicals of concern; assess problems that may arise and identify populations and environments at risk; implement focused and effective risk management programmes; monitor and evaluate health and environmental risks; raise awareness; and prepare and respond to chemical accidents and emergencies.

In the collection, processing and dissemination of information it is important to consider the ultimate users. This may be national authorities seeking to assess chemicals and take appropriate regulatory action, local authorities assessing risks in their community, workers handling chemicals, and the public when taking action to reduce their own exposure. The

level of detail and the technical nature of information, as well as the nature and format of the documentation, should vary according to the needs of the various groups.

Hazard Identification, Classification and Labelling (GHS)

FAO				
The Implementation of the Globally Harmonized System of Classification and Labelling of Chemicals – FAO's position paper http://www.fao.org/ag/AGP/AGPP/Pesticid/Code/Guidelines/Registration9.htm	FAO	2007	5 pp.	English
Guidelines on good labeling practice for pesticides (Revised version available in October 2007) http://www.fao.org/ag/AGP/AGPP/Pesticid/Code/Guidelines/Registration9.htm	FAO	1995	59 pp.	English

ILO/WHO				
International Chemical Safety Cards (ICSCs) http://www.ilo.org/public/english/protection/safework/cis/products/icsc/index.htm	ILO CIS	On-going		English, Dutch, Chinese, Estonian, Finnish, French, German, Hindi, Hungarian, Italian, Japanese, Korean, Russian, Spanish, Swahili, Thai, Urdu, Vietnamese

UNITAR/ILO				
The GHS and the Global Partnership, a success story from Rio to Rio: Achievements, lessons learned and future directions, June 2012 http://www2.unitar.org/cwm/publications/ghs.aspx	UNITAR/ILO/OECD	2012	32 pp.	English

Developing a National GHS Implementation Strategy, September 2010 Edition http://www2.unitar.org/cwm/publications/ghs.aspx	UNITAR/ ILO	2010	82 pp.	English, French, Russian, Spanish
Understanding the GHS: A Companion Guide to the Purple Book, June 2010 Edition http://www2.unitar.org/cwm/publications/ghs.aspx	UNITAR/ ILO	2010	98 pp.	English, French, Russian, Spanish
GHS Stocktaking Workshop for Southeast, East, and Central Asia, Beijing, PR China, 15-17 September 2010 http://www2.unitar.org/cwm/publications/ghs.aspx	UNITAR/ ILO	2010	58 pp.	English
WSSD Global Partnership for Capacity Building to Implement the Globally Harmonized System of Classification and Labelling of Chemicals (GHS), Annual Report 2010 http://www2.unitar.org/cwm/publications/ghs.aspx	UNITAR/ ILO/OECD	2010	62 pp.	English
WSSD Global Partnership for Capacity Building to Implement the Globally Harmonized System of Classification and Labelling of Chemicals (GHS), Annual Report 2009 http://www2.unitar.org/cwm/publications/ghs.aspx	UNITAR/ ILO/OECD	2009	60 pp.	English
IOMC: Assisting Countries with the Transition Phase for GHS Implementation (tools and resources of the IOMC to support implementation of the GHS) http://www2.unitar.org/cwm/publications/ghs.aspx	UNITAR/ ILO/IOMC	2008	24 pp.	Arabic, Chinese, English, French, Russian, Spanish
WSSD Global Partnership for Capacity Building to Implement the Globally Harmonized System of Classification and Labelling of Chemicals (GHS), Annual Report 2008 http://www2.unitar.org/cwm/publications/ghs.aspx	UNITAR/ ILO/OECD	2008	54 pp.	English
Chemical Hazard Communication and GHS Capacity Building Library, 2 nd Edition, 2007 http://www2.unitar.org/cwm/publications/ghs.aspx	UNITAR/ ILO	2007	CD	English

WSSD Global Partnership for Capacity Building to Implement the Globally Harmonized System of Classification and Labelling of Chemicals (GHS), Annual Report 2007 http://www2.unitar.org/cwm/publications/ghs.aspx	UNITAR/ ILO/OECD	2007	58 pp.	English
GHS Conference for ASEAN: Implementation Towards 2008 and Beyond, Jakarta, Indonesia, 9-11 May 2007 http://www2.unitar.org/cwm/publications/ghs.aspx	UNITAR/ ILO	2007	68 pp.	English
WSSD Global Partnership for Capacity Building to Implement the Globally Harmonized System of Classification and Labelling of Chemicals (GHS), Annual Report 2006 http://www2.unitar.org/cwm/publications/ghs.aspx	UNITAR/ ILO/OECD	2006	55 pp.	English
Regional Workshop on Chemical Hazard Communication and GHS Implementation for Countries of the Arab Region, Alexandria, Egypt, 30 October - 2 November http://www2.unitar.org/cwm/publications/ghs.aspx	UNITAR/ ILO	2006	46 pp.	Arabic, English, French
Regional Workshop on Chemical Hazard Communication and GHS Implementation for Countries of Central and Eastern Europe and Central Asia, Bled, Slovenia, 24-25 October 2006 http://www2.unitar.org/cwm/publications/ghs.aspx	UNITAR	2006	38 pp.	English
WSSD Global Partnership for Capacity Building to Implement the Globally Harmonized System of Classification and Labelling of Chemicals (GHS), Annual Report 2005 http://www2.unitar.org/cwm/publications/ghs.aspx	UNITAR/ ILO/OECD	2005	52 pp.	English
Global Thematic Workshop on Capacity Building to Implement the GHS, Johannesburg, South Africa, November 2005 http://www2.unitar.org/cwm/publications/ghs.aspx	UNITAR	2005	6 pp.	English
Regional Workshop on Chemical Hazard Communication and GHS Implementation for Countries of ASEAN, Manila, Philippines, 17-20 October 2005 http://www2.unitar.org/cwm/publications/ghs.aspx	UNITAR	2005	58 pp.	English

WSSD Global Partnership for Capacity Building to Implement the Globally Harmonized System of Classification and Labelling of Chemicals (GHS), Annual Report 2004 http://www2.unitar.org/cwm/publications/ghs.aspx	UNITAR/ ILO/OECD	2004	38 pp.	English
South American Sub-regional Workshop on Chemical Hazard Communication and GHS Implementation, São Paulo, Brazil, 29 Nov - 2 Dec 2004 http://www2.unitar.org/cwm/publications/ghs.aspx	UNITAR/ ILO	2004	40 pp.	English, Spanish
SADC Sub-regional Workshop on Chemical Hazard Communication and GHS Implementation, Livingstone, Zambia, 1-4 September 2003 http://www2.unitar.org/cwm/publications/ghs.aspx	UNITAR/ ILO	2003	34 pp.	English
WSSD Global Partnership for Capacity Building to Implement the Globally Harmonized System of Classification and Labelling of Chemicals (GHS), Annual Report 2003 http://www2.unitar.org/cwm/publications/ghs.aspx	UNITAR/ ILO/OECD	2003	38 pp.	English
WSSD Global Partnership for Capacity Building to Implement the Globally Harmonized System of Classification and Labelling of Chemicals (GHS), Annual Report 2002 http://www2.unitar.org/cwm/publications/ghs.aspx	UNITAR/ ILO/OECD	2002	36 pp.	English

OECD				
Series on Testing and Assessment (170 documents), last updated in 2012 www.oecd.org/ehs/testingandassessment	OECD	2012	>1000 pp.	English
Global Portal to Information on Chemical Substances - eChemPortal http://www.oecd.org/ehs/eChemPortal	OECD	2012	10 pp.	English
OECD QSAR Toolbox (latest version 2.3, 2012) http://www.oecd.org/env/hazard/qsar	OECD	2012		English
Manual for the Assessment of Chemicals http://www.oecd.org/env/hazard	OECD	2012	300 pp.	English

Electronic Tools for Data Submission, Evaluation and Exchange in the OECD Cooperative Chemicals Assessment Programme http://www.oecd.org/env/hazard	OECD	2012	3 pp.	English
Co-operative Chemicals Assessment Programme – Published assessments for over 1000 chemicals http://www.oecd.org/env/hazard/data	OECD	2012	>1000 pp.	English
OECD Harmonised Templates for Reporting Chemical Test Study Summaries http://www.oecd.org/ehs/templates	OECD	2012	>1000 pp.	English
The OECD Environmental Risk Assessment Toolkit: Tools for Environmental Risk Assessment and Management www.oecd.org/env/riskassessment/toolkit	OECD	2012	10 pp.	English
Guidelines for the Testing of Chemicals, OECD, Last updated 2011 http://www.oecd.org/document/40/0,2340,en_2649_34377_37051368_1_1_1_1,00.html	OECD	2011		English, French
Public availability of national/regional GHS classifications http://www.oecd.org/env/classify	OECD	2011	1 p.	English
Guidance Manual for the Testing of Manufactured Nanomaterials: First Revision http://www.oecd.org/officialdocuments/displaydocumentpdf/?cote=env/jm/mono(2009)20/rev&doclanguage=en	OECD	2010	92 pp.	English
Preliminary Guidance Notes on Sample Preparation and Dosimetry for the Safety Testing of Manufactured Nanomaterials http://www.oecd.org/officialdocuments/displaydocumentpdf/?cote=env/jm/mono(2010)25&doclanguage=en	OECD	2010	58 pp.	English
Data analysis of the identification of correlations between polymer - Characteristics and potential for health or ecotoxicological concern http://www.oecd.org/officialdocuments/displaydocumentpdf/?cote=ENV/JM/MONO(2009)1&doclanguage=en	OECD	2009	41 pp	English
Preliminary Review of OECD Test Guidelines for their Applicability to Manufactured Nanomaterials http://www.oecd.org/officialdocuments/displaydocument/?doclanguage=en&cote=env/jm/mono(2009)21	OECD	2009	71 pp.	English

Guidance Document for the Development of OECD Guidelines for the Testing of Chemicals – Revised Guidance Document, Series on Testing and Assessment No. 1 http://www.oecd.org/dataoecd/26/35/49803789.pdf	OECD	2006	31 pp.	English, (French forthcoming)
Guidance Document on the Validation and International Acceptance of New or Updated Test Methods for Hazard Assessment. Publication, Series on Testing and Assessment No. 34 http://www.oecd.org/officialdocuments/displaydocumentpdf?cote=env/jm/mono(2005)14&doclanguage=en	OECD	2005	96 pp.	English
Principles for the Validation of (<i>Quantitative</i>) <i>Structure-Activity Relationships [(Q)SARs]</i> http://www.oecd.org/env/hazard/qsar	OECD	2004	206 pp.	English
Final Guidance Document for Distinguishing Waste From Non-Waste http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=ENV/EPOC/WM/P(98)1/REV1&docLanguage=En	OECD	1998	18 pp.	English

Exposure Assessment

FAO				
Submission and evaluation of pesticide residues data for the estimation of maximum residue levels in food and feed http://www.fao.org/WAICENT/FAOINFO/AGRICULT/AGP/AGPP/Pesticid/JMPR/Download/faom2002.doc	FAO	2002	194 pp.	English

UNEP				
IPCS Training Module No 4: General Scientific Principles of Chemical Safety	IPCS/WHO/UNEP/ILO	2000	114 pp.	English

WHO				
Brief Guide to Analytical Methods for the Measurement of Lead in Blood http://www.who.int/ipcs/assessment/public_health/lead_blood.pdf	WHO	2011	13 pp.	English
Brief Guide to Analytical Methods for Measuring Lead in Paint http://www.who.int/ipcs/assessment/public_health/lead_paint.pdf	WHO	2011	10 pp.	English

Uncertainty and Data Quality in Exposure Assessment http://www.who.int/ipcs/methods/harmonization/areas/exposure/en/index.html	WHO/IPCS	2008	158 pp.	English
Guidelines for Predicting Dietary Intake of Pesticide Residues www.who.int/foodsafety/publications/chem/pesticides/en/	WHO/Codex	1997	33 pp.	English, French

OECD				
Crosswalk of harmonized U.S. - Canada Industrial Function and Consumer and Commercial Product Categories with EU Chemical Product and Article Categories, Publication, Series on Testing and Assessment, No. 167 http://www.oecd.org/officialdocuments/displaydocument/?cote=env/jm/mono(2012)5&doclanguage=en	OECD	2012	27 pp.	English
OECD Pov and LRTP Screening Tool (overall persistence and long-range transport potential screening tool) http://www.oecd.org/env/exposure/povlrtp	OECD	2009	Downloadable software	English
Comparison of Emission Estimation Methods Used in Pollutant Release and Transfer Registers (PRTR) and Emission Scenario Documents (ESD): Case Study of Pulp and Paper and Textile Sectors, Publication, Series on Testing and Assessment No. 52 http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=ENV/JM/MONO(2006)6&docLanguage=En	OECD	2006	96 pp.	English
Guidance Document on the Use of Multimedia Models for Estimating Overall Environmental Persistence and Long-Range Transport. Publication, Series on Testing and Assessment No. 45 http://www.oecd.org/officialdocuments/displaydocumentpdf/?cote=env/jm/mono(2004)5&doclanguage=en	OECD	2004	83 pp.	English
Report of the OECD/UNEP Workshop on the Use of Multimedia Models for Estimating Overall Environmental Persistence and Long-range Transport in the Context of PBTs/POPs Assessment, Publication, Series on Testing and Assessment No. 36 http://www.oecd.org/officialdocuments/displaydocumentpdf?cote=env/jm/mono(2002)15&doclanguage=en	OECD	2002	191 pp.	English

Emission Scenario Documents • Chemicals used in oil well production • Chemical Industry • Water Based Washing Operations at Industrial and Institutional Laundries • Metalworking Fluids • Radiation Curable Coating, Inks and Adhesives • Blending of Fragrance Oils into Commercial and Consumer Products • Chemicals Used in the Electronics Industry • Transport and Storage of Chemicals • Pulp, Paper and Board Industry • Coating Industry (Paints, Lacquers and Varnishes) • Formulation of Radiation Curable Coatings, Inks and Adhesives • Adhesive Formulation • Complementing Guideline for Writing ESDs: The Life-Cycle Step "service-life" • Insecticides, acaricides and products to control other arthropods for household and professional uses • Recovered Paper Mills • Non-Integrated Paper Mills • Kraft Pulp Mills • Insecticides for Stables and Manure Storage Systems • Antifoulants • Metal finishing • Automotive spray application • Lubricants and Lubricant Additives • Photoresist Use in Semiconductor Manufacturing • Leather Processing • Textile Finishing • Rubber Additives • Photographic Industry • Water Treatment Chemicals • Plastic Additives • Wood preservatives • Guidance Document on Emission Scenario Documents http://www.oecd.org/env/exposure	OECD	2000-2012	166 pp.	English
Report of the OECD Workshop on Improving the Use of Monitoring Data in the Exposure Assessment of Industrial Chemicals, Publication, Series on Testing and Assessment No. 18	OECD	2000	125 pp.	English

http://www.oecd.org/officialdocuments/displaydocumentpdf?cote=env/jm/mono(2000)2&doclanguage=en				
Environmental Exposure Assessment Strategies for Existing Industrial Chemicals in OECD Member Countries, Publication, Series on Testing and Assessment No. 17 http://www.oecd.org/officialdocuments/displaydocumentpdf?cote=env/jm/mono(99)10&doclanguage=en	OECD	1999	31 pp.	English

Toxicology

UNEP				
Polybrominated Dibenzo-p-dioxins (PBDDs), Dibenzofurans (PBDFs) and Biphenyls (PBBs) - Inclusion in the Toxicity Equivalency Factor Concept for Dioxin-like Compounds Prepared by IRAS, Utrecht University, the Netherlands	UNEP/WHO	2012	27 pp.	English

WHO				
IPCS Training Module No 4: General Scientific Principles of Chemical Safety	IPCS/WHO/UNEP/ILO	2000	114 pp.	English
IPCS Training Module No 3 Chemical Risk Assessment : Human Risk Assessment, Environmental Risk Assessment and Ecological Risk Assessment http://whqlibdoc.who.int/hq/1999/WHO_PCS_99.2_pp1-106.pdf	WHO/IPCS	1999	106 pp.	English
IPCS Training Module No 1: Chemical Safety: Fundamentals of Applied Toxicology - The Nature of Chemical Hazards, Second (Revised) Edition http://whqlibdoc.who.int/hq/1997/WHO_PCS_97.14_pp1-81.pdf	WHO/IPCS	1997	258 pp.	English
Basic Analytical Toxicology http://whqlibdoc.who.int/hq/2000/WHO_PCS_00.8_pp1-104.pdf http://whqlibdoc.who.int/hq/2000/WHO_PCS_00.8_pp105-205.pdf	IPCS/WHO	1995	274 pp.	English, French, Thai

Epidemiology and Monitoring

WHO				
Environment and Health Information System in Europe (ENHIS) http://www.euro.who.int/en/what-we-do/data-and-evidence/environment-and-health-information-system-enhis/publications/2011/tools-for-monitoring-parma-conference-commitments	WHO/ECEH/Bonn	2011	31 pp.	English, Russian
Basic Epidemiology http://www.who.int/ncd_surveillance/resources/publications/en/index.html	WHO	2000 (Up-dated)	183 pp.	Chinese, English, French, Russian, Spanish
Evaluation and use of epidemiological evidence for environmental health risk assessment: guideline document http://www.euro.who.int/document/e68940.pdf	WHO (Regional EU office)	2000	39 pp.	English
Assessing the Health Consequences of Major Chemical Incidents: Epidemiological Approaches http://www.euro.who.int/document/e57926.pdf	WHO (EURO)	1997	90 pp.	English
Teacher's Guide for Basic Epidemiology http://www.who.int/ncd_surveillance/resources/publications/en/index.html	WHO	1994	216 pp.	English, French

PRTRs

UNITAR				
PRTR guidance package http://www2.unitar.org/cwm/publications/prtr.aspx	UNITAR	2012	200 pp.	English, Russian, Spanish

OECD				
Global Pollutant Release and Transfer Register, Proposal for a Harmonised List of Pollutants, Series on PRTR No. 13 http://www.oecd.org/officialdocuments/displaydocument/?cote=env/jm/mono(2012)9&doclanguage=en	OECD	2012	151 pp.	English

Resource Compendium of PRTR Release Estimation Techniques, Part 4: Summary of Techniques for Releases from Products, Version 1.0, Series on PRTR No. 12 Part I: http://www.oecd.org/officialdocuments/displaydocument/?cote=env/jm/mono(2011)7/part1&doclanguage=en Part II: http://www.oecd.org/officialdocuments/displaydocument/?cote=env/jm/mono(2011)7/part2&doclanguage=en	OECD	2011	361 pp.	English
Considerations for Ensuring Quality PRTR Data, Series on PRTR No. 11 http://www.oecd.org/officialdocuments/displaydocument/?cote=env/jm/mono(2008)11&doclanguage=en	OECD	2008	46 pp.	English
Scoping Study on the Inclusion of Releases and Transfers from Small and Medium-sized Enterprises (SMEs) in PRTRs, Series on PRTR No. 10 http://www.oecd.org/officialdocuments/displaydocument/?cote=env/jm/mono(2008)5&doclanguage=en	OECD	2008	76 pp.	
Framework for Selecting and applying PRTR Release Estimation Techniques. Publication, Series on PRTR No. 9 http://www.oecd.org/dataoecd/35/27/35639966.doc	OECD	2005	108 pp.	English
Uses of Pollutant Release and Transfer Register Data and Tools for their Presentation. Publication, Series on PRTR No. 7 http://www.oecd.org/officialdocuments/displaydocumentpdf?cote=env/jm/mono(2005)3&doclanguage=en	OECD	2005	87 pp.	English
Presentation and Dissemination of PRTR Data: Practices and Experiences, Publication, Series on PRTR No. 3 http://www.oecd.org/dataoecd/1/48/47754487.pdf	OECD	2000	115 pp.	English

Risk Assessment

FAO/WHO				
Principles and Methods for the Risk Assessment of Chemicals in Food (EHC 240) http://www.who.int/foodsafety/chem/principles/en/index1.html	FAO/WHO	2009	520 pp.	English

Assessing soil contamination: a reference manual http://www.fao.org/DOCREP/003/X2570E/X2570E00.HTM	FAO	2000	210 pp.	Arabic, English, French, Spanish
Pesticide Residues in Food – Reports http://www.fao.org/ag/AGP/AGPP/Pesticid/JMPR/JMPRreports.htm	FAO/WHO	1963-on-going		English
Pesticide Residues in Food – Evaluations http://www.fao.org/ag/AGP/AGPP/Pesticid/JMPR/JMPRreports.htm	FAO/WHO	1963-on-going		English

UNIDO

UNIDO/ICS (International Center for Science and High Technology) Information sheet on Chemistry	UNIDO/ICS	2007	2 pp.	
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WHO

Pesticides for Public Health – Guidelines for testing, including risk assessment models http://www.who.int/whopes/guidelines/en/ http://www.who.int/whopes/en/	WHO, WHO Pesticide Evaluation Scheme (WHOPES)	On-going	Web-site	English
WHO Human Health Risk Assessment Toolkit: Chemical Hazards http://www.who.int/ipcs/methods/harmonization/areas/ra_toolkit/en/index.html	WHO	2010	87 pp.	English
WHO air quality guidelines for particulate matter, ozone, nitrogen, dioxide and sulfur dioxide: global update 2005: summary of risk assessment http://www.who.int/phe/air/aqg2006execsum.pdf	WHO	2006	22 pp.	English
Health risks of particulate matter from long-range transboundary air pollution http://www.euro.who.int/document/E88189.pdf	WHO (Regional EU office)	2006	112 pp.	English
Effects of air pollution on children's health and development - a review of the evidence http://www.euro.who.int/document/E86575.pdf	WHO (Regional EU office)	2005	191 pp.	English
Health effects of transport-related air pollution: summary for policy-makers. http://www.euro.who.int/document/e86650summary.pdf http://www.euro.who.int/document/e86650.pdf	WHO (Regional EU office)	2005	12 pp.	English

Health risks of persistent organic pollutants from long-range transboundary air pollution http://www.euro.who.int/document/e78963.pdf	WHO (Regional EU office)	2003	234 pp.	English
IPCS Harmonization Project Series on risk assessment methodologies http://www.who.int/ipcs/methods/harmonization/en/	WHO/IPCS	2001-on-going		English
Health impact assessment of air pollution. Technical report from WHO/ECEH Project By request from info@ecehbonn.euro.who.int	WHO (Regional EU office)	2001		
Health risk of heavy metals from LRTAP, summary of the preliminary assessment, Geneva, Switzerland 23-25 August, 2000 http://www.unece.org/env/documents/2000/eb/wg1/eb.air.wg.1.2000.12.e.pdf	WHO (Regional EU office)	2000	11 pp.	English
Monitoring ambient air quality for health impact assessment - European Series; No. 85 http://www.euro.who.int/document/e67902.pdf	WHO (Regional EU office)	1999	216 pp.	English
Concise International Environmental Health Criteria (CICAD) Series http://www.who.int/ipcs/publications/cicad/en/	WHO/IPCS	1998-on-going		English
Environmental Health Criteria Series on risk assessment methodologies (yellow cover) and assessments of specific chemicals (red cover) http://www.who.int/ipcs/publications/ehc/en/	WHO/IPCS	1976-on-going		English (Exec. Summaries are available in English, French, Spanish)
IARC Monographs on the Evaluation of Carcinogenic Risks to Humans http://monographs.iarc.fr/index.php	WHO/IARC	1971 - on-going		English

WHO/IPCS

Pesticide Residues in Food Evaluation Series. http://www.who.int/ipcs/food/jmpr/en/index.html	WHO/IPCS	1963-on-going		English
WHO Technical Report Series and Food Additive Series on additives and contaminants in food http://www.who.int/ipcs/publications/jecfa/monographs/en/	WHO/IPCS	1956-on-going		English

OECD				
Important Issues on Risk Assessment of Manufactured Nanomaterials http://www.oecd.org/officialdocuments/displaydocument/?cote=env/jm/mono(2011)54&doclanguage=en	OECD	2012	57 pp.	English
OECD Environmental Risk Assessment Toolkit http://www.oecd.org/env/riskassessment/toolkit	OECD	2010		English

5.2 Risk Reduction

The reduction of risks related to chemical exposure encompasses a broad range of options designed to limit the adverse effects in health and the environment by reducing the availability, or inherent hazards, of chemicals or by controlling the nature and extent of exposures. Risks may be reduced through the elimination or reduction of the use of hazardous materials, substituting less toxic, persistent or bioaccumulative products, implementing safety procedures for the handling of dangerous chemicals and reducing the generation of hazardous waste. Actions to reduce risks may be encouraged through regulatory pressure, economic benefits and other incentives.

Chemical Safety—General

FAO				
Manual on the development and use of FAO and WHO specifications for pesticides http://www.fao.org/ag/AGP/AGPP/Pesticid/Specs/manual.htm	FAO/WHO	2004	300 pp.	Arabic, Chinese, English, Spanish
FAO Specifications for Agricultural Pesticides: 300 specifications for pesticides http://www.fao.org/ag/AGP/AGPP/Pesticid/Specs/faospecc.htm	FAO	1999		English

ILO				
Promoting safety and health in a green economy, an ILO report http://www.ilo.org/safework/info/video/WCMS_175600/lang--en/index.htm	ILO	2012	24 pp.	English, French, Italian, Portuguese, Romanian, Russian, Spanish
Emerging risks and new patterns of prevention in a changing world of work http://www.ilo.org/safework/info/video/WCMS_123653/lang--en/index.htm	ILO (Geneva)	2010	22 pp.	English, French, Spanish

Chemical safety in Asia: Law and practice by N. Watfa and S. Machida ISBN 92-2-110889-9	ILO (Geneva)	1998	72 pp.	Arabic
Chemical Safety Training Modules <i>The Training Modules on Chemical Safety have been compiled in order to introduce safe use of chemicals at places of work, to present classification systems for the labelling and transport of dangerous goods, to allow the reading and use of chemical safety cards, to give a basic overview of toxicology and to disseminate information on selected, widely used, hazardous substances. It contains material usable in handouts, demonstrations and exercises, as well as slides, colour transparencies and diskettes containing text files and databases.</i> http://www.ilo.org/public/english/protection/safework/cis/products/safetytm/index.htm	IPCS	2004		French, Spanish, English
CHEMICAL SAFETY CD-ROM http://www.ilo.org/public/english/protection/safework/cis/products/safetycd/index.htm	ILO	2004	CD	French, English, Spanish

UNEP				
Bi-ennial Global Interlaboratory Assessment on Persistent Organic Pollutants Report from the First Round (2010-2011) http://www.chem.unep.ch/Pops/GMP/Global/Bi-ennial%20Global%20Interlaboratory%20Assessment%20on%20POPs-Round%201.pdf	UNEP IOMC	2012	82 pp.	English
Report on Passive Air Sampling under the Global Monitoring Plan for Persistent Organic Pollutants - GMP Projects 2010-2011	UNEP GEF	2012	49 pp.	English
Laboratory Guide to PFC Analysis	UNEP GEF	2012	DVD	English, French, and Spanish subtitles
Assessment of Existing Capacity and Capacity Building Needs to Analyse Persistent Organic Pollutants (POPs) in Developing Countries Final Report http://www.chem.unep.ch/Pops/laboratory/Final%20report%20POPs%20Lab%20Cap_text.pdf	UNEP GEF	2008	105 pp.	English

Handbook for POPs Laboratory Databank http://www.chem.unep.ch/Pops/laboratory/POPs_Labs_Databank_Handbook_2007_en.pdf	UNEP IOMC	2007	48 pp.	English, French, Spanish
Guidance for Analysis of Persistent Organic Pollutants (POPs) http://www.chem.unep.ch/Pops/laboratory/analytical_guidance_en.pdf	UNEP IOMC	2007	24 pp.	English, French, Spanish
Criteria for Sustainability of POPs Laboratories and Their Role at Regional Level: Summary from Three Regional Workshops http://www.chem.unep.ch/Pops/laboratory/Sustainability%20criteria%20and%20role%20of%20POPs%20labs.pdf	UNEP GEF	2007	19 pp.	
International Intercalibration Studies: A Global QA/QC Tool for the Analysis of POPs under the Stockholm Convention http://www.chem.unep.ch/Pops/laboratory/Robins.pdf	UNEP GEF	2005	56 pp.	English
Analysis of Persistent Organic Pollutants in Developing Countries: Lessons Learned from Laboratory Projects http://www.chem.unep.ch/Pops/laboratory/Report%20lessons%20learned.pdf	UNEP GEF	2006	37 pp.	English

UNEP/GEF/SAICM/SSC

UNEP-coordinated Survey of Mothers' Milk for Persistent Organic Pollutants Part 1: Guidelines for Organization, Sampling and Analysis	UNEP SSC, SAICM	2011		English
UNEP-coordinated Survey of Mothers' Milk for Persistent Organic Pollutants Part 2: Guidelines for Organization, Sampling and Analysis - Annexes	UNEP SSC, SAICM	2011		English

UNIDO

UNIDO-UNEP Resource Efficient and Cleaner Production (RECP) Programme. Brochure at http://www.unido.org/index.php?id=o454500	UNIDO-UNEP	2009	4 pp. synopsis	English and local languages
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UNITAR

Developing a Risk Management Plan for Priority Chemicals. Guidance Document - Working Draft http://www2.unitar.org/cwm/publications/other.aspx	UNITAR	2001	79 pp.	English
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Development of Risk Reduction Strategies for Priority Chemicals: A Guidance Document, Pilot Version http://www2.unitar.org/cwm/publications/other.aspx	UNITAR	1999	71 pp.	English
Strengthening National Capacities for Risk Management Decision-Making for Priority Chemicals - Final Report, October 1999 http://www2.unitar.org/cwm/publications/tw.aspx	UNITAR/ ILO/WHO	1999	59 pp.	English

WHO

WHO/IPCS Web Portal on 10 Chemicals of Major Public Health Concern http://www.who.int/entity/ipcs/assessment/public_health/chemicals_phc/en/index.html	WHO	2011		English
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WHO/IPCS/ILO

Guidelines for drinking-water quality, 4th edition http://www.who.int/water_sanitation_health/publications/2011/dwq_guidelines/en/index.html	WHO	2011	515 pp.	English, Japanese
Chemical safety of drinking-water: assessing priorities for risk management http://www.who.int/water_sanitation_health/dwq/dwchem_safety/en/index.html	WHO	2007	143 pp.	English
WHO air quality guidelines global update http://www.euro.who.int/Document/E87950.pdf	WHO Regional Office for Europe	2005	30 pp.	English
Air quality guidelines for Europe; second edition, European Series: No 91 http://www.euro.who.int/air/activities/20050223_4	WHO Regional Office for Europe	2000	288 pp.	English
Laboratory Handling of Mutagenic and Carcinogenic Products http://whqlibdoc.who.int/hq/1998/WHO_PCS_98.9.pdf	WHO/IPCS	1998	118 pp.	English

International Chemical Safety Card Series http://www.who.int/ipcs/publications/icsc/en/index.html	WHOILO/ EU			English, Chinese, Dutch, Estonian, Finnish, French, German, Hungarian, Italian, Japanese, Korean, Malaysian, Polish, Russian, Spanish, Swahili, Thai, Urdu, Vietnamese
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Sound Management of Pesticides

ILO				
Occupational safety and health in agriculture, forestry and livestock rearing <i>Available from the ILO Infocus Programme on Safe Work</i>	ILO's Programme SafeWork	2000	CD	English
Safety and health in the use of agrochemicals: A guide ISBN 92-2-107281-9. SFR25 <i>This simple, non-technical guide places the emphasis on the safe handling and use of agrochemicals and gives practical safety measures that are easy to follow. For information on reproduction or translation rights, contact the ILO Publications Bureau</i>	IPCS	1991	66 pp.	English, Spanish (Also published in local languages throughout the world)
Case-studies on the impact of mechanization and the use of chemicals on safety and health in agriculture ISBN 92-2-107006-9 <i>Free publication available only from the ILO Infocus Programme on Safe Work</i>	ILO Programme on Safe Work	1989	257 pp.	

Report on the ILO Asian Regional Seminar on Trade Union Action on the Effects of Modern Technologies and Chemicals on Agricultural Workers: Proceedings. Kuala Lumpur, Malaysia. ISBN 92-2-111322-1 <i>Free publication available from ILO Bureau for Workers' Activities</i>	ILO Bureau for Workers' Activities (Geneva)	1998	66 pp.	
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UNEP/WHO/FAO				
International Code of Conduct for the distribution and use of pesticides, original version: adopted by the 123th session of the Council of the FAO	UNEP	2003		Spanish
Reducing and Eliminating the use of Persistent Organic Pesticides: Guidance on alternative strategies for sustainable pest and vector management	UNEP/WHO/FAO	2002		English, French, Spanish
Manual on development and use of FAO and WHO specifications for pesticides: first edition	UNEP/FAO/WHO	2002		English, Spanish

WHO				
WHO-UNEP Resource Tool - Sound Management of Pesticides and Diagnosis and Treatment of Pesticide Poisoning http://www.who.int/whopes/recommendations/IPCSPesticide_ok.pdf	WHO/UNEP	2006	332 pp.	English
Management of Public Health Pesticides http://www.who.int/whopes/recommendations/en/ http://www.who.int/whopes/en/	WHO, WHO Pesticide Evaluation Scheme (WHOPES)	2006	125 pp.	English

WORLD BANK				
Reducing the Human and Environmental Risks of Obsolete Pesticides http://siteresources.worldbank.org/INTPOPS/Resources/ReducingRisksofPesticides-sm.pdf?&resourceurlname=ReducingRisksofPesticides-sm.pdf	World Bank	2010	46 pp.	English

OECD				
OECD Maximum Residue Limit Calculator and its User Guide http://www.oecd.org/chemicalsafety/agriculturalpesticidesandbiocides/oecdmaximumresiduelimitcalculator.htm ; http://www.oecd.org/officialdocuments/displaydocumentpdf/?cote=en/jm/mono(2011)2&doclanguage=en	OECD	2011	16 pp.	English

Chemical Safety in the Workplace

ILO				
OSH Management System: A tool for continual improvement http://www.ilo.org/safework/info/video/WCMS_153930/lang--en/index.htm	ILO	2011	30 pp.	Arabic, English, French, Macedonian, Russian, Portuguese, Spanish
List of occupational diseases (revised 2010). Identification and recognition of occupational diseases: Criteria for incorporating diseases in the ILO list of occupational diseases (OSH 74) http://www.ilo.org/global/publications/ilo-bookstore/order-online/books/WCMS_150323/lang--en/index.htm	ILO	2010	82 pp.	English, French, Spanish
Guidelines on Occupational Safety and Health Management Systems (ILO-OSH 2001) http://www.ilo.org/global/publications/ilo-bookstore/order-online/books/WCMS_PUBL_9221116344_EN/lang--en/index.htm	ILO	2001	37 pp.	English, French, Spanish
Ambient factors in the workplace. An ILO code of practice http://www.ilo.org/public/english/protection/safework/cops/english/index.htm	ILO	2001	80 pp.	English
Safety in the use of chemicals at work. (Second impression). ISBN 92-2-108006-4 <i>This code of practice provides guidance on the implementation of the Chemicals Convention, 1990 (No. 170), and Recommendation, 1990 (No. 177), for all those engaged in framing provisions. The practical recommendations of the code cover all the elements necessary to ensure an efficient flow of information from manufacturers or importers to users of chemicals. They will also enable employers to formulate measures to protect workers, the public and the environment.</i>	ILO (Geneva)	1998	106 pp.	English, French, Spanish (Also published in local languages around the world)

Safety and health in the use of chemicals at work: A training manual. A. Bakar Che Man and D. Gold. (Second impression). ISBN 92-2-106470-0 <i>Includes the texts of ILO Convention No. 170 and ILO Recommendation No. 177 and a system for classification, identification and labelling of chemicals.</i>	ILO (Geneva)	1998	87 pp.	English (Also published in local languages throughout the world)
Occupational exposure to airborne substances harmful to health. (Third impression). ISBN 92-2-102442-3 <i>This ILO code of practice is intended to protect workers' health against the hazards due to the contamination of air at the workplace and in preventing contamination of the working environment. A full glossary defines the terms used in the text.</i>	ILO	1991	44 pp.	English

IPSC/ILO/WHO

Control Banding: Practical tools for controlling workplace exposure to chemicals. <i>Originally published by the Asia-Pacific Newsletter on Occupational Health and Safety</i> http://www.ilo.org/public/english/protection/safework/ctrl_banding/index.htm	IPCS (ILO/WHO)	2002	2 pp.	English
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WHO

Preventing health risks from the use of pesticides in agriculture: Protecting workers' health series No. 1 http://www.who.int/occupational_health/publications/pesticides/en/index.html	WHO, Geneva	2001	35 pp.	English, French, Spanish
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OECD

Preliminary Analysis of Exposure Measurement in Occupational Settings: Manufactured Nanomaterials http://www.oecd.org/officialdocuments/displaydocument/?doclanguage=en&cote=env/jm/mono(2009)6	OECD	2009	31 pp.	English
Identification, Compilation and Analysis of Guidance Information for Exposure Measurement and Exposure Mitigation: Manufactured Nanomaterials http://www.oecd.org/officialdocuments/displaydocument/?doclanguage=en&cote=ENV/JM/MONO(2009)15	OECD	2009	48 pp.	English

Emission Assessment for Identification of Sources and Release of Airborne Manufactured Nanomaterials in the Workplace: Compilation of Existing Guidance http://www.oecd.org/officialdocuments/displaydocument/?doclanguage=en&cote=ENV/JM/MONO(2009)16	OECD	2009	25 pp.	English
Comparison of Guidance on Selection of Skin Protective Equipment and Respirators for Use in the Workplace: Manufactured Nanomaterials http://www.oecd.org/officialdocuments/displaydocument/?doclanguage=en&cote=ENV/JM/MONO(2009)17	OECD	2009	25 pp.	English
Integrated Management Systems (IMS) – Potential Benefits Achievable from Integrated Management of Safety, Health, Environment and Quality (SHE&Q), OECD EHS Publication, Series on Chemical Accidents No. 15, 2005 http://www.oecd.org/officialdocuments/displaydocumentpdf?cote=env/jm/mono(2005)15&doclanguage=en	OECD/EHS	2005	32 pp.	English

Chemical-Specific Risk Reduction

ILO				
Access to Chemical Exposure Limits <i>A database on texts providing information on the agency responsible for the establishment and publication of exposure limits in each country with an Internet link to a table or database containing the exposure limit values.</i> http://www.ilo.org/public/english/protection/safework/cis/products/explim.htm	ILO CIS	2007		French, English, Spanish
UNDP				
Guidance on the Cleanup, Temporary or Intermediate Storage, and Transport of Mercury Waste from Healthcare Facilities	UNDP	2012	41 pp.	English
UNEP				
Checklist for Chlor-alkali Plants http://www.unep.org/hazardoussubstances/Po rtals/9/Mercury/Waste%20management/DRAFT%20Chloralkali%20Checklist.pdf	UNEP World Chlorine Council	2011	69 pp.	English

Chloralkali Project - Uruguay Final Report <a href="http://www.unep.org/hazardoussubstances/Po
rtals/9/Mercury/Waste%20management/DRA
FT%20Report%20Chloralkali%20project%2
0Uruguay.pdf">http://www.unep.org/hazardoussubstances/Po rtals/9/Mercury/Waste%20management/DRA FT%20Report%20Chloralkali%20project%2 0Uruguay.pdf	UNEP DINAMA, Basel Convention Coordinating Center Uruguay, World Chlorine Council	2011	40 pp.	English
Toolkit for identification and quantification of mercury releases <a href="http://www.unep.org/hazardoussubstances/M
ercury/MercuryPublications/GuidanceTraini
ngMaterialToolkits/MercuryToolkit/tabid/456
6/language/en-US/Default.aspx">http://www.unep.org/hazardoussubstances/M ercury/MercuryPublications/GuidanceTraini ngMaterialToolkits/MercuryToolkit/tabid/456 6/language/en-US/Default.aspx	UNEP/DTIE Chemicals Branch	2010	55 pp.	English
Guidance for identifying populations at risk from mercury exposure <i>e</i>	UNEP/DTIE Chemicals Branch	2008	170 pp.	English
Guide for reducing major uses and releases of mercury <a href="http://www.chem.unep.ch/mercury/Sector%20
Guide%202006.pdf">http://www.chem.unep.ch/mercury/Sector%20 Guide%202006.pdf	UNEP/DTIE Chemicals Branch	2006	106 pp.	English

UNEP/UNICEF/UNITAR

Global Opportunities for Reducing the Use of Leaded Gasoline	UNEP/ UNICEF/ UNITAR	1998	59 pp.	English
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UNEP/WHO/FAO

Inventory of World-wide PCB Destruction Capacity, Second Issue	UNEP/WHO	2004	78 pp.	English
PCB Transformers and Capacitors: From Management to Reclassification and Disposal	UNEP	2003	71 pp.	Arabic, English, French, Spanish, Russian
Finding Alternatives to Persistent Organic Pollutants (POPs) for Termite Management	UNEP/FAO	2001	50 pp.	English
GEF: Regionally Based Assessment of Persistent Toxic Substances: Guidance document for the collection, Assembly and Evaluation of Data on Sources, Environmental Levels and Impacts of Persistent Toxic Substances	UNEP	2000	68 pp.	English, Spanish
Survey of Currently Available Non- Incineration PCB Destruction Technologies	UNEP	2000	70 pp.	English, Spanish

UNIDO				
UNIDO Technical Guidelines on mercury management in artisanal and small-scale gold mining	UNIDO	2008	4 guide-lines	English
Protocols for Environmental and Health Assessment of Mercury Released by Artisanal and Small-Scale Gold Miners	UNIDO	2004	289 pp.	English
Ozone-friendly industrial development-UNIDO in the Montreal Protocol - technology transfer to developing countries. Impact and lessons learned—Refrigerant Management Plans	UNIDO	2003	15 pp.	English
Ozone-friendly industrial development-UNIDO in the Montreal Protocol - technology transfer to developing countries. Impact and lessons learned – Refrigeration and Alternative Technologies for Domestic Appliances	UNIDO	2003	43 pp.	English
Ozone-friendly industrial development-UNIDO in the Montreal Protocol - technology transfer to developing countries. Impact and lessons learned - Solvents (including process agents) and aerosols	UNIDO	2003	32 pp.	English
Ozone-friendly industrial development-UNIDO in the Montreal Protocol - technology transfer to developing countries. Impact and lessons learned – Plastic Foams	UNIDO	2003	20 pp.	English
Ozone-friendly industrial development-UNIDO in the Montreal Protocol - technology transfer to developing countries. Impact and lessons learned – Fumigants	UNIDO	2003	25 pp.	

WHO				
Health Effects of Black Carbon http://www.euro.who.int/en/what-we-do/health-topics/environment-and-health/air-quality/publications/2012/health-effects-of-black-carbon	WHO Regional Office for Europe	2012	86 pp.	English
WHO/IPCS Web Portal on 10 Chemicals of Major Public Health Concern. http://www.who.int/entity/ipcs/assessment/public_health/chemicals_phc/en/index.html	WHO	2011		English
Mercury in Skin Lightening Products, WHO Information Document, 2011. http://www.who.int/ipcs/assessment/public_health/mercury_flyer.pdf	WHO	2011	6 pp.	Arabic, Chinese, English, French, Russian, Spanish

Mercury in Health Care - Policy Paper http://www.who.int/water_sanitation_health/medicalwaste/mercury/en/index.html	WHO	2005	2 pp.	English, French, Spanish
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OECD				
Perfluorinated Chemicals Web Portal www.oecd.org/ehs/pfc	OECD	2011		English
Lead Risk Management Activities in OECD Member Countries (1993 to 1998) http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=ENV/JM/MONO(2000)1/PART1&docLanguage=En	OECD	2000	683 pp.	English
Recycling of copper, lead and zinc bearing wastes http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=OCDE/GD(95)78&docLanguage=En	OECD	1995	27 pp.	English, French
Selected Brominated Flame Retardants: Background and National Experiences with Reducing Risk http://www.oecd.org/officialdocuments/displaydocumentpdf?cote=ocde/gd(94)96&doclanguage=en	OECD	1994	152 pp.	English
Methylene Chloride: Background and National Experiences with Reducing Risk http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=OCDE/GD(94)95&docLanguage=En	OECD	1994	123 pp.	English
Mercury: Background and National Experiences with Reducing Risk http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=OCDE/GD(94)98&docLanguage=En	OECD	1994	159 pp.	English
Cadmium: Background and National Experiences with Reducing Risks http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=OCDE/GD(94)97&docLanguage=En	OECD	1994	195 pp.	English
Lead: Background and National Experiences with Reducing Risk http://www.oecd.org/dataoecd/23/50/1955919.pdf	OECD	1993	277 pp.	English
Database: Locations Where Used Nickel-Cadmium Batteries Can Be Dropped off for Recycling (By Country) http://www.oecd.org/document/4/0,3746,en_2649_37465_1945092_1_1_1_37465,00.html	OECD		1 p.	English

Industry-sector Specific Risk Reduction

- No entries

Obsolete Pesticides and Wastes

FAO				
Guidelines for inventory of Obsolete pesticides (In preparation)	FAO			
Baseline study on the problem of obsolete pesticides stocks http://www.fao.org/DOCREP/003/X8639E/X8639E00.HTM	FAO	2001	36 pp.	English, French, Spanish
FAO training manual for inventory taking of obsolete pesticides	FAO	2001	114 pp.	English
Country guidelines ftp://ftp.fao.org/docrep/fao/005/y2566E/y2566E00.pdf	FAO	2001		English, French, Spanish
Management of small quantities of unwanted and obsolete pesticides http://www.fao.org/WAICENT/FAOINFO/AGRICULT/AGP/AGPP/Pesticid/Disposal/mon/ecg/103825_en_No_7_Small_quantities_stocks.pdf	FAO	1999	25 pp.	Arabic, English, French, Spanish,
Disposal of Bulk Quantities of Obsolete Pesticides in Developing Countries http://www.fao.org/WAICENT/FAOINFO/AGRICULT/AGP/AGPP/Pesticid/Disposal/mon/ecg/103811_en_w1604e.pdf	FAO	1996	44 pp.	Arabic, English, French, Spanish,

UNEP				
General Technical Guidelines for the Environmentally Sound Management of Wastes Consisting of, Containing or Contaminated with Persistent Organic Pollutants (POPs)	UNEP/Basel Secretariat	2005		English
Technical Guidelines for the Environmentally Sound Management of Wastes Consisting of, Containing or Contaminated with Polychlorinated Biphenyls (PCBs), Polychlorinated Terphenyls (PCTs) or Polybrominated Biphenyls (PBBs)	UNEP/Basel Secretariat	2005	18 pp.	Arabic, Chinese, English, French, Russian, Spanish
Guidance Manual on the Preparation of Health Care Waste National Management Plan in Sub Saharan Africa	UNEP/Basel Secretariat	2004	87 pp.	English
Technical guidelines for the identification and environmentally sound management of plastic wastes and for their disposal	UNEP/Basel Secretariat	2004	77 pp.	English, French, Spanish

Technical Guidelines for the Environmentally Sound Management of the Full and Partial Dismantling of Ships	UNEP/Basel Secretariat	2003	94 pp.	Arabic, Chinese, English, French, Russian, Spanish
Technical Guidelines for the Environmentally Sound Management of Biomedical and Healthcare Wastes	UNEP/Basel Secretariat	2003	79 pp.	Arabic, Chinese, English, French, Russian, Spanish
Interim Guidelines on the Hazardous Characteristics H12 – Ecotoxic	UNEP/Basel Secretariat	2003	23 pp.	Arabic, Chinese, English, French, Russian, Spanish
National Reporting under the Basel Convention (2000), Compilation Part I: Status of Information	UNEP/Basel Secretariat	2003	43 pp.	English
Technical Guidelines for the Environmentally Sound Management of Waste Lead-acid Batteries	UNEP/Basel Secretariat	2003	69 pp.	Arabic, Chinese, English, French, Russian, Spanish
Technical Guidelines on Waste Oils from Petroleum Origin and Sources	UNEP/Basel Secretariat	2003	16 pp.	English
Technical Guidelines on Physico-Chemical Treatment Biological Treatment	UNEP/Basel Secretariat	2003	68 pp.	English
Technical Guidelines on the Identification and Management of Used Tyres	UNEP/Basel Secretariat	2000	47 pp.	English, French, Russian, Spanish
Methodological Guide for the Undertaking of National Inventories of Hazardous Wastes Within the Framework of the Basel Convention	UNEP/Basel Secretariat	1999		English, French, Spanish
Technical Guidelines on Specially Engineered Landfill	UNEP/Basel Secretariat	1997	44 pp.	English
Technical Guidelines on Incineration on Land	UNEP/Basel Secretariat	1997	28 pp.	English

Technical Guidelines on Used Oil Re-Refining of Other Re-Uses of Previously Used Oil	UNEP/ Basel Secretariat	1997	20 pp.	English
Technical Guidelines on Hazardous Waste from the Production and Use of Organic Solvents	UNEP/ Basel Secretariat	1997	20 pp.	English
Technical Guidelines on Wastes Collected from Households	UNEP/ Basel Secretariat	1997	9 pp.	English
Guidance in Developing National and/or Regional Strategies for the Environmentally Sound Management of Hazardous Wastes	UNEP/ Basel Secretariat	1996	16 pp.	English
Guidance Document on Transboundary Movements of Hazardous Wastes Destined for Recovery Operations	UNEP/ Basel Secretariat	1995	28 pp.	English
Technical Guidelines on the Identification and Management of Used Tyres	UNEP/ Basel Secretariat			English
Preparation of a national plan for ecological management of PCBs and equipment contaminated with PCBs within the context of implementation of the Basel Convention	UNEP/ Basel Secretariat			English

OECD

Report of the OECD-FAO-UNEP Workshop on Obsolete Pesticides http://www.oecd.org/dataoecd/23/35/2076941.pdf	OECD	2001	26 pp.	English, French
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Prevention and Control of Chemical Pollution and Waste**FAO**

Guidelines on Management Options for Empty Pesticide Containers http://www.who.int/whopes/recommendations/Management_options_empty_pesticide_containers.pdf	FAO	2008	47 pp.	
Pesticide Storage and Stock Control manual http://www.fao.org/WAICENT/FAOINFO/AGRICULT/AGP/AGPP/Pesticid/Disposal/mon/ecg/103809_en_No_3_Storage.pdf	FAO	1996	36 pp.	Arabic, English, French, Spanish
Prevention of accumulation of Obsolete Pesticides Stocks http://www.fao.org/WAICENT/FAOINFO/AGRICULT/AGP/AGPP/Pesticid/Disposal/mon/ecg/103807_en_v7460e.pdf	FAO	1995	33 pp.	Arabic, English, French, Spanish

UNITAR				
Searching for Synergies: Linking Waste Management to an Integrated National Programme for Sound Chemicals Management, Guidance Note http://www2.unitar.org/cwm/publications/inp.aspx	UNITAR	2004	16 pp.	English, French

WHO/SEARO/IGNOU/FAO				
Sound Management of Hazardous Wastes from Health Care and from Agriculture: Report from a Joint WHO/ FAO Regional Workshop, Indonesia, 2006 http://www.searo.who.int/en/Section23/Section1001/Section1110_12840.htm	WHO/FAO	2006	72 pp.	English
Safe Health-care Waste Management - Policy Paper http://www.healthcarewaste.org/en/160_hcw_policy.html	WHO	2005	2 pp.	English, French, Spanish
Safe Management of Wastes from Health-Care Activities http://www.who.int/water_sanitation_health/medicalwaste/wastemanag/en/	WHO	1999	230 pp.	English
Distance learning Certificate course on sound health-care waste management http://www.ignou.ac.in/ (see “ Certificate Programmes”)	WHO SEARO/ IGNOU			English, Hindi

WORLD BANK				
Reducing the Human and Environmental Risks of Obsolete Pesticides http://siteresources.worldbank.org/INTPOPS/Resources/ReducingRisksofPesticides-sm.pdf?&resourceurlname=ReducingRisksofPesticides-sm.pdf	World Bank	2006	57 pp.	English

OECD				
Considerations for Evaluating Waste Minimisation in OECD Member Countries http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=ENV/EPOC/PPC(97)17/REV2&docLanguage=En	OECD	1998	49 pp.	English
Reduction and Recycling of Packaging Waste http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=OCDE/GD(92)147&docLanguage=En	OECD	1992	111 pp.	English, French

Promote Less Hazardous Alternatives

FAO				
Information available at the FAO Integrated Pest Management website: http://www.fao.org/ag/AGP/AGPP/IPM/Default.htm				
WHO/SEARO				
Global Strategic Framework for Integrated Vector Management (and other document related to integrated vector management) http://www.who.int/malaria/publications/atoz/who_cds_cpe_pvc_2004_10/en/index.html http://www.who.int/malaria/vector_control/ivm/en/ http://www.who.int/malaria/publications/vector-management/en/index.html	WHO	2004	12 pp.	English
OECD				
Sustainable Chemistry Platform: http://www.oecd.org/env/sustainablechemistry_platform/	OECD			English

5.3 Education and Awareness Raising

Widespread cooperation among all relevant government authorities, industry, workers, NGOs and the public is fundamental to sound national chemicals management. This in turn, calls for a widespread awareness of the potential risks associated with the use of chemicals and chemical accidents, and an understanding of the ways in which chemicals can be handled safely. Such a general awareness can be promoted through targeted education and training, as well as through campaigns to raise public awareness.

Education

UNITAR/IOMC				
Strengthening National Awareness Raising and Education for Chemicals Management. Thematic Workshop (No. 2) http://www2.unitar.org/cwm/publications/tw.aspx	UNITAR/IOMC	1998	48 pp.	English
WHO/IPCS				
Poisons Centre Training Manual, Part 1. http://www.who.int/ipcs/poisons/training_manual/en/	WHO/IPCS	2006		English

Educational game online: ENVIRO : "Healthy Environments for Children" <i>Available as download or in Flash</i> http://www.searo.who.int/en/Section23/Section1671_7505.htm	WHO/SEARO and HRIDAY SHAN, India	2004	Computer Game	English
Hazardous Chemicals in Human and Environmental Health: a Resource Book for School, College and University Students http://whqlibdoc.who.int/hq/2000/WHO_PCS_00.1.pdf	WHO/IPCS	2000	110 pp.	English
Teacher's Guide: Management of Wastes from Health-Care Activities http://www.who.int/occupational_health/publications/tgmanwaste/en/index.html	WHO	1998	227 pp.	Arabic, English
Teacher's Guide on Basic Environmental Health http://www.who.int/occupational_health/publications/tgbeh/en/	WHO	1996	227 pp.	English
Women, Health & Environment: A Teachers' Guide http://www.who.int/docstore/peh/archives/women/ehg95-1.pdf	WHO/GEE NET	1995	45 pp.	English

Information Dissemination

UNIDO				
Global Chemical Leasing Award 2012: http://www.chemicalleasing.com	UNIDO	2012	Global award	English
Information note "Green Industry – UNIDO's contribution to waste avoidance and minimization", Basel Convention (COP 10) http://archive.basel.int/meetings/cop/cop10/documents/i51e.pdf	UNIDO	2011	5 pp.	English
Global Network of Resource Efficient and Cleaner Production (RECPnet) www.recpnet.org	UNIDO-UNEP	2011	Website	English
Knowledge Management System, Latin-American network of Cleaner Production Centres (CPlatinnet) www.produccionmaslimpia-la.net	UNIDO	2006	Web-based portal	Portuguese, Spanish
Impact and Lessons Learned. UNIDO in the Montreal Protocol – technology transfer to developing countries.	UNIDO	2003	Booklets	English

WHO				
The Budapest collection: a WHO global e-library on children's health and environment. <i>Send request for CD to library.he@who.it</i>	WHO Regional Office for Europe	2004	CD	English

OECD				
<i>OECD Database on Research into the Safety of Manufactured Nanomaterials</i> http://webnet.oecd.org/NanoMaterials/Pagelet/Default.aspx	OECD		online	English

Training

UNEP				
Toxicology in the classroom-understanding chemicals risk to human health and the environment http://www.unep.org/hazardoussubstances/UNEPsWork/Pesticide-relatedactivitiesatUNEPChemicals/tabid/104444/Default.aspx	UNEP	2012	Electronic training tool	English, other languages to follow

UNIDO				
ChL training toolkit: A SMART business for green industry www.chemicalleasing.com	UNIDO	2011	CD	English
UNIDO CP Toolkit http://www.unido.org/cp	UNIDO	2008	CD	English, Spanish

WHO				
Children's health and environment case studies summary book - Work in progress. Ed. Leda Nemer and Kathrin von Hoff http://www.euro.who.int/Document/CHE/CH-ECSSBook.pdf	WHO Regional Office for Europe	2004	120 pp.	English
Honoloko - an island to learn how to care for health and the environment Computer game for children http://www.honoloko.org/Honoloko.html	WHO/ Europe and the European Environment Agency (EEA)	2004	Computer game	25 languages of the EEA member countries and Russian

OECD				
Report of the Seminar on Pesticide Risk Reduction through Education / Training the Trainers http://www.oecd.org/dataoecd/21/18/44033853.pdf	OECD	2009	22 pp.	English
Report of the OECD Pesticide Risk Reduction Steering Group Seminar on Risk Reduction through Better Worker Safety and Training Part 1: http://www.oecd.org/dataoecd/21/18/44033853.pdf Part 2: http://www.oecd.org/dataoecd/38/12/41040335.pdf	OECD	2008	79 pp	English

5.4 Accident Prevention and Control

Chemical Accidents

ILO				
Major hazard control: A practical manual. Third impression (with corrections). ISBN 92-2-106432-8 <i>An overview on major hazards, presented in a readable format. Provides information on all the main subjects in this field, and the appendices contain some practical tools to be used and interesting examples of several applications.</i>	ILO	1994	296 pp.	English, Spanish, French
Prevention of major industrial accidents, an ILO Code of practice. Geneva, 1991. ISBN 92-2-107101-4	ILO	1991	108 pp.	English, French, Spanish

UNEP				
Commemorating 25 Years of Awareness And Preparedness for Emergencies at Local Level (APELL) - Achievements and Way Forward	UNEP/DTIE Sustainable Consumption and Production Branch	2012	40 pp. + video	English
Promoting Safer Operations and Emergency Preparedness in the Value Chain of the Chemical Sector - Case Study on APELL Implementation in China	UNEP/DTIE Sustainable Consumption and Production Branch	2011	44 pp.	Chinese, English

A Flexible Framework for Addressing Chemical Accident Prevention and Preparedness. Guidance http://www.unep.fr/scp/sp/saferprod/pdf/UN_Flexible_Framework_WEB_FINAL.pdf	UNEP/ DTIE Sustainable Consump- tion and Production Branch	2010	188 pp.	Chinese, English, French, Spanish, Thai
APELL Multi-Hazard Training Kit For Local Authorities - For Community Vulnerability Reduction, Prevention, and Preparedness http://www.unep.fr/shared/publications/pdf/Dtlx1289xPA-APELLMulti-HazardTrainingKit.pdf	UNEP/ DTIE Sustainable Consump- tion and Production Branch	2010	52 pp.	English
TransAPELL: Guidance for Dangerous Goods Transport Emergency Planning in a Local Community http://www.unep.fr/shared/publications/pdf/2679-TransApellen.PDF	UNEP/ DTIE Sustainable Consump- tion and Production Branch	2000	68 pp.	English, Spanish, Swedish
Management of Industrial Accident Prevention and Preparedness: A Training Resource Package http://www.unep.fr/shared/publications/pdf/WEBx0110xPA-IndustrialAccidentsTraining.pdf	UNEP/ DTIE Sustainable Consump- tion and Production Branch	1996	195 pp.	English
APELL for Port Areas: Preparedness and Response to Chemical Accidents in Ports http://www.unep.fr/shared/publications/pdf/WEBx0061xPA-ApellPorts.PDF	UNEP/ DTIE Sustainable Consump- tion and Production Branch	1996	91 pp.	English
Hazard Identification and Evaluation in a Local Community http://www.unep.fr/shared/publications/pdf/WEBx0062xPA-HazardId.pdf	UNEP/ DTIE Sustainable Consump- tion and Production Branch	1992	87 pp.	English
Storage of Hazardous Materials: A Technical Guide for Safe Warehousing of Hazardous Materials http://www.unep.fr/shared/publications/pdf/WEBx0063xPA-SafeWarehousing.PDF	UNEP/ DTIE Sustainable Consump- tion and Production Branch	1990	80 pp.	English

Awareness and Preparedness for Emergencies at Local Level: a Process for Responding to Technological Accidents http://www.unep.fr/shared/publications/pdf/WEBx0064xPA-APELtech.pdf	UNEP/ DTIE Sustainable Consumption and Production Branch	1988	64 pp.	Arabic, Chinese, English, French, Hindi, Russian, Sinhala, Spanish, Swedish, Tamil, Thai
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UNIDO/UNESCO/IUPAC

The IUPAC-UNESCO-UNIDO Safety Training Program is an on-going activity of COCI www.iupac.org/standing/coci/safety-program.html				
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WHO

Manual for the public health management of chemical incidents http://www.who.int/environmental_health_emergencies/publications/Manual_Chemical_Incidents/en/index.html	WHO	2009	101 pp.	English
Health Aspects of Chemical Weapons http://www.searo.who.int/en/Section23/Section1001/Section1110.htm	WHO/ SEARO	2003		
International Information Sources on chemical incidents http://www.searo.who.int/en/Section23/Section1001/Section1470.htm	WHO/ SEARO	2003		

OECD

Corporate Governance for Process Safety: Guidance for Senior Leaders in High Hazard Industries.	OECD	2012	20 pp.	English French
Addendum to the OECD Guiding Principles for Chemical Accident Prevention, Preparedness and Response (2nd ed.) http://www.oecd.org/officialdocuments/displaydocument/?cote=env/jm/mono(2011)15&doclang=en	OECD	2011	29 pp.	English

Report of the OECD workshop on Lessons Learned from Chemical Accidents and Incidents, OECD EHS Publication, Series on Chemical Accidents No. 14 http://www.oecd.org/officialdocuments/displaydocumentpdf/?cote=env/jm/mono(2005)6&doclanguage=en	OECD	2005	76 pp.	English
Report of the OECD Workshop on Sharing Experience in the Training of Engineers in Risk Management. OECD EHS Publication, Series on Chemical Accidents No. 13 http://www.oecd.org/officialdocuments/displaydocumentpdf/?cote=env/jm/mono(2004)4&doclanguage=en	OECD	2004	73 pp.	English, French
Guiding Principles for Chemical Accident Prevention, Preparedness and Response, OECD EHS Publication, Series on Chemical Accidents No. 10 http://www.oecd.org/document/61/0,2340,en_2649_34369_2789821_1_1_1_1,00.html	OECD	2003	209 pp.	Czech, English, French, German, Hungarian, Korean
Guidance on Safety Performance Indicators, OECD EHS Publication, Series on Chemical Accidents No. 11 http://www.oecd.org/document/45/0,2340,en_2649_34369_32425389_1_1_1_1,00.html	OECD	2003	212 pp.	English, French, Korean

Poisoning Prevention Treat and Control

ILO				
Management of poisoning: a handbook for health care workers. J. A. Henry and H. M. Wiseman. International Programme on Chemical Safety. <i>Intended for people with little or no medical training who are likely to be the first to come into contact with someone who has been poisoned. Suggests ways of preventing poisoning. Available from the ILO Infocus Programme on Safe Work</i>	ILO	1997	315 pp.	French

WHO/IPCS				
The INTOX Data Management System and harmonized data collection http://www.who.int/ipcs/poisons/package/en/index.html	WHO/IPCS	On-going	Web-site	English
Poisons Centre Training Manual, Part 1 http://www.who.int/ipcs/poisons/training_manual/en/index.html	WHO/IPCS	2006	7 chapters	English

Guidelines on the Prevention of Toxic Exposures http://www.who.int/ipcs/poisons/prevention_guidelines/en	WHO/IPCS	2004	99 pp.	English
Management of Poisoning: A handbook for health care workers http://www.who.int/ipcs/publications/training_poisons/management_of_poisoning/en/index.html	WHO/IPCS	1997	315 pp.	English, Farsi, French, Hindi, Spanish
Guidelines for Poison Control http://www.who.int/ipcs/publications/training_poisons/guidelines_poison_control/en/index.html	WHO/IPCS	1997	112 pp.	English, French, Russian, Spanish
Treatment Guides for Poisoning INTOX Databank: http://www.intox.org/databank/pp./treat.html	WHO/IPCS	1996	47 guides	English, French, Portuguese, Spanish

5.5 Analytical and Laboratory Capacities

FAO				
FAO/WHO Joint publication: Quality control of pesticide products: Guidelines for National Laboratories http://www.fao.org/ag/AGP/AGPP/Pesticid/Speccs/pdf/qualitycontrol05.pdf	WHO	2005	14 pp.	English

WHO/IPCS/ILO/UNEP				
Developing Analytical Toxicology Services: Principles and Guidance http://www.who.int/ipcs/publications/training_poisons/hospital_analytical_toxicology.pdf	WHO/IPCS	2005	36 pp.	English
Biological Monitoring of Chemical Exposure in the Workplace. Volumes 1 and 2 http://whqlibdoc.who.int/hq/1996/WHO_HP_R_OCH_96.1.pdf http://whqlibdoc.who.int/hq/1996/WHO_HP_R_OCH_96.2.pdf	WHO	1996	V1: 311 pp., V2: 214 pp.	English

OECD				
Compilation and Comparison of Guidelines Related to Exposure to Nanomaterials in Laboratories http://www.oecd.org/officialdocuments/displaydocument/?cote=env/jm/mono(2010)47&doclanguage=en	OECD/ EHS	2012	81 pp.	English

OECD Series on Principles of Good Laboratory Practice (GLP) and Compliance Monitoring No. 1-154 (Consensus, Advisory and Guidance Documents): http://www.oecd.org/document/63/0,2340,en_2649_34381_2346175_1_1_1_1,00.html	OECD	1992-2007	183 pp.	English, French, German, Spanish
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ANNEX 1: INDEX OF SAICM WORK AREAS AND RELEVANT SECTIONS IN THIS GUIDE

<i>Work Area</i>	<i>Relevant Section(s) in Guide</i>
SAICM OBJECTIVE: RISK REDUCTION	
Assessment of national chemicals management to identify gaps and prioritize actions	5.1, 5.2
Human health protection	5.1, 5.2, 5.3
Children and chemical safety	4.5, 5.2, 5.3
Occupational health and safety	4.4, 4.5, 5.1, 5.2, 5.43
Implementation of Globally harmonized system (GHS)	5.1
Highly toxic pesticides – risk management and reduction	4.1, 4.4, 5.1, 5.2, 5.3
Pesticide Programmes	4.1, 4.3, 5.2
Reduced health and environmental risks of pesticides	5.1, 5.2, 5.3
Cleaner production	4.4, 4.5, 5.2
Remediation of contaminated sites	5.4
Lead in gasoline	4.4, 5.2
Sound agricultural practices	5.2, 5.3
Persistent, bioaccumulative and toxic substances (PBTs); very persistent and very bioaccumulative substances; chemicals that are carcinogens or mutagens or that adversely affect, <i>inter alia</i> , the reproductive, endocrine, immune or nervous system; persistent organic pollutants (POPs).	4.4, 5.1, 5.2
Mercury and other chemicals of global concern; chemicals produced or used in high volumes; those subject to wide dispersive uses; and other chemicals of concern at the national level	4.4, 5.1, 5.2, 5.3
Risk assessment, management and communication	5.1, 5.2
Waste management (and minimization)	4.4, 5.2
Formulation of prevention and response measures to mitigate environmental and health impacts of emergencies involving chemicals	5.4
SAICM OBJECTIVE: KNOWLEDGE AND INFORMATION	
Research monitoring and data	5.1, 5.2, 5.5
Hazard data generation and availability	4.2, 5.1, 5.5
Promotion of industrial participation and responsibility	4.2, 4.5, 5.3
Implementation of Globally harmonized system (GHS)	5.1
Information management and dissemination	4.2, 5.1
Highly toxic pesticides – risk management and reduction	5.1, 5.2, 5.3
Cleaner production	4.4, 5.2
Life cycle	4.4
Pollutant release and transfer registers (PRTRs) – creation of national and international registers	4.5, 5.1
Risk assessment, management and communication	5.1, 5.2
Occupational health and safety	5.2, 5.3, 5.4
Children and chemical safety	5.2, 5.3
Education and training (public awareness)	4.2, 4.5, 5.3
Lead in gasoline	4.4, 5.2
Persistent, bioaccumulative and toxic substances (PBTs); very persistent and very bioaccumulative substances; chemicals that are carcinogens or mutagens or that adversely affect, <i>inter alia</i> , the reproductive, endocrine, immune or nervous system; persistent organic pollutants (POPs).	4.4, 5.1, 5.2
Mercury and other chemicals of global concern; chemicals produced or	4.4, 5.1, 5.2, 5.3

<i>Work Area</i>	<i>Relevant Section(s) in Guide</i>
used in high volumes; those subject to wide dispersive uses; and other chemicals of concern at the national level	
Sound agricultural practices	5.2, 5.3
Waste management (and minimization)	4.4, 5.2
Stakeholder participation	4.2, 4.5
SAICM OBJECTIVE: GOVERNANCE	
Assessment of national chemicals management to identify gaps and prioritize actions	4.1, 4.2, 4.3
Implementation of integrated national programmes for the sound management of chemicals at the national level in a flexible manner	4.2, 4.3
Implementation of Globally harmonized system (GHS)	5.1
International agreements	4.1, 4.2, 4.4
Pollutant release and transfer registers (PRTRs) – creation of national and international registers	4.5, 5.1
Social and economic considerations	4.1, 4.5
Promotion of industrial participation and responsibility	4.2, 4.5, 5.1, 5.2, 5.3, 5.4
Legal policy and institutional aspects	4.1, 4.2, 4.4
Liability and compensation	4.4
Stock-taking on progress	4.1, 4.2, 4.3, 4.4
Protected areas	4.4, 5.4
Prevention of illegal traffic in toxic and dangerous goods	4.4
Trade and environment	4.4, 5.1, 5.2
Civil society and public interest NGO participation	4.5
SAICM OBJECTIVE: CAPACITY BUILDING AND TECHNICAL COOPERATION	
Capacity building	4.2, 4.3, 4.5, 5.3, 5.5
Formulation of prevention and response measures to mitigate environmental and health impacts of emergencies involving chemicals	5.4
Cleaner production	4.4, 5.2
Remediation of contaminated sites	5.4
Lead in gasoline	4.4, 5.2
Children and chemical safety	5.2, 5.3
Risk assessment, management and communication	5.1, 5.2
Implementation of Globally harmonized system (GHS)	4.3, 5.1
Sound agricultural practices	5.2, 5.3
Trade and environment	4.4, 5.2
Protected areas	4.4, 5.4
Occupational health and safety	5.2, 5.3, 5.4
Information management and dissemination	4.2, 5.1
Social and economic considerations	4.1, 4.5
Waste management	4.2
SAICM OBJECTIVE: ILLEGAL TRAFFIC	
Prevention of illegal traffic in toxic and dangerous goods	4.2, 4.4, 5.1, 5.3
Waste management	4.4, 5.2

ANNEX 2: IOMC PARTICIPATING ORGANIZATIONS CONTACT INFORMATION

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ANNEX 3: LIST OF ACRONYMS

AGPP	Plant Protection Service
ASP	African Stockpiles Programme
BAT	Best Available Techniques
BEP	Best Environmental Practices
BOT	Board of Trustees
ChL	Chemical Leasing
CIEN	Chemical Information Exchange Network
CIS	International Occupational Safety and Health Information Centre
COCI	Committee on Chemistry and Industry
CP	Country Programme
CWM	Chemicals and Waste Management Programme
DNA	Designated National Authority
DTIE	Division of Technology, Industry and Economics
ECOSOC	United Nations Economic and Social Council
FAO	Food and Agriculture Organization
GEF	Global Environment Facility
GHS	Globally Harmonized System of Classification and Labelling of Chemicals
GLP	Good Laboratory Practice
GMP	Global Mercury Project
GPA	Global Plan of Action
IBLF	International Business Leaders Forum
ICCM	International Conference on Chemicals Management
ICS	International Center for Science and High Technology
ICSC	International Chemical Safety Card
IFCS	Intergovernmental Forum on Chemical Safety
IGNOU	Indira Gandhi National Open University
IGO	Intergovernmental Organization
ILO	International Labour Organization
IMS	Integrated Management System
IOMC	Inter-Organization Programme for the Sound Management of Chemicals
IPCS	International Programme on Chemical Safety
IS	Institutional Strengthening

IUCLID	International Uniform Chemical Information Database
IUPAC	International Union of Pure and Applied Chemistry
JMPR	Joint FAO/WHO Meeting on Pesticide Residues
JMPS	Joint FAO/WHO Meeting on Pesticide Specifications
MAD	Mutual Acceptance of Data
MDG	Millennium Development Goal
MDGR	Millennium Development Goals Report
MFMP	Multilateral Fund for the Implementation of the Montreal Protocol
MLF	Multilateral Fund
NCPC	National Cleaner Production Centre
NCPP	National Cleaner Production Programme
NGO	Non-governmental Organization
NOU	National Ozone Unit
ODS	Ozone-Depleting Substances
OECD	Organisation for Economic Co-operation and Development
OECD EHS	OECD Environmental Health and Safety Programme
OPS	Overarching Policy Strategy
PBBs	Polybrominated Biphenyls
PCBs	Polychlorinated Biphenyls
PCTs	Polychlorinated Terphenyls
PIC	Prior Informed Consent
PMG	Pesticide Management Group
PO	Participating Organization
POP	Persistent Organic Pollutant
PRTR	Pollutant Release and Transfer Register
(Q)SARs	(Quantitative) Structure-Activity Relationships
SAICM	Strategic Approach to International Chemicals Management
SCEGHS	ECOSOC Subcommittee of Experts on the GHS
SEARO	World Health Organization Regional Office for South-East Asia
SHE&Q	Safety, Health, Environment and Quality
SMC	Sound Management of Chemicals
TCP	Technical Cooperation Department
PPPUE	Public-Private Partnerships for the Urban Environment
UNCED	United Nations Conference on Environment and Development
UNCT	UN Country Team

UNDP	United Nations Development Programme
UNDP BDP	UNDP Bureau of Development Policy (see UNDP Development Policy and Practice)
UNDP CDG	UNDP Capacity Development Group
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNIDO	United Nations Industrial Development Organization
UNITAR	United Nations Institute for Training and Research
WHO	World Health Organization
WHOPES	WHO Pesticide Evaluation Scheme
WSSD	World Summit on Sustainable Development

International Conference on Chemicals Management

Third session

Nairobi, 17–21 September 2012

Item 6 of the provisional agenda*

Cooperation with intergovernmental organizations

**Submission by the Asia-Pacific Economic Cooperation on the
Chemical Dialogue of the Committee on Trade and Industry**

Note by the secretariat

1. The secretariat has the honour to circulate, in the annex to the present note, a document on a regional contribution to SAICM implementation by the Asia-Pacific Economic Cooperation's Committee on Trade and Industry Chemical Dialogue for the information of participants at the current session.
2. The document has been reproduced as received without formal editing.

Annex

The APEC Chemical Dialogue: A Regional Contribution to SAICM Implementation

Background

The Asia-Pacific Economic Cooperation (APEC) is a regional forum that promotes regional economic integration among its 21 member economies.¹ APEC's members account for approximately 40% of the world's population, around 54% of global GDP, and about 44% of world trade. APEC operates on the basis of non-binding commitments, open dialogue, and equal respect for the views of all participants. Decisions made within APEC are reached by consensus and commitments are undertaken on a voluntary basis. APEC meets throughout any one year at the senior officials' level, and annually at Ministerial and Leaders level. Further information on APEC can be found at www.apec.org.

APEC has established a number of groups to promote its objective of facilitating economic growth, cooperation, trade and investment in the Asia-Pacific region in different sectors. Under its Committee on Trade and Industry, APEC established a Chemical Dialogue in 2002. The Dialogue serves as a forum for government officials and industry representatives to find solutions to challenges facing the chemical industry and users of chemicals in the Asia-Pacific region. It reflects recognition among APEC member economies of the importance of engaging with the private sector and building public-private sector dialogue and cooperation for mutual benefit.

Issues addressed by the Chemical Dialogue include trade liberalization and facilitation in the chemical sector, capacity building, and improving regulatory policies and business practices to promote regional integration while ensuring health, safety and environmental protection. The work of the Chemical Dialogue reflects broader APEC strategic objectives, such as strengthening regional economic integration and expanding trade; promoting green growth; expanding regulatory cooperation and advancing regulatory convergence.

Strategic Framework for Chemicals in the Asia-Pacific Region

In 2009, the Chemical Dialogue made a submission to ICCM-2 outlining its work on Principles for Best Practices for Chemical Regulation and on efforts to promote clarity and consistency in the implementation of the Globally Harmonized System for Classification and Labeling of Chemicals (GHS).² Building on this earlier work, in 2011 the Chemical Dialogue adopted a Strategic Framework for Chemicals in the Asia-Pacific Region. The Strategic Framework sets out five overarching objectives for the Chemical Dialogue's work:

- To facilitate alignment with APEC Leaders' goals for sustainable economic growth and regulation.
- To promote regulatory capacity and convergence in order to facilitate trade while enhancing environmental and health protection.
- To enhance chemical management and product stewardship over the life cycle and in cooperation with other initiatives and institutions where appropriate, e.g. the OECD, UN, SAICM, WHO.
- To identify barriers to using chemicals, products and processes to achieve sustainable and innovative solutions to global problems.
- To strengthen the positioning of the sector globally as an enabler of technological change and innovation.

To achieve these objectives, the Strategic Framework identifies three shared goals around which the work of the Chemical Dialogue will be organized:

- Shared Goal 1: Expand and support cooperation and mutual recognition among chemical regulators in the Asia-Pacific Region.
- Shared Goal 2: Enhance understanding of the chemical industry's role as an innovative solutions industry.
- Shared Goal 3: Encourage chemical product stewardship, safe use, and sustainability.

The Strategic Framework is intended to be a living document, with an action plan that will be continually updated as projects are completed and new initiatives begun. The action plan is structured around the three shared goals listed above.

¹ APEC's 21 member economies are Australia; Brunei Darussalam; Canada; Chile; People's Republic of China; Hong Kong, China; Indonesia; Japan; Republic of Korea; Malaysia; Mexico; New Zealand; Papua New Guinea; Peru; The Republic of the Philippines; The Russian Federation; Singapore; Chinese Taipei; Thailand; United States of America; Viet Nam.

² SAICM/ICCM.2/INF/42

For the purposes of highlighting the work of the Chemical Dialogue as a regional contribution to SAICM implementation since 2009, projects and initiatives listed under the action plan are listed below according to how they relate to the five SAICM core objectives.

Risk Reduction

The Chemical Dialogue has committed to the following actions and initiatives to promote risk reduction in the Asia-Pacific region:

- Maintain a GHS virtual working group to gather information and develop practical case studies to guide industry and government in GHS transition and implementation, and manage the GHS Reference Exchange and Tool (GREAT) project – a web portal that serves as a clearing house to collect and provide information on GHS implementation, including translation into local languages: <http://great.cla.gov.tw/ENG/index.aspx> (ongoing).
- Develop an APEC Chemical Dialogue Principles Framework for GHS and consumer goods for use by member economies (ongoing).
- Establish a virtual working group on transparency and innovation to develop a paper on confidential business information and transparency practices by member economies. The objective of this work is to help guide the development of policy frameworks that promote chemical industry innovation while ensuring transparent access to relevant chemical information (ongoing).
- Promote global and regional chemicals management initiatives, including voluntary industry programs such as Responsible Care and the Global Product Strategy, by preparing an APEC Chemical Dialogue report on risk reduction programs and efforts to strengthen domestic capabilities for chemicals management (ongoing).
- Develop a website to assist emergency responders in member economies in responding to transportation emergencies involving the movement of dangerous goods, particularly across borders: <http://global.chemtrec.com> (completed 2012).

Knowledge and Information

Actions and initiatives to promote the sharing of knowledge and information on chemical management issues include:

- Prepare a report for APEC Ministers on the economic importance of the chemical industry to the region, including for efforts to promote innovation and sustainable development (completed 2011: http://aimp.apec.org/Documents/2011/MM/MRT/11_mrt_010.pdf).
- Promote the chemical sector as a source of innovative solutions to global issues in other APEC focal areas such as the food system, agricultural biotechnology, and industrial science and technology (ongoing).
- Maintain dialogue with the European Chemicals Agency (ECHA) and European Commission, and coordinate APEC member economies input on REACH surveys and implementation issues, ensuring small and medium sized enterprise (SMEs) issues are addressed (ongoing).
- Establish a virtual working group to consider policy and regulatory issues in the region related to chemicals and articles, including how this might relate to ongoing work in SAICM on chemicals in products (ongoing).
- Establish a virtual working group to discuss mechanisms for enhanced information sharing on chemical hazard properties and classifications (ongoing).

Governance

Projects and initiatives under the Strategic Framework related to improving governance include:

- Establish and maintain an APEC Chemical Regulators Forum via annual meetings to discuss regulatory best practice and promote regional harmonization (ongoing).
- Contribute to broader APEC work on regulatory cooperation by establishing a virtual working group to promote enhanced regulatory cooperation on chemicals issues in the APEC region (ongoing).
- Establish a virtual working group on transparency and innovation to develop a paper on CBI and transparency practices by member economies (ongoing).

Capacity Building and Technical Assistance

Projects and initiatives related to strengthen capacity and providing technical assistance in the Asia-Pacific region include:

- Conduct chemical management best practice seminars, including train-the-trainer workshops, and developing a regulatory best practice checklist (ongoing).

- Maintain a GHS virtual working group to gather information and develop practical case studies to guide industry and government in GHS transition and implementation (ongoing).
- Identify and develop tools that would assist industry groups to enhance their chemical management capabilities (ongoing).

Illegal International Traffic

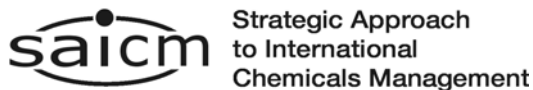
The Chemical Dialogue promotes activities within the APEC Trade Facilitation and Customs Working Group to promote rules based international trade in chemicals and prevention of illegal shipments.

Conclusion

Since its submission to ICCM-2 in 2009, the APEC Chemical Dialogue has made considerable progress in developing projects and initiatives that both promote the objectives of the Dialogue and serve as a regional contribution to SAICM implementation. Befitting the multi-stakeholder nature of SAICM, the Chemical Dialogue serves as a valuable forum to bring government and industry representatives from APEC member economies together to work collaboratively on projects that promote sound chemical management and deepen regional economic integration. Looking ahead, the Chemical Dialogue will continue to develop new and existing initiatives under the Strategic Framework to address current and emerging challenges in the region, and responding to the priorities set by APEC Leaders.

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English only



International Conference on Chemicals Management**Third session**

Nairobi, 17–21 September 2012

Item 6 of the provisional agenda*

Cooperation with intergovernmental organizations

Submission from the United Nations International Strategy for Disaster Reduction

Note by the secretariat

1. The secretariat has the honour to circulate, for the information of participants, in annexes to the present note the submission from the United Nations International Strategy for Disaster Reduction (UNISDR). The annexes contain Resolution A/RES/60/195 adopted by the General Assembly on 2 March 2006 on the International Strategy for Disaster Reduction and the Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters, that was adopted at the World Conference on Disaster Reduction, held in January 2005 in Kobe, Hyogo, Japan.
2. UNISDR highlights the relevance of the Hyogo Framework for Action as a guidance tool for the implementation of the Strategic Approach, especially activity 74 "Develop integrated national and international systems to prevent major industrial accidents and for emergency preparedness and response to all accidents and natural disasters involving chemicals", and activity 137 "Improve understanding of the impact of natural disasters on releases of harmful chemicals and resulting human and wildlife exposures, as well as possible measures to mitigate them".
3. The information is presented as submitted and has not formally been edited.

Annex I



General Assembly

Distr.: General
2 March 2006

Sixtieth session
Agenda item 52 (c)

Resolution adopted by the General Assembly

[on the report of the Second Committee (A/60/488/Add.3)]

60/195. International Strategy for Disaster Reduction

The General Assembly,

Recalling its resolutions 44/236 of 22 December 1989, 49/22 A of 2 December 1994, 49/22 B of 20 December 1994, 53/185 of 15 December 1998, 54/219 of 22 December 1999, 56/195 of 21 December 2001, 57/256 of 20 December 2002, 58/214 of 23 December 2003 and 59/231 of 22 December 2004, and Economic and Social Council resolutions 1999/63 of 30 July 1999 and 2001/35 of 26 July 2001, and taking into due consideration its resolution 57/270 B of 23 June 2003 on integrated and coordinated implementation of and follow-up to the outcomes of the major United Nations conferences and summits in the economic and social fields,

Expressing its deep concern at the number and scale of natural disasters and their increasing impact within recent years, which have resulted in massive loss of life and long-term negative social, economic and environmental consequences for vulnerable societies throughout the world, in particular in developing countries,

Reiterating that, although natural disasters damage the social and economic infrastructure of all countries, the long-term consequences of natural disasters are especially severe for developing countries and hamper the achievement of their sustainable development,

Recognizing that disaster risk reduction is a cross-cutting issue in the context of sustainable development,

Recognizing also the clear relationship between development, disaster risk reduction, disaster response and disaster recovery and the need to deploy efforts in all these areas,

Recognizing further the urgent need to further develop and make use of the existing scientific and technical knowledge to build resilience to natural disasters, and emphasizing the need for developing countries to have access to technology so as to tackle natural disasters effectively,

Emphasizing that disaster risk reduction, including reducing vulnerability to natural disasters, is an important element that contributes to the achievement of sustainable development,

Stressing the importance of advancing the implementation of the Plan of Implementation of the World Summit on Sustainable Development¹ and its relevant provisions on vulnerability, risk assessment and disaster management,

Expressing its profound gratitude to the Government and the people of Japan for the excellent arrangements made for hosting the World Conference on Disaster Reduction, held at Kobe, Hyogo, from 18 to 22 January 2005, for the hospitality extended to the participants and for the facilities, staff and services placed at their disposal, as well as for all the voluntary contributions made to facilitate the participation of representatives of developing countries, in particular those from the least developed countries,

Welcoming the Hyogo Declaration,² the Hyogo Framework for Action 2005–2015: Building the Resilience of Nations and Communities to Disasters,³ and the common statement of the special session on the Indian Ocean disaster: risk reduction for a safer future,⁴ as adopted by the World Conference on Disaster Reduction,

Recognizing that the Hyogo Framework for Action complements the Yokohama Strategy for a Safer World: Guidelines for Natural Disaster Prevention, Preparedness and Mitigation and its Plan of Action,⁵

Taking note that the scope of the Hyogo Framework for Action encompasses disasters caused by hazards of natural origin and related environmental and technological hazards and risks and thus reflects a holistic and multi-hazard approach to disaster risk management and the relationship between them, which can have a significant impact on social, economic, cultural and environmental systems, as stressed in the Yokohama Strategy for a Safer World: Guidelines for Natural Disaster Prevention, Preparedness and Mitigation and its Plan of Action,

Recalling the 2005 World Summit Outcome,⁶

Recognizing the need to continue to develop an understanding of, and to address, socio-economic activities that exacerbate the vulnerability of societies to natural disasters and to build and further strengthen community capability to cope with disaster risks,

1. *Takes note* of the report of the Secretary-General on the implementation of the International Strategy for Disaster Reduction;⁷

2. *Endorses* the Hyogo Declaration² and the Hyogo Framework for Action 2005–2015: Building the Resilience of Nations and Communities to Disasters³ as adopted by the World Conference on Disaster Reduction, held at Kobe, Hyogo, Japan, from 18 to 22 January 2005, and recalls the common statement of the special session on the Indian Ocean disaster: risk reduction for a safer future;⁴

¹ *Report of the World Summit on Sustainable Development, Johannesburg, South Africa, 26 August–4 September 2002* (United Nations publication, Sales No. E.03.II.A.1 and corrigendum), chap. I, resolution 2, annex.

² A/CONF.206/6 and Corr.1, chap. I, resolution 1.

³ *Ibid.*, resolution 2.

⁴ A/CONF.206/6 and Corr.1, annex II.

⁵ A/CONF.172/9, chap. I, resolution 1, annex I.

⁶ See resolution 60/1.

⁷ A/60/180.

3. *Calls for* a more effective integration of disaster risk reduction into sustainable development policies, planning and programming; for the development and strengthening of institutions, mechanisms and capacities to build resilience to hazards and for a systematic incorporation of risk reduction approaches into the implementation of emergency preparedness, response and recovery programmes;

4. *Invites* Member States, the United Nations system, including international financial institutions, regional bodies and other international organizations, as well as relevant civil society organizations, to support, implement and follow up the Hyogo Framework for Action;

5. *Calls upon* the United Nations system, including international financial institutions and international organizations, to integrate the goals of and take into full account the Hyogo Framework for Action in their strategies and programmes, making use of existing coordination mechanisms, and to assist developing countries with those mechanisms to design disaster risk reduction measures with a sense of urgency;

6. *Calls upon* the international community to fully implement the commitments of the Hyogo Declaration and the Hyogo Framework for Action;

7. *Recalls* that the commitments of the Hyogo Declaration and the Hyogo Framework for Action include the provision of assistance for developing countries that are prone to natural disasters and disaster-stricken States in the transition phase towards sustainable physical, social and economic recovery, for risk-reduction activities in post-disaster recovery and for rehabilitation processes;

8. *Calls upon* the United Nations system, including the international financial institutions as well as regional banks and other regional and international organizations to support, in a timely and sustained manner, the efforts led by disaster-stricken countries for disaster risk reduction, in post-disaster recovery and rehabilitation processes;

9. *Takes note* of all the regional and subregional initiatives developed in order to achieve disaster risk reduction, reiterates the need to develop regional initiatives and risk reduction capacities of regional mechanisms and to strengthen them, wherever they exist, and encourages the use and sharing of all the existing tools;

10. *Notes* the importance of developing international mechanisms for the implementation of the actions established in the Hyogo Framework for Action, such as, for example, the International Recovery Platform launched to ensure the reduction of vulnerability during the post-disaster recovery phase;

11. *Recognizes* that each State has the primary responsibility for its own sustainable development and for taking effective measures to reduce disaster risk, including for the protection of people on its territory, infrastructure and other national assets from the impact of disasters, including the implementation of and follow-up to the Hyogo Framework for Action, and stresses the importance of international cooperation and partnerships to support those national efforts;

12. *Also recognizes* the need to strengthen the sharing of good practices, knowledge and technical support among all relevant stakeholders;

13. *Calls upon* the international community to support the development and strengthening of institutions, mechanisms and capacities at all levels, in particular at the community level, that can systematically contribute to building resilience to hazards;

14. *Stresses* the importance of further strengthening the capacity of the International Strategy for Disaster Reduction system in order to provide a solid basis for action as mandated by the Hyogo Framework for Action, and requests the Secretary-General to include this issue in his report to the General Assembly at its sixty-first session;

15. *Recognizes* the importance of integrating a gender perspective as well as engaging women in the design and implementation of all phases of disaster management, particularly at the disaster risk reduction stage;

16. *Expresses its appreciation* to those countries that have provided financial support for the activities of the Strategy by making voluntary contributions to the Trust Fund for the International Strategy for Disaster Reduction;

17. *Encourages* the international community to provide adequate voluntary financial contributions to the United Nations Trust Fund for Disaster Reduction, in the effort to ensure the adequate support for the follow-up activities to the Hyogo Framework for Action, and to review the current usage and feasibility for the expansion of the Fund, inter alia, to assist disaster-prone developing countries to set up national strategies for disaster risk reduction;

18. *Requests* the Secretary-General to allocate adequate financial and administrative resources, within existing resources, for the activities and effective functioning of the Inter-Agency Secretariat for the International Strategy for Disaster Reduction;

19. *Invites* Governments and relevant international organizations to consider disaster risk assessment as an integral component of development plans and poverty eradication programmes;

20. *Stresses* the importance of identifying, assessing and managing risks prior to the occurrence of disasters, for which it is necessary to combine the efforts at all levels from the development, humanitarian, scientific and environmental communities as well as the importance of integrating disaster risk reduction, as appropriate, into development plans and poverty eradication programmes;

21. *Also stresses* the need to foster better understanding and knowledge of the causes of disasters, as well as to build and strengthen coping capacities through, inter alia, the transfer and exchange of experiences and technical knowledge, access to relevant data and information and the strengthening of institutional arrangements, including community-based organizations;

22. *Recognizes* the importance of early warning as an essential element of disaster risk reduction and looks forward to the results of the Third International Conference on Early Warning, to be held from 27 to 29 March 2006, in Bonn, Germany;

23. *Requests*, in this context, the Inter-Agency Secretariat for the International Strategy for Disaster Reduction to complete the preparation of the global survey on early warning capacities and gaps, including an account of available technologies for early warning, and invites Member States to provide inputs that may assist the Inter-Agency Secretariat for the Strategy in preparing this survey;

24. *Reiterates its call upon* Governments to establish national platforms or focal points for disaster reduction and to strengthen them, wherever they exist, encourages the platforms to share relevant information on standards and practices, urges the United Nations system, in this regard, to provide appropriate support for

those mechanisms, and invites the Secretary-General to strengthen the regional outreach of the Inter-Agency Secretariat for the International Strategy for Disaster Reduction in order to ensure such support;

25. *Stresses* that continued cooperation and coordination among Governments, the United Nations system, other organizations, regional organizations, non-governmental organizations and other partners, as appropriate, are considered essential to address effectively the impact of natural disasters;

26. *Recognizes* the importance of linking disaster risk management to regional frameworks, as appropriate, such as the African Regional Strategy for Disaster Reduction developed within the New Partnership for Africa's Development,⁸ to address issues of poverty eradication and sustainable development;

27. *Emphasizes* the need for the international community to maintain its focus beyond emergency relief and to support medium- and long-term rehabilitation, reconstruction and risk reduction, and stresses the importance of implementing programmes related to the eradication of poverty, sustainable development and disaster risk reduction management in the most vulnerable regions, particularly in developing countries prone to natural disasters;

28. *Requests* the Secretary-General to submit to the General Assembly at its sixty-first session a report on the implementation of the present resolution, under the item entitled "Sustainable development".

*68th plenary meeting
22 December 2005*

⁸ A/57/304, annex.

Annex II



International Strategy for Disaster Reduction

Hyogo Framework for Action 2005-2015:

Building the Resilience of Nations
and Communities to Disasters

*Extract from the final report of the
World Conference on Disaster Reduction
(A/CONF.206/6)*



United Nations

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I. Preamble

1. The World Conference on Disaster Reduction was held from 18 to 22 January 2005 in Kobe, Hyogo, Japan, and adopted the present Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters (here after referred to as the “Framework for Action”). The Conference provided a unique opportunity to promote a strategic and systematic approach to reducing vulnerabilities¹ and risks to hazards.² It underscored the need for, and identified ways of, building the resilience of nations and communities to disasters.³

A. Challenges posed by disasters

2. Disaster loss is on the rise with grave consequences for the survival, dignity and livelihood of individuals, particularly the poor, and hard-won development gains. Disaster risk is increasingly of global concern and its impact and actions in one region can have an impact on risks in another, and vice versa. This, compounded by increasing vulnerabilities related to changing demographic, technological and socio-economic conditions, unplanned urbanization, development within high-risk zones, under-development, environmental degradation, climate variability, climate change, geological hazards, competition for scarce resources, and the impact of epidemics such as HIV/AIDS, points to a future where disasters could increasingly threaten the world’s economy, and its population and the sustainable development of developing countries. In the past two decades, on average more than 200 million people have been affected every year by disasters.

3. Disaster risk arises when hazards interact with physical, social, economic and environmental vulnerabilities. Events of hydrometeorological origin constitute the large majority of disasters. Despite the growing understanding and acceptance of the importance of disaster risk reduction and increased disaster response capacities, disasters and in particular the management and reduction of risk continue to pose a global challenge.

4. There is now international acknowledgement that efforts to reduce disaster risks must be systematically integrated into policies, plans and programmes for sustainable development and poverty reduction, and supported through bilateral, regional and international cooperation, including partnerships. Sustainable development, poverty reduction, good governance and disaster risk reduction are mutually supportive objectives, and in order to meet the challenges ahead, accelerated efforts must be made to build the necessary capacities at the community and national levels to manage and reduce risk. Such

¹ Vulnerability is defined as: “The conditions determined by physical, social, economic, and environmental factors or processes, which increase the susceptibility of a community to the impact of hazards”. UN/ISDR. Geneva 2004.

² Hazard is defined as: “A potentially damaging physical event, phenomenon or human activity that may cause the loss of life or injury, property damage, social and economic disruption or environmental degradation. Hazards can include latent conditions that may represent future threats and can have different origins: natural (geological, hydrometeorological and biological) or induced by human processes (environmental degradation and technological hazards)” UN/ISDR. Geneva 2004.

³ The scope of this Framework for Action encompasses disasters caused by hazards of natural origin and related environmental and technological hazards and risks. It thus reflects a holistic and multi-hazard approach to disaster risk management and the relationship, between them which can have a significant impact on social, economic, cultural and environmental systems, as stressed in the Yokohama Strategy (section I, part B, letter I, p. 8).

an approach is to be recognized as an important element for the achievement of internationally agreed development goals, including those contained in the Millennium Declaration.

5. The importance of promoting disaster risk reduction efforts on the international and regional levels as well as the national and local levels has been recognized in the past few years in a number of key multilateral frameworks and declarations.⁴

B. The Yokohama Strategy: lessons learned and gaps identified

6. The Yokohama Strategy for a Safer World: Guidelines for Natural Disaster Prevention, Preparedness and Mitigation and its Plan of Action (“Yokohama Strategy”), adopted in 1994, provides landmark guidance on reducing disaster risk and the impacts of disasters.

7. The review of progress made in implementing the Yokohama Strategy⁵ identifies major challenges for the coming years in ensuring more systematic action to address disaster risks in the context of sustainable development and in building resilience through enhanced national and local capabilities to manage and reduce risk.

8. The review stresses the importance of disaster risk reduction being underpinned by a more pro-active approach to informing, motivating and involving people in all aspects of disaster risk reduction in their own local communities. It also highlights the scarcity of resources allocated specifically from development budgets for the realization of risk reduction objectives, either at the national or the regional level or through international cooperation and financial mechanisms, while noting the significant potential to better exploit existing resources and established practices for more effective disaster risk reduction.

9. Specific gaps and challenges are identified in the following five main areas:

- (a) Governance: organizational, legal and policy frameworks;
- (b) Risk identification, assessment, monitoring and early warning;
- (c) Knowledge management and education;
- (d) Reducing underlying risk factors;
- (e) Preparedness for effective response and recovery.

These are the key areas for developing a relevant framework for action for the decade 2005–2015.

⁴ Some of these frameworks and declarations are listed in the annex to this document.

⁵ *Review of the Yokohama Strategy and Plan of Action for a Safer World* (A/CONF.206/L.1).

II. World Conference on Disaster Reduction: Objectives, expected outcome and strategic goals

A. Objectives

10. The World Conference on Disaster Reduction was convened by decision of the General Assembly, with five specific objectives:⁶

(a) To conclude and report on the review of the Yokohama Strategy and its Plan of Action, with a view to updating the guiding framework on disaster reduction for the twenty-first century;

(b) To identify specific activities aimed at ensuring the implementation of relevant provisions of the Johannesburg Plan of Implementation of the World Summit on Sustainable Development on vulnerability, risk assessment and disaster management;

(c) To share good practices and lessons learned to further disaster reduction within the context of attaining sustainable development, and to identify gaps and challenges;

(d) To increase awareness of the importance of disaster reduction policies, thereby facilitating and promoting the implementation of those policies;

(e) To increase the reliability and availability of appropriate disaster-related information to the public and disaster management agencies in all regions, as set out in relevant provisions of the Johannesburg Plan of Implementation.

B. Expected outcome

11. Taking these objectives into account, and drawing on the conclusions of the review of the Yokohama Strategy, States and other actors participating at the World Conference on Disaster Reduction (hereinafter referred to as “the Conference”) resolve to pursue the following expected outcome for the next 10 years:

The substantial reduction of disaster losses, in lives and in the social, economic and environmental assets of communities and countries.

The realization of this outcome will require the full commitment and involvement of all actors concerned, including governments, regional and international organizations, civil society including volunteers, the private sector and the scientific community.

C. Strategic goals

12. To attain this expected outcome, the Conference resolves to adopt the following strategic goals:

(a) The more effective integration of disaster risk considerations into sustainable development policies, planning and programming at all levels, with a special emphasis on disaster prevention, mitigation, preparedness and vulnerability reduction;

⁶ As per General Assembly resolution 58/214 of 23 December 2003.

(b) The development and strengthening of institutions, mechanisms and capacities at all levels, in particular at the community level, that can systematically contribute to building resilience⁷ to hazards;

(c) The systematic incorporation of risk reduction approaches into the design and implementation of emergency preparedness, response and recovery programmes in the reconstruction of affected communities.

III. Priorities for action 2005–2015

A. General considerations

13. In determining appropriate action to achieve the expected outcome and strategic goals, the Conference reaffirms that the following general considerations will be taken into account:

(a) The Principles contained in the Yokohama Strategy retain their full relevance in the current context, which is characterized by increasing commitment to disaster reduction;

(b) Taking into account the importance of international cooperation and partnerships, each State has the primary responsibility for its own sustainable development and for taking effective measures to reduce disaster risk, including for the protection of people on its territory, infrastructure and other national assets from the impact of disasters. At the same time, in the context of increasing global interdependence, concerted international cooperation and an enabling international environment are required to stimulate and contribute to developing the knowledge, capacities and motivation needed for disaster risk reduction at all levels;

(c) An integrated, multi-hazard approach to disaster risk reduction should be factored into policies, planning and programming related to sustainable development, relief, rehabilitation, and recovery activities in post-disaster and post-conflict situations in disaster-prone countries;⁸

(d) A gender perspective should be integrated into all disaster risk management policies, plans and decision-making processes, including those related to risk assessment, early warning, information management, and education and training;⁹

(e) Cultural diversity, age, and vulnerable groups should be taken into account when planning for disaster risk reduction, as appropriate;

⁷ Resilience: “The capacity of a system, community or society potentially exposed to hazards to adapt, by resisting or changing in order to reach and maintain an acceptable level of functioning and structure. This is determined by the degree to which the social system is capable of organising itself to increase this capacity for learning from past disasters for better future protection and to improve risk reduction measures.” UN/ISDR. Geneva 2004.

⁸ The Johannesburg Plan of Implementation of the World Summit on Sustainable Development, Johannesburg, South Africa, 26 August-4 September 2002, paragraphs 37 and 65.

⁹ As reaffirmed at the twenty-third special session of the General Assembly on the topic “Women 2000: gender equality, development and peace for the twenty-first century”.

(f) Both communities and local authorities should be empowered to manage and reduce disaster risk by having access to the necessary information, resources and authority to implement actions for disaster risk reduction;

(g) Disaster-prone developing countries, especially least developed countries and small island developing States, warrant particular attention in view of their higher vulnerability and risk levels, which often greatly exceed their capacity to respond to and recover from disasters;

(h) There is a need to enhance international and regional cooperation and assistance in the field of disaster risk reduction through, *inter alia*:

- The transfer of knowledge, technology and expertise to enhance capacity building for disaster risk reduction
- The sharing of research findings, lessons learned and best practices
- The compilation of information on disaster risk and impact for all scales of disasters in a way that can inform sustainable development and disaster risk reduction
- Appropriate support in order to enhance governance for disaster risk reduction, for awareness-raising initiatives and for capacity-development measures at all levels, in order to improve the disaster resilience of developing countries
- The full, speedy and effective implementation of the enhanced Heavily Indebted Poor Countries Initiative, taking into account the impact of disasters on the debt sustainability of countries eligible for this programme
- Financial assistance to reduce existing risks and to avoid the generation of new risks

(i) The promotion of a culture of prevention, including through the mobilization of adequate resources for disaster risk reduction, is an investment for the future with substantial returns. Risk assessment and early warning systems are essential investments that protect and save lives, property and livelihoods, contribute to the sustainability of development, and are far more cost-effective in strengthening coping mechanisms than is primary reliance on post-disaster response and recovery;

(j) There is also a need for proactive measures, bearing in mind that the phases of relief, rehabilitation and reconstruction following a disaster are windows of opportunity for the rebuilding of livelihoods and for the planning and reconstruction of physical and socio-economic structures, in a way that will build community resilience and reduce vulnerability to future disaster risks;

(k) Disaster risk reduction is a cross-cutting issue in the context of sustainable development and therefore an important element for the achievement of internationally agreed development goals, including those contained in the Millennium Declaration. In addition, every effort should be made to use humanitarian assistance in such a way that risks and future vulnerabilities will be lessened as much as possible.

B. Priorities for action

14. Drawing on the conclusions of the review of the Yokohama Strategy, and on the basis of deliberations at the World Conference on Disaster Reduction and especially the agreed expected outcome and strategic goals, the Conference has adopted the following five priorities for action:

1. Ensure that disaster risk reduction is a national and a local priority with a strong institutional basis for implementation.
2. Identify, assess and monitor disaster risks and enhance early warning.
3. Use knowledge, innovation and education to build a culture of safety and resilience at all levels.
4. Reduce the underlying risk factors.
5. Strengthen disaster preparedness for effective response at all levels.

15. In their approach to disaster risk reduction, States, regional and international organizations and other actors concerned should take into consideration the key activities listed under each of these five priorities and should implement them, as appropriate, to their own circumstances and capacities.

1. Ensure that disaster risk reduction is a national and a local priority with a strong institutional basis for implementation

16. Countries that develop policy, legislative and institutional frameworks for disaster risk reduction and that are able to develop and track progress through specific and measurable indicators have greater capacity to manage risks and to achieve widespread consensus for, engagement in and compliance with disaster risk reduction measures across all sectors of society.

Key activities:

(i) National institutional and legislative frameworks

(a) Support the creation and strengthening of national integrated disaster risk reduction mechanisms, such as multi sectoral national platforms¹⁰, with designated responsibilities at the national through to the local levels to facilitate coordination across sectors. National platforms should also facilitate coordination across sectors, including by maintaining a broad based dialogue at national and regional levels for promoting awareness among the relevant sectors.

(b) Integrate risk reduction, as appropriate, into development policies and planning at all levels of government, including in poverty reduction strategies and sectors and multi sector policies and plans.

(c) Adopt, or modify where necessary, legislation to support disaster risk reduction, including regulations and mechanisms that encourage compliance and that promote incentives for undertaking risk reduction and mitigation activities.

(d) Recognize the importance and specificity of local risk patterns and trends, decentralize responsibilities and resources for disaster risk reduction to relevant sub-national or local authorities, as appropriate.

¹⁰ The establishment of national platforms for disaster reduction was requested in Economic and Social Council resolution 1999/63 and in General Assembly resolutions 56/195, 58/214, and 58/215. The expression “national platform” is a generic term used for national mechanisms for coordination and policy guidance on disaster risk reduction that need to be multi-sectoral and inter-disciplinary in nature, with public, private and civil society participation involving all concerned entities within a country (including United Nations agencies present at the national level, as appropriate). National platforms represent the national mechanism for the International Strategy for Disaster Reduction.

(ii) *Resources*

(e) Assess existing human resource capacities for disaster risk reduction at all levels and develop capacity-building plans and programmes for meeting ongoing and future requirements.

(f) Allocate resources for the development and the implementation of disaster risk management policies, programmes, laws and regulations on disaster risk reduction in all relevant sectors and authorities at all levels of administrative and budgets on the basis of clearly prioritized actions.

(g) Governments should demonstrate the strong political determination required to promote and integrate disaster risk reduction into development programming.

(iii) *Community participation*

(h) Promote community participation in disaster risk reduction through the adoption of specific policies, the promotion of networking, the strategic management of volunteer resources, the attribution of roles and responsibilities, and the delegation and provision of the necessary authority and resources.

2. Identify, assess and monitor disaster risks and enhance early warning

17. The starting point for reducing disaster risk and for promoting a culture of disaster resilience lies in the knowledge of the hazards and the physical, social, economic and environmental vulnerabilities to disasters that most societies face, and of the ways in which hazards and vulnerabilities are changing in the short and long term, followed by action taken on the basis of that knowledge.

Key activities:

(i) *National and local risk assessments*

(a) Develop, update periodically and widely disseminate risk maps and related information to decision-makers, the general public and communities at risk¹¹ in an appropriate format.

(b) Develop systems of indicators of disaster risk and vulnerability at national and sub-national scales that will enable decision-makers to assess the impact of disasters¹² on social, economic and environmental conditions and disseminate the results to decision-makers, the public and populations at risk.

(c) Record, analyse, summarize and disseminate statistical information on disaster occurrence, impacts and losses, on a regular bases through international, regional, national and local mechanisms.

(ii) *Early warning*

(d) Develop early warning systems that are people centered, in particular systems whose warnings are timely and understandable to those at risk, which take into account the demographic, gender, cultural and livelihood characteristics of the target audiences, including guidance on how to act upon warnings, and that support effective operations by disaster managers and other decision makers.

¹¹ See footnotes 1, 2 and 3 for the scope of this Framework for Action.

¹² See footnotes 1, 2 and 3.

(e) Establish, periodically review, and maintain information systems as part of early warning systems with a view to ensuring that rapid and coordinated action is taken in cases of alert/emergency.

(f) Establish institutional capacities to ensure that early warning systems are well integrated into governmental policy and decision-making processes and emergency management systems at both the national and the local levels, and are subject to regular system testing and performance assessments.

(g) Implement the outcome of the Second International Conference on Early Warning held in Bonn, Germany, in 2003¹³, including through the strengthening of coordination and cooperation among all relevant sectors and actors in the early warning chain in order to achieve fully effective early warning systems.

(h) Implement the outcome of the Mauritius Strategy for the further implementation of the Barbados Programme of Action for the sustainable development of small island developing States, including by establishing and strengthening effective early warning systems as well as other mitigation and response measures.

(iii) *Capacity*

(i) Support the development and sustainability of the infrastructure and scientific, technological, technical and institutional capacities needed to research, observe, analyse, map and where possible forecast natural and related hazards, vulnerabilities and disaster impacts.

(j) Support the development and improvement of relevant databases and the promotion of full and open exchange and dissemination of data for assessment, monitoring and early warning purposes, as appropriate, at international, regional, national and local levels.

(k) Support the improvement of scientific and technical methods and capacities for risk assessment, monitoring and early warning, through research, partnerships, training and technical capacity- building. Promote the application of *in situ* and space-based earth observations, space technologies, remote sensing, geographic information systems, hazard modelling and prediction, weather and climate modelling and forecasting, communication tools and studies of the costs and benefits of risk assessment and early warning.

(l) Establish and strengthen the capacity to record, analyze, summarize, disseminate, and exchange statistical information and data on hazards mapping, disaster risks, impacts, and losses; support the development of common methodologies for risk assessment and monitoring.

(iv) *Regional and emerging risks*

(m) Compile and standardize, as appropriate, statistical information and data on regional disaster risks, impacts and losses.

(n) Cooperate regionally and internationally, as appropriate, to assess and monitor regional and trans-boundary hazards, and exchange information and provide early warnings through appropriate arrangements, such as, *inter alia*, those relating to the management of river basins.

¹³ As recommended in General Assembly resolution 58/214.

(o) Research, analyse and report on long-term changes and emerging issues that might increase vulnerabilities and risks or the capacity of authorities and communities to respond to disasters.

3. Use knowledge, innovation and education to build a culture of safety and resilience at all levels

18. Disasters can be substantially reduced if people are well informed and motivated towards a culture of disaster prevention and resilience, which in turn requires the collection, compilation and dissemination of relevant knowledge and information on hazards, vulnerabilities and capacities.

Key activities:

(i) Information management and exchange

(a) Provide easily understandable information on disaster risks and protection options, especially to citizens in high-risk areas, to encourage and enable people to take action to reduce risks and build resilience. The information should incorporate relevant traditional and indigenous knowledge and culture heritage and be tailored to different target audiences, taking into account cultural and social factors.

(b) Strengthen networks among disaster experts, managers and planners across sectors and between regions, and create or strengthen procedures for using available expertise when agencies and other important actors develop local risk reduction plans.

(c) Promote and improve dialogue and cooperation among scientific communities and practitioners working on disaster risk reduction, and encourage partnerships among stakeholders, including those working on the socioeconomic dimensions of disaster risk reduction.

(d) Promote the use, application and affordability of recent information, communication and space-based technologies and related services, as well as earth observations, to support disaster risk reduction, particularly for training and for the sharing and dissemination of information among different categories of users.

(e) In the medium term, develop local, national, regional and international user-friendly directories, inventories and national information-sharing systems and services for the exchange of information on good practices, cost-effective and easy-to-use disaster risk reduction technologies, and lessons learned on policies, plans and measures for disaster risk reduction.

(f) Institutions dealing with urban development should provide information to the public on disaster reduction options prior to constructions, land purchase or land sale.

(g) Update and widely disseminate international standard terminology related to disaster risk reduction, at least in all official United Nations languages, for use in programme and institutional development, operations, research, training curricula and public information programmes.

(ii) Education and training

(h) Promote the inclusion of disaster risk reduction knowledge in relevant sections of school curricula at all levels and the use of other formal and informal channels to reach youth and children with information; promote the integration of disaster risk reduction as an intrinsic element of the United Nations Decade of Education for Sustainable Development (2005–2015).

(i) Promote the implementation of local risk assessment and disaster preparedness programmes in schools and institutions of higher education.

(j) Promote the implementation of programmes and activities in schools for learning how to minimize the effects of hazards.

(k) Develop training and learning programmes in disaster risk reduction targeted at specific sectors (development planners, emergency managers, local government officials, etc.).

(l) Promote community-based training initiatives, considering the role of volunteers, as appropriate, to enhance local capacities to mitigate and cope with disasters.

(m) Ensure equal access to appropriate training and educational opportunities for women and vulnerable constituencies; promote gender and cultural sensitivity training as integral components of education and training for disaster risk reduction.

(iii) *Research*

(n) Develop improved methods for predictive multi-risk assessments and socioeconomic cost–benefit analysis of risk reduction actions at all levels; incorporate these methods into decision-making processes at regional, national and local levels.

(o) Strengthen the technical and scientific capacity to develop and apply methodologies, studies and models to assess vulnerabilities to and the impact of geological, weather, water and climate-related hazards, including the improvement of regional monitoring capacities and assessments.

(iv) *Public awareness*

(p) Promote the engagement of the media in order to stimulate a culture of disaster resilience and strong community involvement in sustained public education campaigns and public consultations at all levels of society.

4. Reduce the underlying risk factors

19. Disaster risks related to changing social, economic, environmental conditions and land use, and the impact of hazards associated with geological events, weather, water, climate variability and climate change, are addressed in sector development planning and programmes as well as in post-disaster situations.

Key activities:

(i) *Environmental and natural resource management*

(a) Encourage the sustainable use and management of ecosystems, including through better land-use planning and development activities to reduce risk and vulnerabilities.

(b) Implement integrated environmental and natural resource management approaches that incorporate disaster risk reduction, including structural and non-structural measures,¹⁴ such as integrated flood management and appropriate management of fragile ecosystems.

¹⁴ “Structural measures refer to any physical construction to reduce or avoid possible impacts of hazards, which include engineering measures and construction of hazard-resistant and protective structures and infrastructure. Non-structural measures refer to policies, awareness, knowledge

(c) Promote the integration of risk reduction associated with existing climate variability and future climate change into strategies for the reduction of disaster risk and adaptation to climate change, which would include the clear identification of climate-related disaster risks, the design of specific risk reduction measures and an improved and routine use of climate risk information by planners, engineers and other decision-makers.

(ii) *Social and economic development practices*

(d) Promote food security as an important factor in ensuring the resilience of communities to hazards, particularly in areas prone to drought, flood, cyclones and other hazards that can weaken agriculture-based livelihoods.

(e) Integrate disaster risk reduction planning into the health sector; promote the goal of “hospitals safe from disaster” by ensuring that all new hospitals are built with a level of resilience that strengthens their capacity to remain functional in disaster situations and implement mitigation measures to reinforce existing health facilities, particularly those providing primary health care.

(f) Protect and strengthen critical public facilities and physical infrastructure, particularly schools, clinics, hospitals, water and power plants, communications and transport lifelines, disaster warning and management centres, and culturally important lands and structures through proper design, retrofitting and re-building, in order to render them adequately resilient to hazards.

(g) Strengthen the implementation of social safety-net mechanisms to assist the poor, the elderly and the disabled, and other populations affected by disasters. Enhance recovery schemes including psycho-social training programmes in order to mitigate the psychological damage of vulnerable populations, particularly children, in the aftermath of disasters.

(h) Incorporate disaster risk reduction measures into post-disaster recovery and rehabilitation processes¹⁵ and use opportunities during the recovery phase to develop capacities that reduce disaster risk in the long term, including through the sharing of expertise, knowledge and lessons learned.

(i) Endeavor to ensure, as appropriate, that programmes for displaced persons do not increase risk and vulnerability to hazards.

(j) Promote diversified income options for populations in high-risk areas to reduce their vulnerability to hazards, and ensure that their income and assets are not undermined by development policy and processes that increase their vulnerability to disasters.

(k) Promote the development of financial risk-sharing mechanisms, particularly insurance and reinsurance against disasters.

(l) Promote the establishment of public–private partnerships to better engage the private sector in disaster risk reduction activities; encourage the private sector to foster a culture of disaster prevention, putting greater emphasis on, and allocating resources to, pre-disaster activities such as risk assessments and early warning systems.

development, public commitment, and methods and operating practices, including participatory mechanisms and the provision of information, which can reduce risk and related impacts”. UN/ISDR. Geneva, 2004.

¹⁵ According to the principles contained in General Assembly resolution 46/182.

(m) Develop and promote alternative and innovative financial instruments for addressing disaster risk.

(iii) *Land-use planning and other technical measures*

(n) Incorporate disaster risk assessments into the urban planning and management of disaster-prone human settlements, in particular highly populated areas and quickly urbanizing settlements. The issues of informal or non-permanent housing and the location of housing in high-risk areas should be addressed as priorities, including in the framework of urban poverty reduction and slum-upgrading programmes.

(o) Mainstream disaster risk considerations into planning procedures for major infrastructure projects, including the criteria for design, approval and implementation of such projects and considerations based on social, economic and environmental impact assessments.

(p) Develop, upgrade and encourage the use of guidelines and monitoring tools for the reduction of disaster risk in the context of land-use policy and planning.

(q) Incorporate disaster risk assessment into rural development planning and management, in particular with regard to mountain and coastal flood plain areas, including through the identification of land zones that are available and safe for human settlement,

(r) Encourage the revision of existing or the development of new building codes, standards, rehabilitation and reconstruction practices at the national or local levels, as appropriate, with the aim of making them more applicable in the local context, particularly in informal and marginal human settlements, and reinforce the capacity to implement, monitor and enforce such codes, through a consensus-based approach, with a view to fostering disaster-resistant structures.

5. Strengthen disaster preparedness for effective response at all levels

20. At times of disaster, impacts and losses can be substantially reduced if authorities, individuals and communities in hazard-prone areas are well prepared and ready to act and are equipped with the knowledge and capacities for effective disaster management.

Key activities:

(a) Strengthen policy, technical and institutional capacities in regional, national and local disaster management, including those related to technology, training, and human and material resources.

(b) Promote and support dialogue, exchange of information and coordination among early warning, disaster risk reduction, disaster response, development and other relevant agencies and institutions at all levels, with the aim of fostering a holistic approach towards disaster risk reduction.

(c) Strengthen and when necessary develop coordinated regional approaches, and create or upgrade regional policies, operational mechanisms, plans and communication systems to prepare for and ensure rapid and effective disaster response in situations that exceed national coping capacities.

(d) Prepare or review and periodically update disaster preparedness and contingency plans and policies at all levels, with a particular focus on the most vulnerable areas and groups. Promote regular disaster preparedness exercises, including evacuation drills, with a view to ensuring rapid and effective disaster response and access to essential food and non-food relief supplies, as appropriate, to local needs.

(e) Promote the establishment of emergency funds, where and as appropriate, to support response, recovery and preparedness measures.

(f) Develop specific mechanisms to engage the active participation and ownership of relevant stakeholders, including communities, in disaster risk reduction, in particular building on the spirit of volunteerism.

IV. Implementation and follow-up

A. General considerations

21. The implementation of and follow-up to the strategic goals and priorities for action set out in this Framework for Action should be addressed by different stakeholders in a multi-sectoral approach, including the development sector. States and regional and international organizations, including the United Nations and international financial institutions, are called upon to integrate disaster risk reduction considerations into their sustainable development policy, planning and programming at all levels. Civil society, including volunteers and community-based organizations, the scientific community and the private sector are vital stakeholders in supporting the implementation of disaster risk reduction at all levels.

22. While each State has primary responsibility for its own economic and social development, an enabling international environment is vital to stimulate and contribute to developing the knowledge, capacities and motivation needed to build disaster resilient nations and communities. States and regional and international organizations should foster greater strategic coordination among the United Nations, other international organizations, including international financial institutions, regional bodies, donor agencies and non-governmental organizations engaged in disaster risk reduction, based on a strengthened International Strategy for Disaster Reduction. In the coming years, consideration should be given to ensuring the implementation and strengthening of relevant international legal instruments related to disaster risk reduction.

23. States and regional and international organizations should also support the capacities of regional mechanisms and organizations to develop regional plans, policies and common practices, as appropriate, in support of networking, advocacy, coordination, exchange of information and experience, scientific monitoring of hazards and vulnerability, and institutional capacity development and to deal with disaster risks.

24. All actors are encouraged to build multi-stakeholder partnerships, at all levels, as appropriate, and on a voluntary basis, to contribute to the implementation of this Framework for Action. States and other actors are also encouraged to promote the strengthening or establishment of national, regional and international volunteer corps, which can be made available to countries and to the international community to contribute to addressing vulnerability and reducing disaster risk.¹⁶

25. The Mauritius Strategy for the further implementation of the Barbados Programme of Action for Small Island Developing States underscores that small island developing States are located among the most vulnerable regions in the world in relation to the intensity and frequency of natural and environmental disasters and their increasing impact, and face disproportionately high economic, social and environmental consequences. Small island

¹⁶ In compliance with General Assembly resolution 58/118 and OAS General Assembly resolution 2018 (xxxiv-0/04).

developing States have undertaken to strengthen their respective national frameworks for more effective disaster management and are committed, with the necessary support of the international community, to improve national disaster mitigation, preparedness and early-warning capacity, increase public awareness about disaster reduction, stimulate interdisciplinary and inter-sectoral partnerships, mainstream risk management into their national planning process, address issues relating to insurance and reinsurance arrangements, and augment their capacity to predict and respond to emergency situations, including those affecting human settlements stemming from natural and environmental disasters.

26. In view of the particular vulnerabilities and insufficient capacities of least developed countries to respond to and recover from disasters, support is needed by the least developed countries as a matter of priority, in executing substantive programmes and relevant institutional mechanisms for the implementation of the Framework for Action, including through financial and technical assistance and for capacity building in disaster risk reduction as an effective and sustainable means to prevent and respond to disasters.

27. Disasters in Africa pose a major obstacle to the African continent's efforts to achieve sustainable development, especially in view of the region's insufficient capacities to predict, monitor, deal with and mitigate disasters. Reducing the vulnerability of the African people to hazards is a necessary element of poverty reduction strategies, including efforts to protect past development gains. Financial and technical assistance is needed to strengthen the capacities of African countries, including observation and early warning systems, assessments, prevention, preparedness, response and recovery.

28. The follow-up on the World Conference on Disaster Reduction will, as appropriate, be an integrated and coordinated part of the follow-up to other major conference in fields relevant to disaster risk reduction.¹⁷ This should include specific reference to progress on disaster risk reduction taking, into account agreed development goals, including those found in the Millennium Declaration.

29. The implementation of this Framework for Action for the period 2005-2015 will be appropriately reviewed.

B. States

30. All States should endeavour to undertake the following tasks at the national and local levels, with a strong sense of ownership and in collaboration with civil society and other stakeholders, within the bounds of their financial, human and material capacities, and taking into account their domestic legal requirements and existing international instruments related to disaster risk reduction. States should also contribute actively in the context of regional and international cooperation, in line with paragraphs 33 and 34.

(a) Prepare and publish national baseline assessments of the status of disaster risk reduction, according to the capabilities, needs and policies of each State, and, as appropriate, share this information with concerned regional and international bodies;

(b) Designate an appropriate national coordination mechanism for the implementation and follow up of this Framework for Action, and communicate the information to the secretariat of the International Strategy for Disaster Reduction;

¹⁷ As identified in General Assembly resolution 57/270 B.

(c) Publish and periodically update a summary of national programmes for disaster risk reduction related to this Framework for Action, including on international cooperation;

(d) Develop procedures for reviewing national progress against this Framework for Action, which should include systems for cost benefit analysis and ongoing monitoring and assessment of vulnerability and risk, in particular with regards to regions exposed to hydrometeorological and seismic hazards, as appropriate;

(e) Include information on progress of disaster risk reduction in the reporting mechanisms of existing international and other frameworks concerning sustainable development, as appropriate;

(f) Consider, as appropriate, acceding to, approving or ratifying relevant international legal instruments relating to disaster reduction, and, for State parties to those instruments, take measures for their effective implementation;¹⁸

(g) Promote the integration of risk reduction associated with existing climate variability and future climate change into strategies for the reduction of disaster risk and adaptation to climate change; ensure that the management of risks associated with geological hazards, such as earthquakes and landslides, are fully taken into account in disaster risk reduction programmes.

C. Regional organizations and institutions

31. Regional organizations with a role related to disaster risk reduction are called upon to undertake the following tasks within their mandates, priorities and resources:

(a) Promote regional programmes, including programmes for technical cooperation, capacity development, the development of methodologies and standards for hazard and vulnerability monitoring and assessment, the sharing of information and effective mobilization of resources, in view of supporting national and regional efforts to achieve the objectives of this Framework for Action;

(b) Undertake and publish regional and sub-regional baseline assessments of the disaster risk reduction status, according to the needs identified and in line with their mandates;

(c) Coordinate and publish periodic reviews on progress in the region and on impediments and support needs, and assist countries, as requested, in the preparation of periodic national summaries of their programmes and progress;

(d) Establish or strengthen existing specialized regional collaborative centers, as appropriate, to undertake research, training, education and capacity building in the field of disaster risk reduction;

(e) Support the development of regional mechanisms and capacities for early warning to disasters, including for tsunami.¹⁹

¹⁸ Such as the Tampere Convention on the Provision of Telecommunication Resources for Disaster Mitigation and Relief Operations (1998), which entered into force 8 January 2005.

¹⁹ The United Nations Advisory Board on Water and Sanitation established by the Secretary-General made an urgent appeal to halve loss of human life caused by major water related disasters, including tsunami, by 2015.

D. International organizations

32. International organizations, including organizations of the United Nations system and international financial institutions, are called upon to undertake the following tasks within their mandates, priorities and resources:

(a) Engage fully in supporting and implementing the International Strategy for Disaster Reduction, and cooperate to advance integrated approaches to building disaster-resilient nations and communities, by encouraging stronger linkages, coherence and integration of disaster risk reduction elements into the humanitarian and sustainable development fields as set out in this Framework for Action;

(b) Strengthen the overall capacity of the United Nations system to assist disaster-prone developing countries in disaster risk reduction through appropriate means and coordination and define and implement appropriate measures for regular assessment of their progress towards the achievement of the goals and priorities set out in this Framework for Action, building on the International Strategy for Disaster Reduction;

(c) Identify relevant actions to assist disaster-prone developing countries in the implementation of this Framework for Action; ensure that relevant actions are integrated, as appropriate, into each organization's own scientific, humanitarian and development sectors, policies, programmes and practices and that adequate funding is allocated for their implementation;

(d) Assist disaster-prone developing countries to set up national strategies and plans of action and programmes for disaster risk reduction and to develop their institutional and technical capacities in the field of disaster risk reduction, as identified through the priorities in this Framework for Action;

(e) Integrate actions in support of the implementation of this Framework into relevant coordination mechanisms such as the United Nations Development Group and the Inter-Agency Standing Committee (on humanitarian action), including at the national level and through the Resident Coordinator system and the United Nations Country teams. In addition, integrate disaster risk reduction considerations into development assistance frameworks, such as the Common Country Assessments, the United Nations Development Assistance Framework and poverty reduction strategies;

(f) In close collaboration with existing networks and platforms, cooperate to support globally consistent data collection and forecasting on natural hazards, vulnerabilities and risks and disaster impacts at all scales. These initiatives should include the development of standards, the maintenance of databases, the development of indicators and indices, support to early warning systems, the full and open exchange of data and the use of *in situ* and remotely sensed observations;

(g) Support States with the provision of appropriate, timely and well coordinated international relief assistance, upon request of affected countries, and in accordance with agreed guiding principles for emergency relief assistance and coordination arrangements.²⁰ Provide this assistance with a view to reducing risk and vulnerability, improving capacities and ensuring effective arrangements for international cooperation for urban search and rescue assistance.²¹ Ensure that arrangements for prompt international response to reach

²⁰ Defined by General Assembly resolution 46/182.

²¹ Work towards the consistent implementation of General Assembly resolution 57/150.

affected areas are being developed at national and local levels and that appropriate linkages to recovery efforts and risk reduction are strengthened;

(h) Strengthen the international mechanisms with a view to supporting disaster stricken States in the transition phase towards sustainable physical, social and economic recovery and to reducing future risks. This should include support for risk reduction activities in post-disaster recovery and rehabilitation processes and sharing of good practices, knowledge and technical support with relevant countries, experts and United Nations organizations;

(i) Strengthen and adapt the existing inter-agency disaster management training programme based on a shared, inter-agency strategic vision and framework for disaster risk management that encompasses risk reduction, preparedness, response and recovery.

E. The International Strategy for Disaster Reduction

33. The partners in the International Strategy for Disaster Reduction, in particular, the Inter-Agency Task Force on Disaster Reduction and its members, in collaboration with relevant national, regional, international and United Nations bodies and supported by the inter-agency secretariat for the International Strategy for Disaster Reduction, are requested to assist in implementing this Framework for Action as follows, subject to the decisions taken upon completion of the review process²² of the current mechanism and institutional arrangements:

(a) Develop a matrix of roles and initiatives in support of follow-up to this Framework for Action, involving individual members of the Task Force and other international partners;

(b) Facilitate the coordination of effective and integrated action within the organizations of the United Nations system and among other relevant international and regional entities, in accordance with their respective mandates, to support the implementation of this Framework for Action, identify gaps in implementation and facilitate consultative processes to develop guidelines and policy tools for each priority area, with relevant national, regional and international expertise;

(c) Consult with relevant United Nations agencies and organizations, regional and multilateral organizations and technical and scientific institutions, as well as interested States and civil society, with the view to developing generic, realistic and measurable indicators, keeping in mind available resources of individual States. These indicators could assist States to assess their progress in the implementation of the Framework of Action. The indicators should be in conformity with the internationally agreed development goals, including those contained in the Millennium Declaration;

Once that first stage has been completed, States are encouraged to develop or refine indicators at the national level reflecting their individual disaster risk reduction priorities, drawing upon the generic indicators.

²² A review process regarding the institutional arrangements within the United Nations pertaining to disaster reduction is currently being carried out and will be completed, following the World Conference on Disaster Reduction, with an evaluation of the role and performance of the International Strategy for Disaster Reduction.

(d) Ensure support to national platforms for disaster reduction, including through the clear articulation of their role and value added, as well as regional coordination, to support the different advocacy and policy needs and priorities set out in this Framework for Action, through coordinated regional facilities for disaster reduction, building on regional programmes and outreach advisors from relevant partners;

(e) Coordinate with the secretariat of the Commission on Sustainable Development to ensure that relevant partnerships contributing to implementation of the Framework for Action are registered in its sustainable development partnership database;

(f) Stimulate the exchange, compilation, analysis, summary and dissemination of best practices, lessons learned, available technologies and programmes, to support disaster risk reduction in its capacity as an international information clearinghouse; maintain a global information platform on disaster risk reduction and a web-based register “portfolio” of disaster risk reduction programmes and initiatives implemented by States and through regional and international partnerships;²³

(g) Prepare periodic reviews on progress towards achieving the objectives and priorities of this Framework for Action, within the context of the process of integrated and coordinated follow-up and implementation of United Nations conferences and summits as mandated by the General Assembly,²⁴ and provide reports and summaries to the Assembly and other United Nations bodies, as requested or as appropriate, based on information from national platforms, regional and international organizations and other stakeholders, including on the follow-up to the implementation of the recommendations from the Second International Conference on Early Warning (2003).²⁵

F. Resource mobilization

34. States, within the bounds of their financial capabilities, regional and international organizations, through appropriate multilateral, regional and bilateral coordination mechanisms, should undertake the following tasks to mobilize the necessary resources to support implementation of this Framework for Action:

(a) Mobilize the appropriate resources and capabilities of relevant national, regional and international bodies, including the United Nations system;

(b) Provide for and support, through bilateral and multilateral channels, the implementation of this Framework for Action in disaster-prone developing countries, including through financial and technical assistance, addressing debt sustainability, technology transfer on mutually agreed terms, and public–private partnerships, and encourage North–South and South–South cooperation;

(c) Mainstream disaster risk reduction measures appropriately into multilateral and bilateral development assistance programmes including those related to poverty

²³ To serve as a tool for sharing experience and methodologies on disaster reduction efforts. States and relevant organizations are invited to actively contribute to the knowledge-building process by registering their own effort on a voluntary basis in consideration of the global progress of the Conference outcomes.

²⁴ General Assembly resolution 57/270B, follow-up to United Nations conferences, and the General Assembly resolutions on Implementation of the International Strategy for Disaster Reduction, which request the Secretary-General to report to the second committee of the General Assembly under “Sustainable development” (54/219, 56/195, 57/256 58/214, 58/215, 59/231).

²⁵ General Assembly resolution 58/214.

reduction, natural resource management, urban development and adaptation to climate change;

(d) Provide adequate voluntary financial contributions to the United Nations Trust Fund for Disaster Reduction, in the effort to ensure the adequate support for the follow-up activities to this Framework for Action. Review the current usage and feasibility for the expansion of this fund, *inter alia*, to assist disaster-prone developing countries to set up national strategies for disaster risk reduction.

(e) Develop partnerships to implement schemes that spread out risks, reduce insurance premiums, expand insurance coverage and thereby increase financing for post-disaster reconstruction and rehabilitation, including through public and private partnerships, as appropriate. Promote an environment that encourages a culture of insurance in developing countries, as appropriate.

Annex

Some multilateral developments related to disaster risk reduction

Among the multi-lateral frameworks and declarations that are of relevance to this document there are the following:¹

- The International Meeting to Review the Implementation of the Programme of Action for the Sustainable Development of Small Island Developing States,² held in Mauritius in January 2005, calls for increased commitments to reducing the vulnerability of small island developing States, due to their limited capacity to respond to and recover from disasters.
- The Agenda for Humanitarian Action adopted by the International Conference of the Red Cross and Red Crescent in December 2003 includes a goal and actions to “reduce the risk and impact of disasters and improve preparedness and response mechanisms”.
- The Johannesburg Plan of Implementation of the World Summit on Sustainable Development,³ held in 2002, paragraph 37 requests actions under the chapeau: “An integrated, multi-hazard, inclusive approach to address vulnerability, risk, assessment and disaster management, including prevention, mitigation, preparedness, response and recovery, is an essential element of a safer world in the 21st century”, supporting the International Strategy for Disaster Reduction as the first action. The theme of “vulnerability, risk reduction and disaster management” is included in the multi-year programme of work of the Commission on Sustainable Development in 2014-2015, and as a cross-cutting theme throughout the programme.
- The third Action Programme for Least Developed Countries,⁴ adopted in 2001, requests action by development partners in view of giving priority attention to these countries in the substantive programme and institutional arrangements for the implementation of the International Strategy for Disaster Reduction.
- The Millennium Declaration⁵ of September 2000, identified key objectives of “Protecting the vulnerable” and “Protecting our common environment”, which resolve to “intensify cooperation to reduce the number and effects of natural and man-made disasters”. A comprehensive review of the progress made in the fulfillment of all the

¹ For a more comprehensive listing of relevant frameworks and declarations, see information document: Extracts Relevant to Disaster Risk Reduction From International Policy Initiatives 1994-2003, Inter-Agency Task Force on Disaster Reduction, ninth meeting 4-5 May 2004.

² General Assembly resolution 58/213. Further implementation of the Programme of Action for the Sustainable Development of Small Island Developing States.

³ A/CONF.199/20

⁴ A/CONF.191/11

⁵ General Assembly resolution 55/2

commitments contained in the United Nations Millennium Declaration will be held in July 2005.⁶

- The International Strategy for Disaster Reduction was launched in 2000⁷ by the Economic and Social Council and the General Assembly as an inter-agency framework and mechanism (inter-agency task force on disaster reduction and an inter-agency secretariat) to serve as a focal point within the United Nations system with the mandate to promote public awareness and commitment, expand networks and partnerships, and improve knowledge about disaster causes and options for risk reduction, building on the Yokohama Strategy and Plan of Action and as follow-up to the International Decade for Natural Disaster Reduction.

- The Johannesburg Plan of Implementation of the World Summit on Sustainable Development⁸, held in 2002, requested the Intergovernmental Panel on Climate Change to “improve techniques and methodologies for assessing the effects of climate change, and encourage the continuing assessment of those adverse effects...”. In addition, the General Assembly⁹ has encouraged the Conference of the Parties to the United Nations Framework Convention on Climate Change,¹⁰ and the parties to its Kyoto Protocol¹¹ (entering into force in February 2005) to continue to address the adverse effects of climate change, especially in those developing countries that are particularly vulnerable. The United Nations General Assembly¹² also encouraged the Intergovernmental Panel on Climate Change to continue to assess the adverse effects of climate change on the socio-economic and natural disaster reduction systems of developing countries.

- The Tampere Convention on the Provision of Telecommunication Resources for Disaster Mitigation and Relief Operations of 1998 entered into force on 8 January 2005.

- The Yokohama Strategy for a Safer World: Guidelines for Natural Disaster Prevention, Preparedness and Mitigation and its Plan of Action¹³ (1994), was adopted at the World Conference on Natural Disaster Reduction, building on the mid-term review of the International Decade for Natural Disaster Reduction.

- The United Nations Convention to Combat Desertification in Those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa,¹⁴ was adopted in 1994 and entered into force in 1996. The United Nations Convention on Biological Diversity¹⁵ was adopted in 1992 and entered into force in 1993.

⁶ General Assembly resolution 58/291

⁷ General Assembly resolutions 59/231, 58/214, 57/256, 56/195, 54/219

⁸ A/CONF.199/20, paragraph 37 e).

⁹ General Assembly resolutions on natural disasters and vulnerability (59/233, and 58/215)

¹⁰ United Nations, *Treaty Series*, vol. 1771, No. 30822.

¹¹ FCCC/CP/1997/7/Add.1, decision 1/CP.3, annex.

¹² General Assembly resolutions on natural disasters and vulnerability (59/233, and 58/215)

¹³ A/CONF.172/9

¹⁴ United Nations, *Treaty Series*, vol. 1954, No. 33480

¹⁵ United Nations, *Treaty Series*, vol. 1760, No. 30619

- The General Assembly¹⁶ (1991) requested strengthening of the coordination of emergency and humanitarian assistance of the United Nations, in both complex emergencies natural disasters. It recalled the International Framework of Action for the International Decade for Natural Disaster Reduction (resolution 44/236, 1989), and set out guiding principles for humanitarian relief, preparedness, prevention and on the continuum from relief to rehabilitation and development.
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¹⁶ General Assembly resolution 46/182

SUMMARY of the Hyogo Framework for Action 2005-2015: *Building the Resilience of Nations and Communities to Disasters*

Expected outcome, strategic goals and priorities for action 2005-2015

Expected Outcome
The substantial reduction of disaster losses, in lives and in the social, economic and environmental assets of communities and countries.

Strategic Goals

The integration of disaster risk reduction into sustainable development policies and planning.

The development and strengthening of institutions, mechanisms and capacities to build resilience to hazards.

The systematic incorporation of risk reduction approaches into the implementation of emergency preparedness, response and recovery programmes.

Priorities for Action

1. Ensure that disaster risk reduction (DRR) is a national and local priority with a strong institutional basis for implementation.

- DRR institutional mechanisms (national platforms); designated responsibilities; DRR part of development policies and planning, sector wise and multisector;
- Legislation to support DRR; Decentralisation of responsibilities and resources; Assessment of human resources and capacities; Foster political commitment; Community participation.

2. Identify, assess and monitor disaster risks and enhance early warning.

- Risk assessments and maps, multi-risk: elaboration and dissemination;
- Indicators on DRR and vulnerability; Data and statistical loss information;
- Early warning: people centered; information systems; public policy;
- Scientific and technological development, data sharing, space-based earth observation, climate modeling and forecasting; early warning;
- Regional and emerging risks.

3. Use knowledge, innovation and education to build a culture of safety and resilience at all levels.

- Information sharing and cooperation; Networks across disciplines and regions; dialogue;
- Use of standard DRR terminology; Inclusion of DRR into school curricula, formal and informal education;
- Training and learning on DRR: community level, local authorities, targeted sectors; equal access;
- Research capacity: multi-risk; socio-economic; application;
- Public awareness and media.

4. Reduce the underlying risk factors.

- Sustainable ecosystems and environmental management;
- DRR strategies integrated with climate change adaptation;
- Food security for resilience;
- DRR integrated into health sector and safe hospitals;
- Protection of critical public facilities;
- Recovery schemes and social safety-nets;
- Vulnerability reduction with diversified income options;
- Financial risk-sharing mechanisms;
- Public-private partnership;
- Land use planning and building codes;
- Rural development plans and DRR.

5. Strengthen disaster preparedness for effective response at all levels.

- Disaster management capacities: policy, technical and institutional capacities;
- Dialogue, coordination and information exchange between disaster managers and development sectors;
- Regional approaches to disaster response, with risk reduction focus; Review and exercise preparedness and contingency plans;
- Emergency funds;
- Voluntarism and participation.

Cross Cutting Issues

Multi-hazard approach

Gender perspective and cultural diversity

Community and volunteers participation

Capacity building & technology transfer

Contributing to the achievements of the internationally agreed development goals (including the MDGs).

Implementation and Follow-Up

In order to achieve the strategic goals and act upon the priorities for action, the Framework identifies the following tasks for implementation and follow-up by States, regional and international organizations in collaboration with civil society and other stakeholders. The ISDR partners, in particular the Inter-agency Task Force on Disaster Reduction (IATF/DR)* and secretariat, are requested to assist in implementing the Hyogo Framework for Action.

General Considerations

Implementation by different stakeholders, multi-sectoral approach; participation of civil society (NGOs, CBOs, volunteers), scientific community & private sector is vital.	States primarily responsible; an enabling international environment is vital, incl. strengthened regional capacities.	Build multi-stakeholder partnerships.	Particular attention to: - Small island developing States; Mauritius Strategy; - Least developed countries; - Africa.	States, regional and international organizations to foster coordination among themselves and a strengthened International Strategy for Disaster Reduction (ISDR).	Follow-up integrated with other major conferences in fields relevant to DRR; reviews as appropriate.
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Actors

States	Regional Organizations and Institutions	International Organizations (including UN System and IFIs)
- Designate national coordination mechanisms for the implementation and follow up, communicate to the ISDR secretariat; - National baseline assessments of the status of DRR; - Publish and update a summary of national programme for DRR including international cooperation; - Develop procedure for reviewing national progress including systems for cost benefit analysis and ongoing monitoring on risk; - Consider acceding to, approving or ratifying relevant international legal instruments and make sure they are implemented; - Promote the integration of DRR with climate variability and climate change into DRR strategies and adaptation to climate change; ensure management of risks to geological hazards.	- Promote regional programmes including for technical cooperation, capacity development, the development of methodologies and standards for hazard and vulnerability monitoring and assessment, the sharing of information and effective mobilization of resources; - Undertake and publish regional and sub-regional baseline assessments; - Coordinate and publish reviews on progress and support needs, and assists countries in preparation of national summaries; - Establish specialized regional collaborative centers; - Support the development of regional mechanisms and capacities for early warning, including for tsunami.	- Encourage the integration of DRR into humanitarian and sustainable development fields; - Strengthen the capacity of the UN system to assist disaster-prone developing countries in DRR and implement measures for assessment of progress; - Identify actions to assist disaster-prone developing countries in the implementation of the Hyogo Framework, ensure integration and that adequate funding is allocated; assist in setting up national strategies and programmes for DRR; - Integrate actions into relevant coordination mechanisms (UNDG, IASC, RCs and UN Country Teams); - Integrate DRR into development assistance frameworks such as CCA/UNDAF, PRSP; - In collaboration with networks and platform support: data collection and forecasting on natural hazards and risks; early warning systems; full and open exchange of data; - Support States with coordinated international relief assistance, to reduce vulnerability and increase capacities; - Strengthen international mechanisms to support disaster stricken States in post-disaster recovery with DRR approach - Adapt & strengthen inter-agency disaster management training for DRR and capacity building.

Critical tasks

ISDR (Inter-Agency Task Force on Disaster Reduction and secretariat)

- Develop a matrix of roles and initiatives in support of follow-up to the Hyogo Framework;
- Facilitate the coordination of effective actions within the UN system and other international and regional entities to support the implementation of the Hyogo Framework, identify gaps, facilitate processes to develop guidelines and policy tools for each priority area;
- In broad consultation, develop generic, realistic and measurable indicators. These indicators could assist States in measuring progress in the implementation of the Hyogo Framework;
- Support national platforms and regional coordination;
- Register relevant partnerships with Commission on Sustainable Development;
- Stimulate the exchange, compilation, analysis and dissemination of best practices, lessons learnt;
- Prepare periodic review on progress towards achieving the objectives of the Hyogo Framework and provide reports to the UNGA and other UN bodies.

Resource Mobilization: States, Regional and International Organizations

- Mobilize resources and capabilities of relevant national, regional and international bodies, including the UN system;
- Provide and support the implementation of the HFA in disaster prone developing countries, including through financial and technical assistance, addressing debt sustainability, technology transfer, public-private partnership and North-South and South-South cooperation;
- Mainstream DRR measures into multilateral and bilateral development assistance programmes;
- Provide adequate voluntary financial contribution to the UN Trust Fund for DR to support follow-up activities to Hyogo Framework; review usage and feasibility for the expansion of this fund;
- Develop partnership to implement schemes that spread risks, reduce insurance premiums, expand insurance coverage and increase financing for post-disaster reconstruction, including through public and private partnerships. Promote an environment that encourages a culture of insurance in developing countries.



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Strategic Approach
to International
Chemicals Management

English only

International Conference on Chemicals Management

Third session

Nairobi, 17–21 September 2012

Item 6 of the provisional agenda*

Cooperation with intergovernmental organizations

**Contribution of the UNEP International Environmental
Technology Centre to implementation of the Strategic
Approach to International Chemicals Management**

Note by the secretariat

1. The secretariat has the honour to circulate, in the annex to the present note, the contribution of the UNEP International Environmental Technology Centre (IETC) to implementation of the Strategic Approach to International Chemicals Management.
2. The present document highlights some of IETC's waste management activities that are contributing to implementation of the Strategic Approach. The highlighted activities relate to the Global Partnership on Waste Management, National Waste Management Strategies and electrical and electronic waste.
3. The document is circulated for the information of participants and has not been formally edited.

* SAICM/ICCM.3/1

Annex



UNITED NATIONS ENVIRONMENT PROGRAMME

Programme des Nations Unies pour l'environnement

Programa de las Naciones Unidas para el Medio Ambiente

Программа Организации Объединенных Наций по окружающей среде

برنامج الأمم المتحدة للبيئة

联合国环境规划署



Contribution of the UNEP International Environmental Technology Centre to implementation of the Strategic Approach to International Chemicals Management

I. Introduction

1. Since 1992 the UNEP International Environmental Technology Centre (IETC), in Osaka, Japan, has promoted the application of environmentally sound technologies in order to help developing countries and countries in transition to achieve sustainable development. IETC is a branch of UNEP's Division of Technology, Industry and Economics. IETC's current programme is focused on waste management including through capacity-building, demonstration projects, guidance materials and research and policy analysis. Further information on the work of IETC can be found at www.unep.org/ietc.
2. There are many interconnections between waste management and chemicals management particularly in relation to hazardous waste. The present document highlights some of IETC's waste management activities that are contributing to implementation of the Strategic Approach to International Chemicals Management (SAICM). The highlighted activities relate to the Global Partnership on Waste Management (GPWM), National Waste Management Strategies (NWMS) and electrical and electronic waste (e-waste).

II. The Global Partnership on Waste Management

3. The Global Partnership on Waste Management (GPWM) is an open-ended, voluntary and collaborative relationship between various international stakeholders, in which all participants agree to work together to coordinate activities on waste management in a systematic way. Launched in November 2010, the GPWM aims to enhance international cooperation among stakeholders, identify and fill information gaps, share information and strengthen awareness, political will, and capacity to promote resource conservation and resource efficiency.
4. The GPWM provides a coordinating forum for international organizations, partnerships, Governments, private sector, and other non-governmental entities, to build synergies and to increase cooperation among stakeholders. It thereby assists in avoiding duplication of efforts, in providing coherent international policy and technical advice, in complementing the already existing work, and in improving the efficiency of resources and efforts required to address the challenging issue of waste management.
5. The secretariat of the GPWM is hosted by UNEP's International Environmental Technology Centre (IETC) in Osaka, Japan. UNEP, as the voice for the environment in the United Nations System, has been requested to address waste management issues as reflected in UNEP's Governing Council decisions 24/5 and 25/8, calling for a holistic and integrated approach on waste management. In 2011, UNEP's Governing Council noted the launch of the GPWM in its decision 26/3, affirming the need for concerted and coordinated efforts on waste management.

6. The main elements of the GPWM organizational structure are as follows:

(a) Sponsored focal areas: There are currently six sponsored focal areas, as set out below. Lead participants develop work plans in consultation with other participants of the respective sponsored focal area. Activities are defined, coordinated and implemented through a working group.

- (i) Waste and climate change (led by the International Solid Waste Association—ISWA)
- (ii) Waste agricultural biomass (led by IETC)
- (iii) Integrated Solid Waste Management - ISWM (led by IETC)
- (iv) Electronic waste (led by the United Nations Industrial Development Organization – UNIDO)
- (v) Marine litter (led by UNEP’s Division of Environmental Policy Implementation – DEPI)
- (vi) Waste minimization (led by UNEP’s Sustainable Consumption and Production branch – SCP)

(b) Partnership: The GPWM provides a coordinating forum by: gathering and sharing information on existing activities in waste management; supporting exchange of information and networking among participants; and facilitating the implementation of activities of the sponsored focal area working groups.

(c) Steering committee: The steering committee is the governing body of the GPWM and is open to core GPWM participants to review and provide guidance on the overall work plan of the GPWM and the progress made.

7. The GPWM and SAICM share the objective of minimizing adverse effects of wastes and chemicals in products on the environment and human health. Chemicals in hazardous and other wastes are being tackled by several sponsored focal areas under the GPWM. For the e-waste focal area, for example, more sustainable product design and the environmentally sound management of e-waste is an important topic, whereas promotion of cleaner production is part of the work plan for the waste minimization focal area. Similarly, preventing marine litter from land-based sources and the adverse effects endocrine disruptors contained in plastics can have on ecosystems and biodiversity is a topic being tackled by the marine litter focal area. The focal area on ISWM, for its part, also addresses, among others, the significance of hazardous chemicals as part of the overall mix of wastes to be dealt with by municipalities.

8. The GPWM as a coordination and information sharing mechanism also shares a similar approach with SAICM in that it is open to all relevant stakeholders and aims to enhance synergies and cooperation between the activities of Governments, international institutions, multilateral organization secretariats, development agencies, the private sector and civil society at the national, regional and global levels in pursuit of the sound management of chemicals and wastes. This is of particular relevance to the governance and knowledge objectives set out in the SAICM Overarching Policy Strategy and the activities proposed in the Global Plan of Action.

III. Guidelines for National Waste Management Strategies

9. IETC, in collaboration with UNITAR, is working on a new initiative to develop guidelines

for national waste management strategies. It responds to UNEP Governing Council decisions 25/8 and 26/3 calling on IETC to support national implementation of integrated waste management and to the Rio+20 call for development of comprehensive national waste management strategies (paragraph 218 of the outcome document, “The Future We Want”). These objectives are relevant for SAICM’s Global Plan of Action that calls for the establishment of national action plans with respect to waste minimization and waste disposal (activity 69).

10. The strategy guidelines are intended to foster a holistic and overarching approach to national waste management planning. They will build upon and cross reference the many valuable materials that have previously been developed to provide technical support for management of individual waste streams or parts of the waste life-cycle, and to support planning in related fields such as chemicals management. The strategy guidelines will also take account of recent policy emphases relating, for example, to “green economy” objectives, linkages between waste management and climate change, and the potential for greater resource recovery from waste.

11. In order to ensure the quality and usefulness of the guidelines and their complementarities in relation to previous guidance materials, the drafts of the guidelines, will be made available via our networks for all interested stakeholders to review. In addition, IETC is establishing a core “reference group” to engage more closely in the process. If resources allow, we would also envisage a workshop in the third quarter of 2012 for the group to assist in finalizing the guidelines and preparing for their implementation.

IV. E-waste activities

12. One of the waste streams that IETC is addressing and which has attracted considerable international attention in recent years is e-waste. This was recognized in the SAICM context when the International Conference on Chemicals Management at its second session, held in Geneva from 11 to 15 May 2009, addressed e-waste as one of four emerging policy issues. IETC has been working on e-waste since 2006 and has developed guidelines on e-waste inventories, e-waste management, and take-back systems. It has also provided training to governments and other stakeholders, including the private sector. International training workshops were held in Osaka in 2009 and 2010 to provide training on e-waste inventory and e-waste management. IETC has also implemented a project to build capacity of national and local governments in Cambodia while developing an e-waste management plan for Phnom Penh and supporting actively all the activities organized by partners and other international, regional and national institutions.

13. Recently, a Multi-Stakeholder Policy Dialogue on “Addressing e-waste challenges and opportunities through public-private sector cooperation” was organized by UNEP-IETC from 18 to 20 July 2012 in Osaka, Japan. The dialogue was attended by approximately 70 participants from governments, the private sector, intergovernmental organizations, academia and public interest groups. The outcome document is entitled “The Future WEEE Need: A Call for Action”. It highlights the complementary roles of the different stakeholder groups and encourages enhanced cooperation to address the e-waste management challenge is reproduced in the appendix to the present document.

14. Upcoming IETC activities on e-waste include :

- (a) Follow-up on “The Future WEEE Need: A Call for Action” and design and undertake the activities with other partners
- (b) Publication of e-waste manual, volume 3, on “Take-back systems for WEEE/E-waste management”
- (c) Pilot project and capacity building on take-back system in Malaysia ISWM focal area session during the biennium conference of the GPWM in November 2012.
- (d) Launching of publication “Sustainability Assessment of Technologies (SAT) Manual” in November/December 2012 during planned Eco-town workshop.
- (e) E-learning modules for webinar by IETC during 2013-2014.

Appendix



UNITED NATIONS ENVIRONMENT PROGRAMME

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Программа Организации Объединенных Наций по окружающей среде

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Multi-Stakeholder Policy Dialogue: Addressing E-waste Challenges and Opportunities through Public- Private Sector Cooperation

The Future WEEE Need: A Call for Action

OSAKA, JAPAN, 20 JULY 2012

Introduction

The Multi-Stakeholder Dialogue on Addressing E-Waste Challenges and Opportunities through Public-Private Sector Cooperation, held in Osaka, Japan, from 18 to 20 July 2012, considered ways to support, strengthen and improve mechanisms of effective cooperation between all sectors to promote environmentally sound management (ESM) of used and end-of-life electrical and electronic equipment (EEE) to and minimize environmental and human health impacts and hazards arising from waste EEE (WEEE) - commonly known as e-waste - while taking advantage of the opportunities it presents. On this basis, and bearing in mind the commitment expressed in the Outcome Document of the Rio+20 Summit to promote a life-cycle approach - including reduction, reuse and recycling of waste (3Rs), increasing energy recovery from waste, and use as a resource where possible¹; as well as the support expressed for meaningful cooperation between all Major Groups in promoting sustainable development², - the present Call for Action is intended to further promote, enhance and upgrade public-private cooperation in WEEE management.

Vision

Used in a responsible manner, EEE supports social and economic growth, knowledge and development. At the end of its useful life, EEE can create risks to human health and the environment if not properly managed; it can also create new opportunities if properly managed. Against this background, environmentally and socially sound management of

¹ Paragraph 218 of the Outcome Document

² Paragraph 43 of the Outcome Document

EEE through to its end-of-life stages should become a flagship activity for green economy development, integrated into the entire life-cycle of responsible materials utilization, through promoting cooperative action between governments, the private sector, international organizations, academia, and civil society. The vision of the participants in this Policy Dialogue is that ESM of end-of-life EEE and WEEE, an exponentially growing global waste stream containing valuable and recoverable resources, will become an exemplar of private and public sector synergies to create sustainable and efficient use of resources in a global context.

Call for Action

Taking into the account the Basel Convention, the Stockholm Convention, and the Vienna Workshop on Hazardous Substances within the Life-Cycle of Electrical and Electronic Products in 2011, relevant actions should cover the entire life-cycle of EEE (upstream, midstream and downstream). The participants in the Dialogue believe that government authorities, the private sector, intergovernmental organizations, academia and non-governmental organizations must complement each other, each fulfilling their specific roles according to their responsibilities, capabilities and capacities.

The participants call upon these entities to undertake their respective roles in a spirit of cooperation, including promotion of the actions set out below.

Government authorities

A core role of government authorities at all levels (global, regional, national and local) is to develop and foster the establishment, implementation and enforcement of an integrated system for the management of EEE throughout its life-cycle. This may include:

- Regulatory measures, including:
 - Local and national legislation with clear definitions, distinguishing between what is waste and what is not, and including hazardous properties and potential as secondary resources / raw materials or feedstock
 - Definition of roles and responsibilities of stakeholders
 - Collection and recycling targets
 - Measures to ensure security and transparency of WEEE flows
 - Registration and licensing of WEEE recyclers
 - Environmental Health and Safety (EHS) protection measures for the formal and informal sectors
 - Progressive landfill and incineration bans
 - Application of the polluter pays principle, the precautionary principle, and the integrated life-cycle approach while respecting the hierarchy of waste
- Extended Producer Responsibility (EPR)
- Design for end-of-life management
- Use of economic instruments, including:
 - Tax incentives and disincentives
 - Disincentives for non-compliance with regulations
 - Grants

- Market awareness, including instruments to address market failures and market barriers
 - Soft loans for investment in plants and equipment
- Development and implementation of incentives for voluntary initiatives and Public-Private Partnerships (PPPs); strategies and guidelines for building such partnerships
- Promotion and use of third-party EHS certification standards as a means of identifying an environmentally sound facility
- Minimization of barriers to trade, within regions and internationally, taking cognizance of transboundary movement requirements of the Basel Convention and other applicable treaties
- Development and promotion of ESM guidelines for collection, transportation, recycling, and safe final disposal
- Collecting and making available reliable data
- Promotion of research and development
- Maximizing/optimizing the use of resources
- Conclusion and implementation of voluntary agreements
- Establishment of financial mechanisms
- Provision of incentives for the design of end-of-life management by promoting sustainable government procurement strategies
- Implementation and enforcement of laws and regulations, including through
 - Networking and cooperation among and between international, regional and national agencies
 - Evidence-based approaches to support compliance
 - Professional intelligence-led enforcement
 - Training programmes
 - Encouraging the use of non-regulatory tools, e.g. certification schemes
 - Transparent compliance and enforcement regimes with regular reporting systems
- Establishment of effective and meaningful consultation mechanisms with key stakeholders, e.g. the private sector (manufacturers, designers, recyclers, traders, waste managers), workers, communities affected by WEEE, NGOs, scientific organizations, and academia
- Adoption of measures to integrate the informal sector, including opportunities for formalization; and mechanisms for technical and financial assistance to help the informal sector become part of the formal ESM chain
- Cooperation with other stakeholders to promote and enhance effective, efficient and easily accessible collection, transportation and logistical systems
- Raising public awareness, including through campaigns and education
- Development of opportunities for technology transfer and technical assistance (enhancing industry support for knowledge-sharing, capacity-building and technology transfer)

Private sector

Private sector operators such as producers³, original equipment manufacturers (OEMs), EEE importers and exporters, waste managers, refurbishers, and recyclers involved in the management of EEE at various stages of its life-cycle, should undertake the following:

- Invest in infrastructure for collection, refurbishment, processing and material recovery of used and end-of-life EEE and WEEE
- Conduct Environmental Impact and Risk Assessments and comply with all applicable legal requirements
- Consign exported WEEE to third-party certified environmentally sound facilities as appropriate, while complying with the Basel Convention provisions on transboundary movements, and taking into account the proximity principle
- Recognize and use third-party certified, auditable EHS standards
- Strive to integrate the informal sector and subcontractors into business models along the supply chain
- Make available information to workers, communities and the public about the types of treatment or processes used and measures taken to protect worker safety, human health and the environment
- Undertake capacity building, knowledge and technology transfer
- Participate actively in the development of legislative frameworks

Producers/OEMs in particular should undertake the following:

- Implement effective voluntary take-back programmes in all countries and regions where mandatory programmes do not exist
- Implement the principle of integrated life-cycle at the design stage of the EEE
- Integrate designs for repair, disassembly and recycling at the product design stage
- Support, advocate and implement EPR and take-back schemes
- Support the principle of collective responsibility for orphan and legacy EEE and WEEE
- Invest in research, technology and innovation that can reduce and substitute the use of hazardous substances, increase the useful life of EEE, simplify dismantling, and allow increased material recovery and recycling
- Provide sufficient data in order to create transparency about real end-of-life flows
- Use recycling facilities that are audited to a third-party EHS certification standard

Waste managers and recyclers in particular should undertake the following:

- Comply with the principles and standards of ESM of WEEE
- Strive for high quality treatment and cooperation along the recycling chain
- Maintain adequate record keeping to verify ESM throughout the recycling chain

³ “Producer” means the international and local manufacturer or importer of record of new and used EEE to be placed on the market at first invoice by sale.

- Ensure environmentally sound disposal of non-recyclable wastes
- Operate environmentally sound facilities, meeting the same standards in developed countries, countries with economies in transition, and developing countries
- Establish and implement EHS monitoring systems for facilities, based on risk assessment
- Work with governments to develop model licenses for collectors and recyclers, based on operational best practices for facilities

International Facilitation

International organizations, bilateral and multilateral agencies, scientific organizations, academia, non-governmental organizations, non-profit organizations, and other public interest and civil society groups have the important role of facilitating public-private cooperation on the management of end-of-life EEE and WEEE, especially in countries with economies in transition and developing countries. They should undertake the following:

International organizations and bilateral/multilateral agencies

- Assist governments in the implementation of regional and global legal rules, consistent with and complementary to relevant international conventions, including multilateral environmental agreements (MEAs) on wastes and chemicals
- Develop guidelines and guidance materials
- Facilitate the development of international standards, and recognize third-party certification in accordance with the requirements of the decisions of the Basel Convention, the Stockholm Convention, and other related international conventions and initiatives, including MEAs on wastes and chemicals
- Facilitate and promote the use of PPPs

Scientific organizations and academia

- Provide a scientific basis for policy-making at all levels, as well as Best Available Technologies and Best Environmental Practices (BAT/BEP) for used and end-of life EEE and WEEE management
- Develop programmes to reduce, eliminate and substitute the use of hazardous substances, and promote innovation and green design
- Training and education
- Awareness raising
- Knowledge and data dissemination
- Carry out baseline evaluation and modeling for prediction of future scenarios
- Develop pilot programmes on new technologies and materials
- Develop scientific capacities through education, as well as North-South and South-South cooperation
- Monitor the performance of WEEE management systems

Civil society organizations and public interest groups

Civil society can contribute in multiple ways and levels by:

- Initiating and engaging in grass root activities, including projects at the community level, with the informal sector, WEEE producers and recyclers
 - Participating in consultations with governments, the private sector, and public interest stakeholders in decision-making processes, development of guidelines, and appropriate standards of operation
 - Monitoring activities of governments and the private sector
 - Advocating and raising awareness on the health, environment and socio-economic impacts of WEEE and promoting sustainable solutions
 - Mediating and facilitating conflict resolution between communities affected by WEEE management, decision makers, and the private sector
 - Informing consumers about the purchase of EEE products that are designed for end-of-life management
 - Promoting sustainable production and consumption of EEE products
 - Disseminating information on sustainable EEE products to key stakeholders
-

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International Conference on Chemicals Management

Third session

Nairobi, 17–21 September 2012

Item 4 (c) of the provisional agenda*

**Implementation of the Strategic Approach to
International Chemicals Management: Strengthening of
national chemicals management capacities**

**Submission by the Global Environment Facility on activities
supporting the implementation of the Strategic Approach**

Note by the secretariat

1. The secretariat has the honour to circulate, for the information of participants, in the annex to the present note a report of the Global Environment Facility on activities supporting the implementation of the Strategic Approach.
2. The information is presented as submitted and has not formally been edited.

Annex

GEF Activities Supporting the Implementation of SAICM

5 September 2012

Introduction

1. The goal of the GEF's Chemicals Program is "to promote the sound management of chemicals throughout their life-cycle in ways that lead to the minimization of significant adverse effects on human health and the global environment." This goal is aligned with other internationally agreed goals and objectives, including those of the Strategic Approach to International Chemicals Management (SAICM), the global chemicals strategy that provides a voluntary policy framework for achieving its goal.
2. During the First International Conference on Chemicals Management (ICCM1) in 2006, the GEF, together with the United Nations Development Programme (UNDP) and the World Bank, joined the Inter-Organization Programme for the Sound Management of Chemicals (IOMC) participating organizations and the Intergovernmental Forum on Chemical Safety (IFCS) in a steering committee established to oversee the Strategic Approach development process. ICCM 2 held in 2009 urged the GEF to consider expanding its activities related to the sound management of chemicals to facilitate SAICM implementation, whilst respecting its responsibilities as the financial mechanism for the Stockholm Convention.
3. As a response to ICCM2, the GEF Council, at its 39th session approved the "Strategy on Sound Chemicals Management for the 5th Replenishment Period of the Global Environment Facility (GEF/C.39/Inf.11)"¹. GEF 5 resources dedicated to Sound Chemicals Management activities are intended to support synergistic interventions that generate multi-focal area benefits and produce positive impacts towards the fulfillment of obligations in relevant agreements and conventions. For example, the approval process of GEF projects takes into account the potentials for multifocal area benefits (including Stockholm Convention, Convention on Biological Diversity, Convention to Combat Desertification, and others).
4. Over the past two years of implementing GEF 5 Sound Chemicals Management Strategy, the GEF strives to assist countries in addressing chemicals management in an integrated manner in

¹ This document can be found at:
http://www.thegef.org/gef/GEF_39_Strategy_on_Sound_Chemicals_Management

their national planning, and help mobilize other sources of finance for projects and programs for sound chemicals management to achieve global benefits. The GEF also requires that its activities should be complementary to those related to the Quick Start Program (QSP) and would include emerging issues as identified by ICCM2. This information paper provides a summary of how activities under GEF Chemicals Programme at the same time supported the main objectives of SAICM in relation to 1) risk reduction; 2) knowledge and information; 3) governance; 4) capacity building; and 5) illegal international traffic.

GEF Activities Supporting the Goal of SAICM

5. Both the GEF Chemicals Program and SAICM aim at promoting the sound management of chemicals throughout their life cycle in ways that lead to the minimization of significant adverse effects on human health and the global environment. The GEF program is guided by its strategies approved by Council and the objectives of SAICM are expected to be achieved through the implementation of activities set out in the Global Plan of Action. **Table 1** illustrates how the overall GEF Chemicals Programme (including POPs, ODS, mercury and Sound Chemicals Management) at the same time supports the work areas under SAICM, and **Table 2** provides a list of GEF-5 projects directly contributing to SAICM Priorities.

Table 1. Work Areas of SAICM and Corresponding GEF Activities

Work Areas ² of SAICM	GEF Activities ³ / Response
PBTs; POPs; Carcinogens or endocrine disruptors	The work areas of the GEF include POPs, ODS, mercury, e-waste, lead in paint, chemicals in products, and protected areas ⁴ , covering most of the SAICM work areas.
Mercury and other chemicals of global/national concern; chemicals produced or used in high volumes; chemicals subject to wide dispersive uses;	
Lead in gasoline	
Protected areas	
International agreements	The GEF encourages synergies among Multilateral Environmental Agreements (MEAs), including synergies between three Chemicals conventions, energy efficiency and chemicals reduction, POPs and mercury co-reduction.
Assessment of national chemicals management to identify gaps and prioritize actions	These areas are staple activities in all GEF Chemicals projects. GEF projects aim at identifying existing gaps, revising relevant national chemicals management, developing national action plans, and building national capacity to sustain project outcomes.
Implementation of integrated national programmes for the sound management of chemicals	
Legal, policy and institutional aspects	
Capacity-building to support national actions	
Information management and dissemination	Public awareness raising is considered to be indispensable for sustainability. Through professional training, public education, and various other awareness raising campaigns and capacity building activities, GEF projects have greatly raised the profile of
Education and training (public awareness)	

² Below work areas were re-ordered and categorized to reflect GEF Activities in an organized manner.

³ Although GEF activities directly answer the guidance or strategies from GEF Council, below activities are all relevant to the goal of SAICM.

⁴ This area is covered under GEF 5 Biodiversity Strategy.

	POPs issue in recipient countries.
Risk assessment, management and communication	GEF approved projects for recipient countries to cope with the chemicals threats posed by natural disaster and learn good experiences from advanced countries.
Human health protection	There are more than 60 GEF projects on disposing obsolete pesticides and PCB, 11 projects on demonstrating alternatives such as Integrated Vector Management (IVM) for DDT in malaria control and agricultural sector, 18 projects on demonstration BAT/BEP to reduce UPOPs emission from unsound management of wastes such as open burning (demonstration of sound medical wastes is being carried out in 11 countries) 8 projects on reducing mercury application and emission from sectors like Artisanal and Small scale Gold Mining and zinc smelting, 6 projects include cleaning up POPs contaminated sites. All these projects will invariably reduce human health and environmental risk. In addition, GEF projects ensure that safeguard measures are put in place to protect workers' safety.
Reduced health and environmental risks of pesticides	
Formulation of prevention and response measures to mitigate environmental and health impacts of emergencies involving chemicals	
Children and chemical safety	
Occupational health and safety	
Waste management (and minimization)	
Life cycle	
Remediation of contaminated sites	
Social and economic considerations	It is taken into account in project design, approval and implementation.
Sound agricultural practices	GEF projects on management and disposals of POPs pesticides assist developing countries in developing and demonstrating alternatives such as Integrated Pest Management (IPM). More than 50 countries benefited from GEF's Pesticide projects.
Highly toxic pesticides risk management and reduction	
Pesticide programmes	
Cleaner production	GEF projects demonstrated environmentally sound technologies to reduce emission of DDT, UPOPs, mercury and other pollutants and improve energy efficiency. For example, 3 projects are being implemented in China and India to develop and demonstrate alternatives to DDT in anti-fouling paint production, dicofol production and agricultural sector in general. Demonstration of
Implementation of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS)	
Promotion of industry participation and responsibility	

	BAT/BEP is conducted in sectors like industrial boilers, fossil-fuel filled utilities, pulp and paper, electronic and electrical equipments, and industrial sources in general. Mercury reduction activities are being implemented in ASGM, primary mining, and smelting sectors.
Research, monitoring and data	GEF has been funding UNEP projects both at global and regional level to assess existing capacity for POPs analysis, implement Global Monitoring Program for Pacific Islands Region, Eastern and Southern African Countries, and West Africa region, develop Pollutant Release and Transfer Registers (PRTRs) for POPs monitoring reporting and information dissemination. More projects on GMP are expected from UNEP.
Hazard data generation and availability	
Pollutant release and transfer register (PRTRs)	
Prevention of illegal traffic in toxic and dangerous goods	
Trade and environment	All GEF projects ensure the participation of CSOs.
Stakeholder participation	
Civil society and public interest non-governmental organization (NGO) participation	

Table 2. List of GEF-5 Projects Contributing to SAICM Priorities

Work Areas	Country	Title	Implementing Agency	GEF Grant	Co-financing
Mercury	Ecuador , Peru	Minimizing Mercury Releases from Artisanal Gold Mining	UNIDO	\$909,000	\$2.4M
Mercury	Burkina Faso, Mali, Senegal	Minimizing Mercury Releases from Artisanal Gold Mining in West Africa	UNIDO	\$990,000	\$2.4M
Medical ⁵ Waste	Vietnam	Hospital Waste Management Support Project	World Bank	\$7M	\$150M
Medical ⁶ Waste	Kazakhstan	NIP Update, Integration of POPs into National Planning and Promoting Sound Healthcare Waste Management	UNDP	\$3.4M	\$16M
Medical Waste ⁷	Ghana, Madagascar, Tanzania, Zambia	Reducing UPOPs and Mercury from the Health Sector in Africa	UNDP	\$6.5M	\$25.8M
Mercury	China	Reduction of Mercury Emissions in Zinc Smelting	UNIDO	\$990,000	\$4M
Mercury	Uruguay	Environmentally Sound Life-Cycle Management of Mercury Containing Products and their Wastes	UNDP	\$700,000	\$2.6M
Mercury	China	Development of Mercury Inventory	UNEP	\$1M	\$3.15M
E-waste	Ethiopia	Investment Promotion on ESM of E-waste	UNIDO	\$1M	\$ 1.96M
UPOPs	China	Reduction of POPs and PTS Release by ESM throughout the Life Cycle of Electrical and Electronic Equipment and Associated Wastes	UNDP	\$11.65M	\$47 M

⁵ These three healthcare waste projects are listed here because the project document targeted at both UPOPs and mercury reduction. Many more other GEF POPs projects also address healthcare waste management issue.

⁶ Same as above.

⁷ Same as above.

References

Text of SAICM: http://www.saicm.org/images/saicm_documents/saicm%20texts/SAICM_publication_ENG.pdf

GEF/C.39/Inf.11: Strategy on Sound Chemicals Management for the 5th Replenishment Period of the Global Environment Facility

GEF/C.39/Inf.09 Strategy for Mercury Programming in the 5th Replenishment Period of the Global Environmental Facility

GEF Work Paper: Concept Note for E-waste Program during GEF-5

GEF Work Paper on Synergies during GEF-5

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Item 4 (a) of the provisional agenda*

**Implementation of the Strategic Approach to
International Chemicals Management: evaluation of
and guidance on implementation and review and
update of the Strategic Approach**

**Reports from Strategic Approach Regional Focal Points on
activities undertaken during the intersessional period**

Note by the secretariat

1. Resolution II/2 of the International Conference on Chemicals Management on regional activities and coordination recalls the importance accorded to regional meeting in paragraph 26 of the Overarching Policy Strategy and in resolution I/1 of the Conference.
2. In accordance with paragraph 10 of resolution II/2 of the Conference, the secretariat has the honour to circulate, in annexes I– III to the present note, reports from SAICM regional focal points on activities undertaken during the intersessional period between the second and third session of the Conference for the information of participants at the current session:
 - Annex I: Report from the African Regional Focal Point;
 - Annex II: Report from the Central and Eastern European Regional Focal Point;
 - Annex III: Report from the Latin American and Caribbean Regional Focal Point.
3. The reports have been reproduced as received without formal editing.

* SAICM/ICCM.3/1.

Annex I

Report from SAICM African Regional Focal Point

I. Regional meetings conducted 2009-2011

1. The African region held its third regional meeting on the Strategic Approach to International Chemicals Management (SAICM) in Abidjan, Côte d'Ivoire, 28–29 January 2010. The meeting was attended by 33 government representatives, four intergovernmental organisations and about seventeen non-governmental organisations.¹
2. The fourth SAICM African regional meeting was held in Nairobi, Kenya 5, 7 and 8 April 2011. It was attended by 34 government representatives, representatives from Food and Agriculture Organization of the United Nations (FAO), Secretariat of the Rotterdam Convention, United Nations Economic Commission for Africa (ECA), United Nations Environment Programme Regional Office for Africa, United Nations Institute for Training and Research (UNITAR). The meeting was also attended by representatives from the following non-governmental organizations, the private sector, and academia and research institutes: AGENDA for Environment and Development, AREMEDD, Basel Convention Coordinating Centre for the African Region, Centre for International Environmental Law (CIEL), International Pops Elimination Network (IPEN), Day Hospital Institute for Development and Rehabilitation (DHIDR), Development Indian Ocean Network, Environmental Conservation Society, Environmental Health Fund, Groupe pour la Promotion de la Flore et la Faune (GAPROFFA), Groundwork - Friends of the Earth South Africa, Informer, Sensibiliser, Eduquer sur les POPs en Côte d'Ivoire, International Trade Union Confederation/Africa, Jeunes Volontaires pour l'Environnement, Pesticide Action Network (PAN), Physicians for Social Responsibility, Safe Water for Africa Community Initiative, Sustainable Research and Action for Environmental Development (SRADev Nigeria).²

II. Regional coordination mechanisms employed

3. The SAICM coordinating mechanism for the African region is the African Core Group which was established in 2006 at the region's first regional meeting in Cairo, Egypt. The African Core Group has representation from each African sub-region, together with representatives of regional and intergovernmental organizations and civil society. It has provided an effective regional SAICM coordination mechanism to facilitate regional work, the organization of regional meetings and assisting with the coordination of intersessional work. The region's positions have been championed through the African Regional Focal Point. This position is held by Mr. David Kapindula from Zambia.
4. The African Core Group met in Nairobi on 20 and 21 August 2009 (SAICM/ACG.4/2) and back to back with the third African regional meeting in Abidjan on 28 and 29 January 2010 (SAICM/ACG.5/2). It also held two teleconferences, on 13 August 2010 and 10 January 2011.

III. Key outcomes from regional meetings

5. At the third African regional meeting recommendations were adopted on hazardous substances in the life cycle of electrical and electronic products, nanotechnology and manufactured nanomaterials, and illegal traffic of toxic and dangerous products. A regional statement on the engagement of the health sector in Strategic Approach implementation was also developed. To address challenges, the participants also agreed to revise the African Core Group's composition, procedures and terms of reference.
6. At its fifth meeting the African Core Group reviewed the recommendations made at the third African regional meeting and developed a summary of progress on possible regional priorities identified in 2006. It also reviewed its workplan.

1 The report of the meeting can be accessed on the SAICM website as document SAICM/RM/Afr.3/4.

2 The report of the meeting can be accessed on the SAICM website as document SAICM/RM/AF.4/4.

7. At the fourth African regional meeting resolutions and recommendations were adopted on financial considerations, the addition of activities on nanotechnologies and manufactured nanomaterials to the Global Plan of Action of the Strategic Approach, elimination of lead in paints, illegal traffic of toxic and dangerous products, and hazardous substances within the life cycle of electrical and electronic products. There was also substantial discussion of the need to update the African regional implementation plan and collectively develop regional project proposals.

IV. Regional implementation plans

8. The Work plan for the implementation of SAICM in the African region was developed and has undergone regular updates. At its last teleconference held on 13 August 2010, the ACG reviewed the workplan and agreed to prepare project proposals for regional priorities on the Globally Harmonized System of Classification and Labelling of Chemicals, mainstreaming and heavy metals, sub-regional poison centres and illegal international traffic.

9. Zambia on behalf of the African region with support from the WHO submitted a SAICM project entitled “Feasibility Study for a Sub-Regional Poison Centre in the East Africa Sub-Region”. The project involves a detailed analysis of the need for poisons centre services in the East Africa sub-region and the feasibility of poisons centre services being provided on a multi-country basis, i.e. establishment of a sub-regional poisons centre. The project involves a survey of 16 countries in the sub-region that have a SAICM National Focal Point and a more in-depth analysis of four countries namely Kenya, Tanzania, Zimbabwe and Zambia. This project was launched in 2011 and activities have since commenced.

V. Regional priorities

10. According to the SAICM regional workplan, the African region has prioritized a number of issues with the view of developing proposals for regional or sub-regional projects. These priorities include:

- (a) The Globally Harmonized System for the classification and labelling of chemicals,
- (b) Training and Capacity for Mainstreaming of sound management of chemicals into national development plans and policies,
- (c) Heavy metals,
- (d) Sub-regional poisons centre networks,
- (e) Illegal traffic and waste,
- (f) Training/guidance on economic instruments,
- (g) Elimination of Lead in Paint, and
- (h) Chemicals in products/articles

VI. Sources of assistance for regional activities and coordination

11. The source of assistance for implementation of regional activities has mainly been through the SAICM Quick Start Programme. The Region accessed funding through the QSP to initiate work on one sub-regional project entitled “Feasibility Study for a Sub-Regional Poison Centre in the East Africa Sub-Region”. Individual countries in the region have also accessed funding for a range of projects on various issues through the QSP. The other source of assistance has been on bilateral basis.

VII. Implementation of SAICM and linkage with other regional activities

12. The regional focal point participated in the Second Inter-Ministerial Conference on Health and Environment held in Luanda from 23 to 26 November 2010. In accordance with the outcome of the third African regional meeting on the Strategic Approach, inputs to the Luanda meeting focused on the linkages between implementation of the Strategic Approach and the process of conducting situation assessments and needs analyses as part of the establishment and implementation of a health and environment strategic alliance. A side event was held on SAICM and presentations were made by the RFP on status of SAICM implementation in Africa and a representative from Kenya presented on the SANA process.

13. In response to Resolution II/7 on the Commission on Sustainable Development which highlighted that chemicals would be included in the Commission's work cycle for 2010-2011, the region developed a position paper on SAICM implementation in the African region. The paper was presented by the RPF at the regional implementation meeting of the United Nations Economic Commission for Africa (UNECA) which was held from 26 to 30 October 2009 in Addis Ababa.

VIII. Looking back over 2009-2012 key achievements

- (a) Participated in the development of the Health Sector Strategy.
- (b) Made significant contributions to Africa's position on chemicals and wastes as presented to the Commission on Sustainable Development during the Commission's work cycle for 2010-2011.
- (c) The Region accessed funding through the QSP to initiate work on one sub-regional project entitled "Feasibility Study for a Sub-Regional Poison Centre in the East Africa Sub-Region".
- (d) The region recommended for inclusion in the GPA the emerging issue of hazardous substances within the life cycle of electrical and electronic products.
- (e) The region has been involved in the development of a new chemicals management focal area in the Global Environment Facility.
- (f) About 90% of the countries in the region have national focal points, predominantly from the environment sector.
- (g) At national level, Inter-ministerial and multi-stakeholder coordination is growing in many countries in Africa.
- (h) The RPF represented the region at a number of international meetings.

IX. Looking forward to 2012 -2015

14. The region will continue to review and update its regional workplan with a view of developing project proposals on outstanding priority issues.

Annex II

Report from SAICM Central and Eastern European Regional Focal Point

I. Regional meetings conducted 2009-2011

Two regional meetings in the CEE (Central and Eastern Europe) region were conducted in this time period:

A. Third Central and Eastern European meeting, Lodz, Poland, 7-11 December 2009³

1. In addition, UNEP organized a consultation from 7 to 9 (1p.m.) December 2009 to assist countries in the CEE region to prepare for the upcoming negotiations on mercury as mandated by UNEP Governing Council in its decision 25/% and a workshop on nanotechnology and manufactured nanomaterials was offered by the Organization for Economic Cooperation and Development (OECD) and the United Nations Institute for Training and Research (UNITAR) on Friday, 11 December 2009.

B. Fourth Central and Eastern European meeting, Lodz, Poland, 27-29 June 2011⁴

2. The meeting was held back to back with UNITAR workshop on nanotechnology and manufactured nanomaterials (27-28 June 2011).

3. The meeting was attended by around 40 participants including representatives of 12 countries in the region, as well as representatives of intergovernmental organizations and non-governmental organizations. Mr. Michal Andrijewski, Ms. Linda Tafaj and Mr. Marin Kocov were elected co-chairs of the meeting, each for half day respectively. Mr. Eugeniy Lobanov agreed to serve as rapporteur.

II. Regional coordination mechanisms employed

4. The Central and Eastern European Regional Coordination Group for SAICM was established as a mechanism for consultation, dissemination and exchange of information, and to support, with the assistance of the SAICM secretariat, the regional focal point and the region's representatives on the SAICM Quick Start Programme Executive Board in the execution of their duties. The Group was established in September 2008 at the second meeting of the Central and Eastern European regional meeting on SAICM held in Bucharest, Romania, from 8 to 11 September 2008. The membership of the regional coordination group comprises:

- (a) The regional focal point, as chair and convenor;
- (b) Regional representatives on the Quick Start Programme Executive Board;
- (c) Two governmental representatives from each of the following groups of countries:
 - (i) Czech Republic, Hungary, Poland, Slovakia, Slovenia;
 - (ii) Albania, Bosnia and Herzegovina, Bulgaria, Croatia, the Former Yugoslav Republic of Macedonia, Montenegro, Serbia;
 - (iii) Belarus, Estonia, Latvia, Lithuania, Russia, Ukraine;
 - (iv) Armenia, Azerbaijan, Georgia, Moldova, Romania;
- (d) One representative from a non-governmental organization in each of the following three sectors: industry, trade union and public interest;
- (e) One representative of a key regional organization (for example, one that has region wide responsibilities relevant to the sound management of chemicals) on a rotational basis;

³ http://www.saicm.org/images/saicm_documents/meeting/cee/LodzDec09/SAICMCEE3_finalreport.doc

⁴ http://www.saicm.org/images/saicm_documents/meeting/cee/LodzJune2011/Meetingdocs/CEE43meetingreport_en.doc

- (f) One representative from a participating organization of the Inter-Organization Programme for the Sound Management of Chemicals with a significant regional chemical safety programme;
 - (g) The immediate past SAICM regional focal point.
5. The regional coordination group carries out its mandate from the end of each session of the International Conference on Chemicals Management until the end of the subsequent session, commenced its work after the second session in 2009. The terms of reference of the Regional Coordinating Group were adopted during Third Central and Eastern European meeting, Lodz, Poland, 7–11 December 2009 and are attached as annex C to the Report of the Third Central and Eastern European Regional Meeting on the SAICM.
6. Two face-to face meeting have been held on 6 September 2009 in Brno, Czech Republic and on 6 December 2009 in Lodz, Poland.

III. Key outcomes from regional meetings

7. The following topics constituted the main part of discussion during the regional meetings:
- (a) Outcomes of the second session of the International Conference on Chemicals Management and follow-up action;
 - (b) Central and Eastern European Coordination Group terms of reference;
 - (c) Regional priorities;
 - (d) Implementation of the Strategic Approach to International Chemicals Management:
 - (i). Evaluation of and guidance on the implementation, review and updating of the Strategic Approach;
 - (ii). Implementation of and coherence between international instruments and programmes;
 - (iii). Financial and technical resources for implementation;
 - (iv). Emerging policy issues including new proposals for consideration by the International Conference on Chemicals Management at its third session;
 - (v). Information exchange and scientific and technical cooperation;
 - (e) Health sector strategy;
 - (f) Cooperation with intergovernmental bodies, including the Commission on Sustainable Development;
 - (g) Activities and budget of the secretariat;
 - (h) Quick Start Programme including status of approved projects and applications in the region; progress with the evaluation of the Quick Start Programme;
 - (i) Preparations for the first meeting of the Open-ended Working Group; and
 - (j) Venue and date of the third session of the International Conference on Chemicals Management.
8. At the Third Central and Eastern European regional meeting, the participants adopted recommendations on hazardous substances in the life cycle of electrical and electronic products and agreed upon the workplan and terms of reference of the regional coordination group as developed at that group's first meeting.
9. While no resolutions were adopted during the fourth Central and Eastern European regional meeting, the participants agreed that further discussions should take place at the first meeting of the Open-ended Working Group on proposals or recommendations on nanotechnologies and manufactured nanomaterials, financial considerations, hazardous substances in the lifecycle of electrical and electronic products, the health sector strategy and lead in paint.

IV. Regional implementation plans

10. The work plan of the Central and Eastern European Regional Coordination Group on the Strategic Approach to International Chemicals Management was developed at the first meeting of the

regional coordinating group for the Central and Eastern European region in September 2009. The work plan was discussed and modified at the second meeting held on 6 December 2009. The work plan was updated during the Third Central and Eastern European meeting, Lodz, Poland, 7–11 December 2009.

11. The work plan of the Central and Eastern European Regional Coordination Group is attached as Annex B to the Report of the Third Central and Eastern European Regional Meeting on the Strategic Approach to International Chemicals Management.⁵

V. Regional priorities

12. A regional priority list was developed in the context of possible Quick Start Programme projects at the second Central and Eastern European regional meeting in Bucharest, from on 8 and 9 September 2008. The list was reviewed during of the first meeting of the Central and Eastern European Regional Coordination Group on the SAICM on 6. September 2009.

13. During the third Central and Eastern European meeting, it was agreed that with regard to mainstreaming of chemicals management into national development strategies, adherence to GHS was important. The GHS is one of the main tools for handling chemicals safely and cooperation on chemicals issues at the national or regional level begins with standardized classification and labelling. Trade between countries would also be enhanced with a harmonized system through provision of standardized hazard communication for protection of end-users. It had been expected that the GHS would be introduced by 2008 but in many countries of the region it was still not implemented. The inclusion of the GHS as a future additional priority in the regional action plan was widely supported. The meeting encouraged an increase in activities on this topic wherever possible.

14. As a follow-up, the representative of the regional focal point delivered an intervention on behalf of the SAICM CEE Regional Focal Point and on behalf of the countries of the CEE region during UN CSD-18 in New York, 3-14 May 2010.⁶ In July 2010 the Regional Focal Point prepared, in consultations with the countries of the region a letter of support regarding the initiative of Moldova to host the CEE regional workshop on the Globally Harmonized System for Classification and Labelling of Chemicals (GHS). The above mentioned meeting is scheduled to be held in July 2012.

VI. Sources of assistance for regional activities and coordination

15. In December 2009, a joint letter of the President of the SAICM ICCM Bureau and Regional Focal Point was sent to CEO and Chairperson of the Global Environment Facility, in carbon copy to GEF Focal Points of the CEE Countries, regarding the GEF support to the strategy for a chemicals focal area. The letter reiterated the regional position for the replenishment negotiations.

VII. Implementation of SAICM and linkage with other regional activities

16. During the the Fourth UNECE Regional Implementation Meeting (RIM-4) that took place in Geneva on 1 and 2 December 2009 in preparation of the Commission on Sustainable Development's cycle (CSD-18 and 19), the Regional Focal Point delivered a presentation as a key speaker during the introductory panel, which allowed him to present progress made and priorities identified in the achievement of sound chemicals management in the CEE region.

17. The intervention on GHS during the CSD-18 is mentioned in paragraph 15.

VIII. Activity of the Regional Focal Point

On regular basis, CEE Regional Focal Point conducts regional consultations and participates in the process of dissemination of information on SAICM-related issues in the CEE Region. Specific activities undertaken are as follows:

- (a) Hosting two regional meetings
- (b) Consultations regarding the nomination of participants from CEE Region for the Global PFCs Group.

⁵

http://www.saicm.org/images/saicm_documents/meeting/cee/LodzDec09/SAICMCEE3_finalreport.doc

⁶ http://www.un.org/esa/dsd/resources/res_pdfs/csd-18/04may/chemicals/SAICM_CEE.pdf

- (c) Cooperation in helping the SAICM Secretariat to monitor and increase the number of responses on reporting on SAICM implementation from countries in the CEE region.
- (d) Testing the electronic version of data collection tool for purposes of periodic reporting within SAICM.
- (e) Participation in the informal consultation on nano and its relation to SAICM in Geneva (March 2011).
- (f) Representing the CEE region during the 18th Session of the Commission on Sustainable Development, thematic session on chemicals (May 2010).
- (g) A joint letter, sent to the GEF CEO and Chairperson, by President of the ICCM and CEE Regional Focal Point.
- (h) During the Open-ended Working Group of the International Conference on Chemicals Management in Belgrade (November 2011), Regional Focal Point delivered a report on CEE regional activities for the period 2009–2011.

IX. Looking back over 2009-2012: Key achievements and initiatives from a regional perspective, challenges met

18. The CEE Region consists of two different groups of countries: the European Union Member States and countries which are not the EU Member states. The situation in regard to implementation of SAICM objectives is different in these two groups. The EU members implement SAICM usually through harmonized EU legislation meaning that the state of play regarding SAICM in these countries is the same or at least similar to the well economically developed countries of Europe. The situation in other countries of the region is more difficult. All these countries must implement SAICM individually, using almost only their own resources. Change of legislation is the most important measure the countries are to apply. External financing may help to outline the general direction of necessary changes in the country legislation, however all detailed measures must be financed by the country itself, usually from the very scarce resources. Having all of this in mind, the cooperation within the region firstly helps in sharing information and experiences among the countries of the region.

19. From the perspective of the region, implementation of GHS is one of the most important regional priorities. While GHS, when implemented, protects humans and the environment, it facilitates also the international trade with chemicals, thus adding to the economic development of the country. It has been well understood by countries of the region also through sharing the experience among countries. GHS is implemented in the EU, but work on its implementation is also well advanced in some countries of the region which are not EU members. Other countries are considering GHS implementation and the readiness to implement GHS should be considered as the main achievement of the CEE Region. The regional workshop on GHS that is to take place this year is expected to facilitate this work. Most of countries of the region which do not yet have a general framework law on chemicals are also considering preparation of such laws, basing on experiences of countries where such general framework laws were introduced. Although preparation of such law is a real challenge for any country, it seems that regional cooperation should help in those ambitious projects.

X. Looking forward – 2012 -2015: Outlook, priorities for future and main challenges to be addressed

20. Successful implementation of SAICM means introduction of sound management of chemicals in the country, with measures harmonised with similar measures in other countries. Only harmonisation of detailed legal solutions will secure low costs of implemented protective measures and will be beneficial to national economies. GHS is the most important measure to be introduced in countries of the CEE region. As GHS has been implemented in the European Union and in some other European countries it means that the most important trade partners for all countries of the CEE region have this system in place. Harmonisation with this system is of the highest importance for those countries that have not yet implemented GHS.

Annex III

Report from SAICM Latin America and Caribbean Regional Focal Point

I. Outcomes of sub- and regional meetings

1. Sub-regional and regional meetings continue to play an important role in the implementation of the Strategic Approach in the Latin America and Caribbean region. During the period 2009 and 2011, two regional meetings and two meetings of the Regional Coordination Committee (RCC) were held. These meetings were instrumental in facilitating the exchange of experiences among Governments, industry, non-governmental organizations and intergovernmental organizations on the implementation of the Strategic Approach. The meetings also allowed the region to identify its priorities for the further development and implementation of the SAICM within the Latin America and Caribbean region.
2. The second meeting of the Latin America and Caribbean region on SAICM was held in Kingston, Jamaica on March 8 and 9-12, 2010. This meeting was attended by representatives of 21 Governments, five inter-governmental and regional economic integration organizations, including the Secretariats of the Caribbean Community (CARICOM) and the Central American Commission of Environment and Development and nine non-governmental organizations. At this meeting, the region agreed to amend the Terms of Reference of the RCC to increase the number of members thereby providing a better representation of the multi-stakeholder and multi-sectoral nature of SAICM implementation within the region. In addition, the LAC Bureau member was also appointed as a member of the RCC to allow for the effective flow of information between the region and the Bureau. The region also agreed to increase the technical expertise available to the region through the appointment of the UNEP Chemicals Coordinator based in UNEP Regional Office of Latin America and Caribbean (ROLAC) as a technical advisor to the RCC. In addition, the region adopted resolutions on strengthening the engagement of the health sector in the implementation of SAICM in an effort to promote linkages between SAICM implementation and the health sector within countries in the region, nanotechnologies and manufactured nanomaterials, hazardous substances within the lifecycle of electrical and electronic products and financing the implementation of the Strategic Approach to International Chemicals Management.
3. During the third regional meeting of Latin American and Caribbean held in Panama, 30 May to 3 June, 2012, the region adopted resolutions on nanotechnologies and manufactured nanomaterials, financial considerations, hazardous substances in the life cycle of electrical and electronic products, the health sector strategy and lead in paint. The region also reviewed progress in finalizing the regional implementation plan.
4. The RCC updated its work plan at its 3rd meeting in March 2010, including the identification of regional and extra-regional support, including financing for activities related to the implementation of the Strategic Approach within the LAC region. In this regard, the Committee identified the Inter-American Development Bank (IADB), the Caribbean Development Bank, the Secretariats of CARICOM and the Southern Common Market (MERCOSUR), and the Organization of American States (OAS) as possible sources of development assistance. In addition, the Committee also explored the possibility of obtaining support from the Bolivarian Alliance for the Americas (ALBA) for SAICM-related activities in the LAC region. Letters were sent to several to a number of financial and development institutions, including the regional development banks, to ascertain (i) whether a focal point has been appointed for chemical safety issues; (ii) whether a chemicals window exists to access funding and/or technical assistance (iii) if a chemicals window was in existence, how such funds could be accessed; and (v) what activities, if any, had been undertaken for the implementation of the Cooperative Agenda under the Mar del Plata Declaration by the Health and Environment Ministers of the Americas.

II. Regional priorities

5. The following priority areas were identified by the region for future work on a cooperative and collaborative basis, including: (i) prevention of illegal traffic of hazardous chemicals and wastes; risk reduction on persistent, bioaccumulative and toxic Substances (PBTs); (ii) heavy metals (particularly mercury and lead); (iii) implementation of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS); (iv) protection of highly vulnerable and at risk groups from exposure to toxic chemicals; (v) hazardous wastes reduction and management, including e-waste; (vi) safe alternatives for the progressive elimination of highly hazardous pesticides; (vii) remediation of contaminated sites; (vi) planning and response for emergencies involving chemicals; and (viii)

chemicals in products; and (ix) development of Pollutants Release and Transfer Registers (PRTRs) at national and regional levels.

6. In addition, the region recommended that the following broad thematic areas be pursued to assist with implementation of work in the priority areas:

- (a) Integrated approach at the national, sub-regional and regional levels is required for the successful achievement of sound chemicals management, including cooperation and coordination among national focal points for SAICM, the chemicals conventions, CSD, and the GEF;
- (b) Further engagement of the sub-regional integration bodies (CARICOM, Andean Community, MERCOSUR etc) into the development and implementation of programmes focused on sound chemicals management;
- (c) Strong emphasis needs to be placed on the mainstreaming of sound chemicals management into national sustainable development plans and programmes;
- (d) An expansion of the donor/funding base, including the regional development banks to facilitate the financing of sound chemicals management initiatives at the national and regional levels;
- (e) Increased involvement of the relevant regional development agencies in SAICM implementation at the national, regional and sub-regional levels, including PAHO, ILO, FAO; and
- (f) United Nations Economic Commission for Latin America and the Caribbean (UNECLAC), particularly in relation to capacity building activities; and
- (g) Development of SAICM national implementation plans which would inform the development of the regional SAICM implementation plan

III. Sub-regional and regional implementation plans

7. At the Caribbean Workshop on SAICM and related chemicals and hazardous wastes instruments held in Barbados in March 2009, the region highlighted the necessity of developing a regional action plan. This action plan would, inter alia, respond to the principal needs, concerns and interests of the various groups of countries) within the region (emerging economies, small economies, small island developing states and least developed countries) with respect to sound chemicals management, have the commitment and support of Governments and other stakeholders within the region in its development and implementation, and assist countries to achieve the 2020 target.

8. At its second meeting held in March 2010, the region agreed to develop a regional implementation plan. The Plan is informed by the 2005 Mar del Plata Declaration of Health and Environment Ministers of the Americas, and existing sub-regional plans, such as the implementation plan for seven countries within Central America and the Dominican Republic developed with the support of the Central American Commission on Environment and Development, the US EPA and UNITAR, and existing national implementation plans. Given the varying capacities within the region with respect to sound chemicals management, the Plan should ideally reflect the circumstances found at the regional and sub-regional level, taking into consideration social, economic and environmental aspects.

9. In 2011, a consultant was engaged, through the SAICM secretariat, to assist the region with the preparation of its regional implementation plan. A framework document was produced which will allow the region to further develop the plan taking into account the regional priorities already identified. It is anticipated that the plan will be dynamic and will reflect and respond to the changing needs and priorities of the region.

IV. Health contact points

10. At its second regional meeting, the Latin America and Caribbean region adopted a resolution on health sector engagement in SAICM focusing on a number of elements relevant to the draft strategy for the engagement of the health sector in the implementation of the Strategic Approach to International Chemicals Management, and requesting the countries of the region to make efforts to integrate the health sector in the development of actions with a view to implement SAICM. In preparation for the third regional meeting held in Panama City, WHO working jointly with the Pan American Health Organization contacted all health ministries in the Latin America and Caribbean region and sought nomination of a specific health focal point for SAICM-related matters.

11. Accordingly health-sector contact points have been designated for Argentina, Brazil, Belize, Chile, Costa Rica, Cuba, Dominican Republic, Honduras, Mexico, Panama, Peru, Port of Spain, Suriname and Uruguay, Nicaragua and St Kitts and Nevis. In some instances, the national focal point for SAICM is already within the Ministry of Health, for example, Jamaica and Panama.

V. Participation in chemicals management-related events

12. The LAC Regional Focal Point, on the invitation of the United Nations Economic Commission for Latin America and the Caribbean (UN ECLAC), participated in the 3rd Regional Implementation Forum on Sustainable Development in Latin America and the Caribbean in La Antigua, Guatemala, November 2009. This meeting provided a regional forum for the implementation of the decisions adopted at the World Summit on Sustainable Development (CSD), taking into account the thematic clusters for the 18th and 19th sessions of the CSD which included chemicals and wastes (hazardous and solid) management. At the meeting, the Regional Focal Point gave an overview of the progress made with respect to sound chemicals management within the Latin America and Caribbean region. In addition, a presentation was made during the thematic discussions on chemicals at CSD-18.

13. In preparation for the regional participation at CSD-18 and CSD-19, the RCC at its meeting in November 2009 highlighted the need for coordination between national focal points for SAICM and the CSD. In this regard, National SAICM focal points were encouraged to work with and share information on SAICM implementation with CSD focal points.

Appendix I

Composition of the SAICM Regional Coordination Committee for Latin America and the Caribbean (2009 – 2012)

Regional Focal Point (RFP) – Ms. Gillian Guthrie (Jamaica)
Immediate Past RFP – Mr. Leopoldo Sahores (Argentina)
Bureau Member – Mr. Osvaldo Alvarez (Chile)

Sub-regional representatives

Mr. Basudeo Subhas Dwarka (Guyana) – English-speaking Caribbean
Mr. Mario Abo Balanza (Cuba) – Spanish-speaking Mesoamerica and Haiti
Ms Maria Inez (Panama) – Spanish-speaking Mesoamerica and Haiti
Ms. Maricruz Hernandez (Ecuador) – South America
Ms. Judy Torres (Uruguay) – South America

Executive Board of the Quick Start Programme

Mr. Clifford Pena (Venezuela)
Mr. Jeffrey Headley (Barbados)

IOMC

UNITAR (Mr. Jonathan Krueger)

Non-governmental organizations (NGOs)

Mr. Marcelo Kos Silveira Campos – Industry
Mr. Nilton Freitas – Labour
Mr. Fernando Bejarano González - Public Interest NGO
Dr. Lillian Corra – Science representative

Regional organizations

Mr. Cletus Springer – Organization of American States (OAS)
Dr. Agnes Soares – Technical Advisor, Pan American Health Organization (PAHO)
UNEP – Technical Advisor, Regional Office for Latin America and the Caribbean (ROLAC)

Appendix II

Examples of SAICM implementation within countries/non-governmental organizations in the LAC region

I. Antigua and Barbuda

1. Antigua and Barbuda gave formal recognition to the SAICM initiative in 2012, by designating the Pesticides and Toxic Chemicals Control Board (PTCCB) as the national focal point (NFP). To date all the SAICM related activities in the country have been linked to the management activities of the PTCCB, to include the following:
 - (a) Public information, awareness raising and educational activities as they pertain to chemicals management, the promotion of rational pesticides use and sensitizing stakeholders as to their legal responsibilities
 - (b) The compilation of an inventory of obsolete pesticides under an FAO sponsored project: entitled “Capacity Building related to Multilateral Environmental Agreements in African, Caribbean and Pacific (ACP) countries – Clean-up of obsolete pesticides, pesticides management and sustainable pest management”.
 - (c) Ensuring the adequate labeling of pesticides and toxic chemicals offered for sale in the country.
 - (d) Maintaining strict control of the sale, transportation, storage, use and disposal of pesticides and toxic chemicals, in an effort to facilitate a safer environment.
 - (e) Monitoring and inspection of pesticide operations to ensure compliance with the law.
 - (f) Strict control of the amounts and kinds of pesticides available for use in the county through a formal registration system.
 - (g) Generation of statistical data detailing annual imports of pesticides to include both mass of formulation and active ingredient, enabling us to meet national and FAO statistical requirements for pesticide and fertilizer use in the country
 - (h) Hosting an annual pesticides awareness week of activities during which the PTCCB engages the general public in pesticides management issues particularly as they pertain to the benefits and risks associated with pesticides use, as well as its role in ensuring rational and effective management and use of these chemicals.
 - (i) Performing the duties of Designated National Authority (DNA) for the Rotterdam Convention on the Prior Informed Consent Procedure for certain hazardous chemicals and pesticides in international trade.
2. Antigua and Barbuda have not been able to benefit from the SAICM Quick Start Programme due primarily to their delay in designating the national focal point and communicating the information to the SAICM Secretariat.
3. Antigua and Barbuda are currently participating in intergovernmental negotiations to prepare a global legally binding instrument on mercury. They are also participating in the activities of both the Regional Organizing Group for the region of Latin America and the Caribbean (ROG-GRULAC) and the Global Organizing Group for the second effectiveness evaluation for the Stockholm Convention. They are scheduled to participate in the third session of the International Conference on Chemicals Management.

II. Costa Rica

4. Costa Rica has a Technical Secretariat for Coordination of the Chemicals Management, created by Executive Decree No. 33104-REC-MAG-MINAE-S, as a national coordinating mechanism for implementation of SAICM. The Secretariat is composed of representatives from the environment, health, agriculture, foreign affairs, customs, occupational health, academia, private sector and nongovernmental organizations, including the SAICM National Focal Point.
5. The Technical Secretariat for Coordination of the Management of Chemicals has a comprehensive plan that provides for their work in different areas of work across projects, focal points and sub-committees to achieve the sound management of chemicals throughout their life cycle, so that

by 2020, chemicals are used and produced in ways that lead to the minimization of significant adverse effects on human health and the environment.

6. The components of the Plan relate to the issues of assessment and risk reduction of chemicals, strengthening the Secretariat and capacity building. These components account of his own strategic actions, such as promoting sustainable procurement system, use, storage, safe transport and disposal of hazardous products, promoting public-private partnerships for projects, product management and hazardous waste, the use, storage, safe transport and disposal of hazardous products, a Chemical Safety Policy (which is under review), the creation of synergies between the Stockholm Conventions, Montreal Protocol, Basel and Rotterdam, the mainstreaming of chemicals management in trade policies, the incorporation of other institutional representatives in the Secretariat, protection of vulnerable and high risk of exposure, prevention of illicit trafficking of dangerous products and establishing the Globally Harmonized System (GHS), among others.

7. With funding from the Quick Start Programme the project "Design and implementation of a National Information System for the Integral Management of Chemicals in Costa Rica" was designed and built as an integrated information system chemicals. The activities initially included the evaluation of information and existing databases and the design of an information system relevant to the users decision makers. The information is to link existing mechanisms and includes information on chemical substances, illegal trafficking, technical protocols, best available technology, best environmental practices, guidelines, legislation and publications. The development of the system also provides analysis of the information, recent communications and training for users.

III. Brazil

8. Activities related to SAICM:

- (a) Brazil has developed its National Profile of Chemicals Management in 2003, but is an ongoing update of the document, given that in this period, knowledge about chemicals in the country and control over them have been improved, allowing to take a picture most current status of chemical management in the country.
- (b) The National Commission for Chemical Safety (CONASQ), which since 2000 has been the national forum of reference for discussions on chemical safety, established in 2011 the Working Group on Mercury (Mercury GT) and has contributed significantly to the supply of technical support for the Brazilian delegation in the negotiation of binding international instrument on mercury. A national diagnosis on mercury is at final stages of development, with expected release date in 2012.
- (c) In 2010 Brazil began implementing the project lasting until 2013, with support from GEF, for the implementation of the Stockholm Convention. Inventories are being established on POPs that ultimately will be consolidated into a plan for submission to the secretariat of the Stockholm Convention. In 2012, an inventory of dioxins and furans was fully completed. An inventory of contaminated areas, stockpiles, and waste products, as well as an assessment of the legal basis on POPs are being developed with a expected delivery date in 2012. Inventories of PCBs, new POPs are being prepared. Also a comprehensive information system to access the database on POPs is being built. Promotional materials and dissemination of knowledge materials about POPs are being produced, and is planned to hold a workshop for discussion with civil society. Other projects are also developed by universities and research centers as part of the global monitoring of POPs, in cooperation with GRULAC, to investigate contamination in breast milk, water and air.
- (d) Brazil is actively participating in the Rotterdam Convention by notifying the secretariat of the Rotterdam Convention of their regulatory actions, calling attention to domestic importers of safety data for substances and expanding knowledge in the country on the Convention and its objectives.
- (e) A routine review of pesticides is undertaken in the country, at the end of the process it will be possible to establish prohibitions and restrictions of use of substances, with a focus on protecting the environment and human health.
- (f) A national strategy for prevention, preparedness and rapid response to accidents involving hazardous substances is being implemented since 2004, advancing the national territory by supporting states and municipalities in developing local strategies to reach solutions by supporting risk mapping and the establishment of institutional arrangements among governmental agencies such as civil defence, environmental agencies and health authorities.

- (g) Brazil also participates in regional activities in the MERCOSUR on GHS implementation, through the Project ECONORMAS, which has among its components to assess national legislation on classification and labeling and the strengthening the national capacity in terms of laboratories.

IV. Colombia

9. In Colombia through the formulation and accomplishment of relevant QSP Trust Fund projects, a variety of sectors directly involved with the management of chemical, such as competent authorities (in health, environment, agriculture, mines and energy, among others) and industrial and non-governmental sectors, have become aware of the importance of realizing a rational management of substances and chemical products and the risks associated to its inadequate management to the human health and the environment.

10. In the same way through those projects, public entities legally competent for chemical and hazardous wastes management have been able to share information related to activities implemented in the country. This has allowed a greater understanding and commitment of those entities to the implementation of the Basel, Stockholm and Rotterdam Conventions, as well as decisions on synergies between these conventions and SAICM objectives.

11. With a project in the frame of SAICM, the National Profile of chemicals has been updated and published in May 2012. The country also has conducted workshops and training activities in related issues and development of information tools. Also is considering the creation of an inter-institutional coordination mechanism for the management of chemicals at the national level.

V. Honduras

12. From 2009 to date, Honduras has strengthened its strategic framework for the management of chemicals. It has a National SAICM Policy and a SAICM Implementation Plan called SIP Honduras, with 12 action plans to 2022, related to the environmentally sound management of priority industrial products and agricultural products (including their wastes). In 2010 the National Implementation Plan of the Stockholm Convention on POPs was prepared and from the period of 2011 to 2015 it is intended to implement this plan with GEF financial resources.

13. Currently a QSP project (2011-2013) is implemented, related to the mainstreaming of environmentally sound management of chemicals in the Country's Vision (2038) and Nation's Plan (2022); through this project is also intended to formalize the National Chemicals Commission, by decree of the Council of Ministers. As part of this latest project the inclusion of chemicals priorities in Regional Development Plans has been achieved specifically in three development regions of the 16 established in the country. A PRTR project is also been implemented and lessons learned from a first pilot project with the private sector of the reporting process and automated system, will help towards having a specific regulation on PRTR.

14. SAICM in Honduras has also established an important synergy with the health sector through which it intends to comply with the International Health Regulations (2005) and Emergency Response Plan.

VI. Non-governmental organizations

A. APROMAC

15. (Environmental Protection Association)⁷ in coalition with TOXISPHERA – Environmental Health Association has executed small projects related to SAICM emerging issues since 2009.

(a) Project on lead in paints in partnership with IPEN and Toxics Link (India)

16. The project was performed in two phases, collecting samples of paints in the Brazilian market for further lab analysis. As the results showed high levels of lead in major Brazilian brands, including those manufacturers which export to other Latin America countries, a second phase has been performed translating the report, developing of a brochure on the issue, and carrying out some legal

⁷ APROMAC was created in 1985. It is also member of the Permanent Monitoring Group of the Resolution 362/2005 (CONAMA) on used lubricant oil management, coordinated by the Ministry of Environment, since 2006 in Brazil, and is member of several international and national citizenship networks

actions on the compliance of the federal law in force by the responsible authorities. At the end of 2011, a second sampling was made to evaluate the state of the art of the industry, and the official report on the analysis is expected from the University of Cincinnati (USA).

(b) A project on the translation and printing of the NGO Guide to SAICM in Portuguese

17. APROMAC and Toxisphera (Environmental Health Association) have created a coalition and have been working together in Brazil to raise awareness on chemicals for society and authorities. TOXISPHERA received support from IPEN to build its website and produce bulletins to be distributed to Brazilian networks on chemicals issues. The coalition has been working on mercury during these years with IPEN and Zero Mercury Working Group on the following:

(c) International market analysis on mercury in mass products in partnership with Arnika and IPEN

18. Several projects on mercury on public awareness and public policies supported by Zero Mercury Working Group (since 2007), involving organization of events on mercury for raising awareness of the public and authorities, participation in the National Chemical Safety Commission and in the National Environment Council (which adopted the APROMAC's proposal of a motion requesting the development of a National Mercury Policy), creation of the Mercury Working Group with the Brazilian federal government and industry, Legal Framework on Mercury in Brazil research, and other activities.

B. IPEN

19. IPEN members in GRULAC region have been very active on several issues regarding SAICM for example on nanotechnology:

(a) ReLANS, the Latin America Network on Nanotechnology and Society

(www.relans.org) has produced a booklet on the societal and environmental implications of nanotechnology development in Latin America and the Caribbean, with the support and collaboration of IPEN. The booklet highlights the recommendations on nanotechnology made by GRULAC and NGOs in the regional consultation meeting in Panama 2-3 June 2011 and includes the call to apply a precautionary approach, during the complete lifecycle of engineered materials, transparency and the right of consumers and workers to information, the application of extended producer responsibility, and the participation of workers and the health sector. Outreach activities have included the editing and printing of 1000 issues of the booklet in Spanish.⁸ Thanks to the University of California-Santa Barbara the booklet is also in English.⁹ An agreement with the Latin American Secretariat of the IUF (International Union of Food and Agricultural Workers) has also been reached for the translation of the booklet to Portuguese. The booklet has been presented in different congress and universities related with nanotechnology discussion and in other GRULAC regional meetings as in Brasilia a weeks ago.

(b) Chemical in products

20. With the support of IPEN in Mexico, the NGO Fronteras Comunes is elaborating a booklet in Spanish on "Toxics at Home", that includes information on lead, mercury, insecticides, PFOS, triclosán, electronics and the importance of SAICM and IPEN's work. It provides key information about toxics in consumer products, identifying products, toxic chemicals, environment and health damage and its alternatives. It is in the final stage of design and will be printed next month for wider distribution and posted on the IPEN website.¹⁰

(c) Mercury

21. With IPEN support among others in Argentina, AAMMA- ISDE has produced a series of fact sheets on the health aspects related with mercury added products and environmental sources. With the purpose to create awareness during the process of the Mercury treaty negotiations, this information will shortly be added to the AAMMA-ISDE website¹¹.

⁸ http://www.ipen.org/pdfs/Nanotecnologia_es.pdf

⁹ http://www.relans.org/IPEN_NT_En.html

¹⁰ <http://www.fronterascomunes.org.mx/>

¹¹ <http://www.aamma.org>

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**Implementation of the Strategic Approach to
International Chemicals Management: Emerging policy
issues**

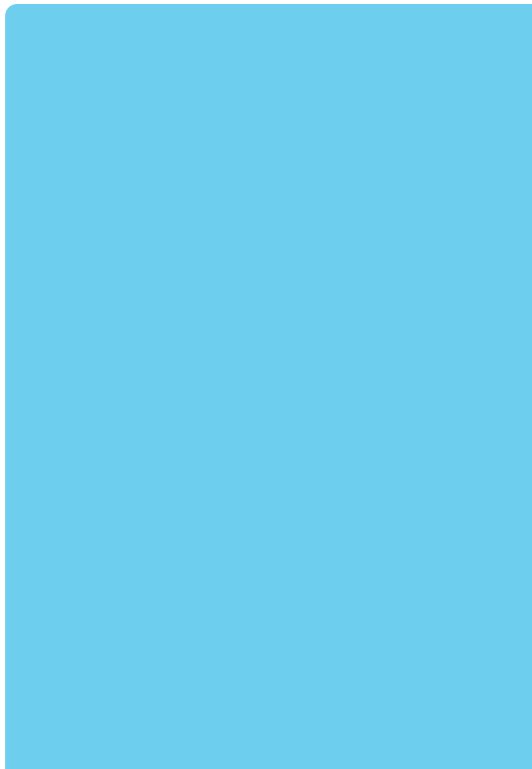
**Submission by the International POPs Elimination Network –
Global Lead Paint Elimination by 2020: A Test of the
Effectiveness of the Strategic Approach to International
Chemicals Management**

Note by the secretariat

1. The secretariat has the honour to circulate, for the information of participants, in the annex to the present note a report of the International POPs Elimination Network (IPEN) entitled *Global Lead Paint Elimination by 2020: A Test of the Effectiveness of the Strategic Approach to International Chemicals Management*.
2. The information is presented as submitted and has not formally been edited.

* SAICM/ICCM.3/1

Annex



GLOBAL LEAD PAINT ELIMINATION BY 2020:

A TEST OF THE EFFECTIVENESS OF THE STRATEGIC APPROACH
TO INTERNATIONAL CHEMICALS MANAGEMENT



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LIST OF ACRONYMS

ANOR	Cameroon Agency of Standard and Quality	IQ	Intelligence quotient
BLL	Blood Lead Level	µg/dL	Micrograms of lead per deciliter of blood
CCO	Chemical Control Order	mg/kg	Milligrams per kilogram (parts per million)
CDC	U.S. Centers for Disease Control and Prevention	NGO	Non-governmental organization
FAO	United Nations Food and Agricultural Organization	Pb	Chemical symbol for lead
GAELP	Global Alliance to Eliminate Lead Paint: A partnership of the United Nations Environment Program and the World Health Organization	PCFV	Partnership for Clean Fuels and Vehicles
		ppm	Parts per million
		PTWI	Provisional tolerable weekly intake
ICCM	International Conference on Chemicals Management	REACH	Registration, Evaluation, Authorization and Restriction of Chemical Substances: The European Community Regulation on chemicals and their safe use
IPEN	A global network of non-governmental organizations working to establish and implement safe chemicals policies and practices that protect human health and the environment (formerly International POPs Elimination Network)	SAICM	Strategic Approach to International Chemicals Management
		TPMA	Thai Paint Manufacturers Association
IPPIC	International Paint and Printers Ink Council	UNEP	United Nations Environmental Program
		WHO	World Health Organization

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IPEN

IPEN is a leading global organization working to establish and implement safe chemicals policies and practices that protect human health and the environment around the world. IPEN’s mission is a toxics-free future for all.

IPEN brings together leading public interest groups working on environmental and public health issues in developing countries and countries in transition. It helps build the capacity of its member organizations to implement on-the-ground activities, learn from each other’s work, and work at the international level to set priorities and achieve new policies.

IPEN’s global network is comprised of more than 700 public-interest organizations in 116 countries. Working in the international policy arena and in developing countries, with international offices in the US and in Sweden, IPEN is coordinated via eight IPEN Regional Offices in Africa, Asia, Central/Eastern Europe, Latin America, and the Middle East.

FOREWORD

This report on global lead paint elimination was prepared by the global non-governmental organization (NGO) network, IPEN, for distribution at the third meeting of the International Conference on Chemicals Management (ICCM3) taking place in Nairobi, Kenya, September 17-21, 2012. It makes the case that lead paints are still widely manufactured, sold and used in developing countries and countries with economies in transition for applications likely to contribute to childhood lead exposure, and that the elimination of such paints should be considered a global priority objective for the Sound Management of Chemicals.

The report argues that the global elimination of all manufacture and sale of lead decorative paints in countries of all regions by 2020 is an achievable objective, and is one against which both the Global Alliance to Eliminate Lead Paint and the Strategic Approach to International Chemicals Management can and should be evaluated.

The report was co-authored for IPEN by Jack Weinberg, IPEN Senior Policy Advisor, and Dr. Scott Clark, IPEN Public Health Advisor for Lead Paint and Professor Emeritus, Environmental Health, University of Cincinnati. Review and suggestions were provided by Perry Gottesfeld, Executive Director, Occupational Knowledge International and Valerie Denney, IPEN Lead Communications Advisor.

IPEN thanks the numerous donors that support its work on lead paint elimination. These include the European Union's SWITCH-Asia Program, which granted IPEN €1.4 million to support NGO lead paint elimination activities by IPEN partner organizations in seven Asian countries; the governments of Sweden and Switzerland; the United Nations Environment Programme; the Swedish Society for the Conservation of Nature; several charitable foundations; and others. The content of this report, however, reflects the views of the report's authors and IPEN and not necessarily those of IPEN's donors.

August 28, 2012

Jack Weinberg

Dr. Scott Clark

INTRODUCTION

Beginning in the 1970s and 1980s, most highly industrial countries adopted laws or regulations to control lead paints. Most banned the manufacture, sale, and use of lead decorative paints – the paints used on the interiors and exteriors of homes, schools, and commercial buildings. Most highly industrial countries also imposed controls on other lead paints, especially paints and coatings used in the applications most likely to contribute to lead exposure in children. These regulatory actions were taken based on scientific and medical findings that lead paint is a major source of lead exposure in children and that lead exposure in children causes serious harm, especially to children's developing brains and nervous systems.

In those years, most developing countries had very weak chemicals management capabilities. Also, much less paint was manufactured and sold in the developing world at that time compared to today. As a result, few developing countries adopted their own laws or regulations to control lead paint. Nevertheless, until recently, it was widely assumed that paint manufacturing companies had, on their own initiative, discontinued adding lead pigments and other lead compounds to the household paints they produce for sale in all countries of the world.

Large paint companies are certainly aware that lead paint harms children. Transnational companies that also produce paints for sale in Western Europe, North America, and other highly industrial countries do not add lead compounds to the paints that they sell in those markets. Larger national companies producing paints only for sale in the developing world also have full access to all the information that they would need to recognize the hazards associated with lead paint and to produce high quality non-lead paints that they could sell at competitive prices. Based on fundamental principles of brand stewardship, it was logical to assume that the larger paint manufacturing companies, at least, would have discontinued adding lead to the household paints that they sell in all markets if for no other reason than to protect their brands' reputations. However, it has not happened that way.

In 1999 and 2003, academic researchers reported high levels of lead in major brands of decorative paints being sold on the market in India and some other countries in Asia. Then, starting in 2007, NGOs associated with IPEN – the global network of organizations working to protect human health and the environment from harms caused by toxic chemical exposure – began to purchase and test the lead content of paints for sale in the developing world. To date, academic

experts associated with IPEN and others have tested samples of decorative paints being sold in approximately 25 developing countries and countries with economies in transition. In almost all cases, the water-based decorative paints (sometimes called latex, acrylic, or plastic paints) did not contain hazardous lead additives. However, in every single country where testing was done and where no national law or regulation prohibited it, the majority of the oil-based (enamel) decorative paints for sale on the market contained dangerous levels of lead. And in virtually all cases, the consumer had no way to tell which of the enamel paints contained added lead and which did not.

THE GLOBAL ELIMINATION OF ALL MANUFACTURE AND USE OF LEAD DECORATIVE PAINTS IN COUNTRIES OF ALL REGIONS BY THE YEAR 2020 IS AN ACHIEVABLE OBJECTIVE AGAINST WHICH BOTH THE GLOBAL ALLIANCE TO ELIMINATE LEAD PAINT AND THE STRATEGIC APPROACH TO INTERNATIONAL CHEMICALS MANAGEMENT CAN AND SHOULD BE EVALUATED.

Based on the efforts of IPEN and others, a resolution was introduced and adopted at the 2009 second meeting of the International Conference on Chemicals Management (ICCM2) that identified lead in paint as an emerging policy issue and invited the United Nations Environment Programme (UNEP) and the World Health Organization (WHO) to establish a global partnership to promote phasing out the use of lead in paints and serve as its secretariat.¹ UNEP and WHO agreed and jointly initiated this partnership under the name Global Alliance to Eliminate Lead Paint (GAELP).² GAELP's broad objective is to phase out the manufacture and sale of paints containing lead and eventually to eliminate the risks from such paint.³

1 ICCM2 omnibus resolution II/4 on emerging policy issues, http://www.saicm.org/documents/iccm/ICCM2/emerging%20issues/ICCM2%20Outcomes/Emerging%20issues/Omnibus%20resolution%20II_4.doc

2 GAELP Homepage, <http://www.unep.org/hazardoussubstances/LeadCadmium/PrioritiesforAction/GAELP/tabid/6176/Default.aspx>

3 See GAELP Objectives, <http://www.unep.org/hazardoussubstances/LeadCadmium/PrioritiesforAction/GAELP/GAELPObjectives/tabid/6331/Default.aspx>

GAELP defines the term paint to also include varnishes, lacquers, stains, enamels, glazes, primers, and coatings. GAELP's definition of the term *lead paint* states: "Lead paint" is paint to which one or more lead compounds have been added."⁴

This report will provide background information that may be of use to those who wish to initiate lead paint elimination programs, projects, or campaigns in their own countries. It will review progress that has been made since 2009. It will propose strategies to achieve global elimination by 2020 of leaded household paints and other lead paints used for the applications most likely to contribute to childhood lead exposure. It will make the case that success or failure to achieve global lead paint elimination by 2020 should be one of the criteria used in evaluating the effectiveness of the Strategic Approach to International Chemicals Management (SAICM).

⁴ See GAELP Operational Framework, March 2011, http://www.unep.org/hazardoussubstances/Portals/9/Lead_Cadmium/docs/GAELP/Final_operational_framework_GAELP.pdf

LEAD

Lead is a metallic element whose chemical symbol is Pb from the Latin word *plumbum*. It is a heavy metal that is bluish-grey in color when freshly cut. Pure lead is soft and malleable, but lead is also often combined with other metals to form alloys.⁵ Many chemical compounds contain lead including lead oxides, lead salts, and organic lead compounds. Metallic lead, lead alloys, and lead chemical compounds continue to be used for many purposes. Lead in all its forms is highly toxic, especially to young children.

LEAD AS AN ENVIRONMENTAL POLLUTANT

Lead was one of the first metals that people smelted and used. Archeologists have found lead objects and pigments dating from the early Bronze Age. Extensive evidence of ancient lead mining and smelting exists in both Asia and the Mediterranean region.⁶ The Greek physician, Hippocrates, who lived in the 4th century BCE, already accurately described the symptoms of lead poisoning.⁷ During Greco-Roman times, syrups and alcoholic beverages were often cooked in vessels that contained lead. This resulted in widespread lead poisoning among the affluent and some suggest this was one of the causes of the downfall of the Roman Empire.⁸ Investigations of human skeletal remains indicate that the lead body burden of people today is between 500 and 1,000 times greater than in pre-industrial times.⁹ Once lead is introduced into the environment, it persists.

LEAD IN AUTOMOTIVE FUELS

One of the largest and most harmful historical uses of lead was the addition of tetraethyl lead to automotive fuels to improve engine performance. This practice was widespread until recently, but has now been largely eliminated. It ended

in most highly industrial countries by the 1970s, but leaded automotive fuels remained a predominant automotive fuel in most developing countries until 2002 and beyond. The Partnership for Clean Fuels and Vehicles (PCFV) was established by the UNEP in 2002 to eliminate leaded automotive fuel with participation from governments, industry groups, international organizations, and civil society. This initiative was a success. By January 2012, leaded automotive fuels were eliminated in all but six countries. Leaded automotive fuels remain the predominant automotive fuel in only three countries: Afghanistan, Myanmar, and North Korea. It is still available as an automotive fuel in three additional countries: Algeria, Iraq, and Yemen.¹⁰

LEAD USES TODAY

Lead remains in widespread use today. In addition to lead pigments and other lead compounds used in paints and glazes, other major current uses of lead include lead storage batteries, lead pipes, lead solder, lead ammunition, and lead used as a stabilizer in vinyl (PVC) plastic.

LEAD IN ALL ITS FORMS IS HIGHLY TOXIC, ESPECIALLY TO YOUNG CHILDREN.

Lead batteries presently account for approximately 80 percent of the lead that is used worldwide. Today, most of the lead in global commerce is obtained from recycling lead-acid batteries. Ninety-seven percent of lead batteries are reported to be recycled, including in low-income countries where the recycling takes place mostly in informal, largely uncontrolled settings.¹¹ Global consumption of lead is increasing and is expected to exceed 10 million tons per year. The primary reason is that demand for lead batteries is growing rapidly for use in conventional vehicles, hybrid and electric vehicles, backup power, and cell phone towers. Batteries are a major source of both occupational and environmental lead exposure, especially from poorly controlled battery recycling facilities.¹²

5 The Unified Numbering System (UNS) designations for various pure lead grades and lead-base alloys: pure leads L50000-L50099; lead - silver alloys L50100-L50199; lead - arsenic alloys L50300-L50399; lead - barium alloys L50500-L50599; lead - calcium alloys L50700-L50899; lead - cadmium alloys L50900-L50999; lead - copper alloys L51100-L51199; lead - indium alloys L51500-L51599; lead - lithium alloys L51700-L51799; lead - antimony alloys L52500-L53799; lead - tin alloys L54000-L55099; and lead - strontium alloys L55200-L55299. Source: Lead and Lead Alloys, <http://www.keytometals.com/Article10.htm>

6 *Lead and Lead Poisoning from Antiquity to Modern Times*, Milton A. Lessler, Ohio J. Sci. 88 (3): 78-84, 1988, <http://kb.osu.edu/dspace/bitstream/handle/1811/23252/V088N3-078.pdf?sequence=1>

7 *Lead and Lead Poisoning from Antiquity to Modern Times*, Milton A. Lessler, Ohio J. Sci. 88 (3): 78-84, 1988, <http://kb.osu.edu/dspace/bitstream/handle/1811/23252/V088N3-078.pdf?sequence=1>

8 *Lead and Lead Poisoning from Antiquity to Modern Times* (cited above).

9 *Childhood Lead Poisoning*; World Health Organization, 2010, <http://www.who.int/ceh/publications/leadguidance.pdf>

10 UNEP Partnership for Clean Fuels and Vehicles, http://www.unep.org/transport/pcfvt/PDF/Maps_Matrices/world/lead/MapWorldLead_January2012.pdf

11 *Childhood Lead Poisoning*, World Health Organization, 2010, <http://www.who.int/ceh/publications/leadguidance.pdf>

12 *Lead Battery Background*, Occupational Knowledge International, <http://www.okinternational.org/lead-batteries/Background>

LEAD EXPOSURE SOURCES

Environmental lead pollution of air and soils can cause acute lead exposure in communities near mining areas and near inadequately controlled lead smelting, refining, and recycling facilities, including battery recycling facilities. Lead contamination is also often a legacy of historical contamination from former industrial sites. Parents working in lead-related industries can bring lead home on their clothing – and this can expose their children. For example, one study found that children whose parents are engaged in lead-related occupations have higher blood lead levels than their schoolmates of the same age.¹³

Lead can be present in toys, cosmetics, and other products. It has been reported that in China, children who habitually chew on pencils often have high blood lead levels because the paint used in the manufacture of the pencils contained lead.¹⁴ Lead exposure can occur from eating foods contaminated with lead, although circumstances vary greatly from country to country and from region to region. In some countries,

popcorn may be an important source of childhood lead exposure because some popcorn machines are made from a lead alloy that releases lead into the popcorn.¹⁵ Food prepared in utensils that contain lead can be a significant source of lead exposure in many countries and regions. So is food stored or prepared in cans or utensils that have been soldered with lead solder. Eating from dinnerware made from pewter (a tin alloy that sometimes contains lead) or from glazed ceramics where lead pigments were used can also cause lead exposure.¹⁶ In some Asian countries, traditional preserved eggs are made using lead oxide as a food additive.¹⁷ Lead can enter the food chain through contaminated soils, and it also has been reported that lead is sometimes present in herbal and traditional medicines and folk remedies.¹⁸

Other major sources of exposure to lead include incineration of lead-containing waste, burning painted materials in fireplaces or cook stoves, processing electronic waste (e-waste), and drinking water from water systems that use lead pipes or lead solder.

13 *Lead poisoning in Chinese children: risk factors and preventive measures*, Yao-Hua Dai and Zhao-Yang Fan, World Journal of Pediatrics, May 2007, <http://www.wjpcp.com/UploadFile/001.pdf>

14 same

15 same

16 *Childhood Lead Poisoning*, World Health Organization, 2010, <http://www.who.int/ceh/publications/leadguidance.pdf>

17 *Lead poisoning in Chinese children*

18 *Childhood Lead Poisoning*, World Health Organization, 2010, <http://www.who.int/ceh/publications/leadguidance.pdf>

LEAD PAINT

Lead paint is one of many serious sources of childhood lead exposure. Following the successes in removing lead additives from the automotive fuels sold in almost all countries, lead paints have replaced leaded fuels as the source of significant childhood lead exposure that affects the largest number of the world's children. And with the rising middle class and the very rapid growth of paint sales for home uses in most developing countries, exposure from lead paints will continue to grow unless meaningful control measures are taken.

Lead paint and its toxicity received recent worldwide news media attention in 2007 when it was widely reported that many wooden toys exported from Asia to Western Europe, North America, and other highly industrial countries were coated with lead paint and were therefore hazardous to children. Many brand holders and vendors recalled these toys, and the governments of many toy importing and exporting countries put controls in place to prevent reoccurrence. Much less attention was given at the time to lead paints manufactured for domestic consumption in the developing world.

NGOs associated with the IPEN network, however, did respond to the news reports and began to investigate whether decorative (household) and other paints for sale on their national markets contained lead. Between 2007 and 2009, these NGOs tested paints on the market in 11 developing countries and countries with economies in transition. The results were presented in a 2009 report *Lead in New Decorative Paints*,¹⁹ which found that in all countries where testing was carried out, many of the oil-based (enamel) decorative paints on the market had hazardous lead content. Another 2009 publication revealed similar findings in nine additional countries as well as in three of the countries covered by the NGO report.²⁰ Based on these studies and more recent testing, it appears that leaded enamel decorative paints are widely available for sale on the market in virtually all countries that do not have an effectively enforced national law or binding regulation that prohibits the manufacture, import, sale, and use of these paints.

The continuing use of lead compounds in the formulation of decorative paints provides very little, if any, benefit to the paint

manufacturer or consumer. Non-toxic or less toxic substitutes for lead pigments, lead dryers, and other lead compounds that may be used in paints have been well-known for a half-century and longer. When these substitutes are used, the differences in the paint's cost, color, performance, and quality are marginal at best. On the other hand, the harms to children and to society as a whole that are associated with lead paint-related childhood lead exposure is very great and has been well-studied and well-documented. There is, therefore, no valid justification for any paint company to continue using lead compounds in the formulation of the decorative paints that they produce and sell anywhere in the world.

LEAD PAINTS HAVE NOW LIKELY REPLACED
LEADED FUELS AS THE SOURCE OF
SIGNIFICANT CHILDHOOD LEAD EXPOSURE
THAT AFFECTS THE LARGEST NUMBER OF
THE WORLD'S CHILDREN.

The challenges associated with replacing lead compounds with less hazardous substitutes in the formulation of paints and coatings for use in any and all applications are modest at best. Because of the serious and widespread harms associated with lead exposure, all non-essential uses of lead – including all lead paints—should be phased out and eliminated as rapidly as practical.

WHAT IS LEAD PAINT?

The term *paint* is used to also include varnishes, lacquers, stains, enamels, glazes, primers, and coatings. Paint is typically a formulated mixture of resins, pigments, fillers, solvents, and other additives. The term *lead paint* is defined as paint to which one or more lead compounds have been added.²¹

Lead compounds may be added to paint for a number of purposes including:

- **Pigments** Certain lead compounds have long been used as pigments to give paints their color. These include lead chromates, lead oxides, lead molybdates, and lead sulfates.
- **Drying Agents and Catalysts** Certain lead compounds are sometimes added to oil-based (enamel) paints to make the paint dry faster and more evenly and/or to promote the uniform polymerization of the drying oils and resins. These may include lead naphthenate, lead acetate, and lead octoate.

19 http://www.ipen.org/ipenweb/documents/work%20documents/global_paintstudy.pdf

20 Clark, C.S., Rampal, K.G., Thuppil, V., Roda, S.M., Succop, P., Menrath, W., Chen, C.K., Adebamowo, E.O., Agbede, O.A., Sridhar, M.K.C., Adebamowo, C.A., Zakaria, Y., El-Safty, A., Shinde, R. M., and Yu, J. (2009) Lead levels in new enamel household paints from Asia, Africa and South America, *Environmental Research* 109:930-936. An earlier version of this study was published in 2006. Clark CS, Rampal K, Thuppil V, Chen C, Clark R, Roda S (2006) The lead content of currently available new residential paint in several Asian countries, *Environmental Research* 102: 9-12.

21 See GAELP *Operational Framework*, March 2011, http://www.unep.org/hazardoussubstances/Portals/9/Lead_Cadmium/docs/GAELP/Final_operational_framework_GAELP.pdf

- **Corrosion Resistance Agents** Lead oxides and other lead compounds are sometimes added to paints that are used on metal surfaces to inhibit rust or corrosion and to increase durability. One of the most common of these is lead tetroxide, which is also called *red lead* or *minium*.
- **Unintentional Ingredients** Trace quantities of lead may sometimes be present in the fillers and other earth-based ingredients that are used in paint formulation. The lead compound is not intentionally added to the paint formulation for a functional purpose but rather enters the paint as an unwanted contaminant in one of its ingredients.

Pigments and drying agents that do not contain lead are available and can be substituted for those that contain lead. Corrosion resistant paints that do not contain added lead compounds are also available.

EXPOSURE TO LEAD FROM PAINT REMAINS A PROBLEM FOR MANY DECADES AFTER THE LEAD PAINT IS APPLIED TO A SURFACE.

Paints can be formulated to contain very low concentrations of lead. If the manufacturer is careful in the selection of their paint ingredients, and if the manufacturer tests the ingredients to ensure they do not contain added lead compounds or excessive levels of lead contaminants, the lead content of the paint is generally less than 10 parts per million lead (dry weight).

When paint is tested and is found to contain more than 90 parts per million (ppm) of lead (measured as the total lead content of the dry paint film), it can be taken as an indicator that one or more lead compound was intentionally used in the paint's formulation for an intentional and functional purpose (such as a pigment or drying agent).

LEAD DECORATIVE PAINTS

Decorative paints (also sometimes called architectural paints, home paints, or residential paints) are paints that are produced to be used on the exteriors of homes, schools, commercial buildings, and similar applications and on interior surfaces such as walls, ceilings, floors, doors, windows and trim. These paints are also sometimes used by the consumer to repaint old furniture, cribs, toys, and other household products that children may chew on. Lead decorative paints are recognized as a significant source of childhood lead exposure, and they have been prioritized by GAELP, IPEN, and others for elimination (along with other paint categories likely to contribute to childhood lead exposure).

New lead decorative paints are generally not an important source of lead exposure when they are still in the can or when they are being applied.

However, surfaces that have been painted with lead paint will, over time, age, weather, and chip. As a result, the lead that was present in the paint accumulates in indoor dust and outdoor soils. Children playing indoors or outdoors get dust and soil on their hands, and then ingest it through typical hand-to-mouth behavior. This is especially true for children in the six years and under age group, the group most easily harmed by exposure to lead. Paint chips can be especially harmful because their lead content can be much higher than what is typically found in dust and soils. In some cases, children may directly chew on painted objects or paint chips.

Children and workers are especially at risk when surfaces that were painted in the past with lead paint are repainted or disturbed by construction or other activities. Workmen may sand, dry scrape, grind, or in other ways disturb the old painted surface and produce large quantities of dust with very high lead content. Painters, carpenters, and construction personnel should wear proper safety apparel; avoid sanding, dry scraping, or grinding old painted surfaces that may contain lead paint; and take care to control and contain any dust or debris they may create. Instructional materials and training programs have been established to instruct these personnel on proper ways to prepare surfaces for repainting.

Exposure to lead from paint remains a problem for many decades after the lead paint is applied to a surface; old homes, schools, and other locations that were painted with lead paint as long as 50 to 75 years ago or more, continue to be sources of lead exposure in children. And once a surface is painted with lead paint, the costs associated with lead abatement can be very high. This makes it all the more urgent to stop producing, selling, and using new lead paints, especially in countries where the sale and use of decorative paints is rapidly growing.

Based on the limited data available, the water-based decorative paints (sometimes called plastic paints or latex paints) that are currently sold in developing countries, with a few exceptions, do not generally appear to contain added lead compounds. On the other hand, oil-based (enamel) decorative paints frequently contain high concentrations of lead. For example, in a sample of 232 cans of enamel decorative paint purchased in 2008 and 2009 in 11 regionally diverse developing countries and countries with economies in transition, two-thirds had lead concentrations greater than 600 ppm of lead. The average lead concentration of these paints was 23,707 ppm. One paint sample had a lead concentration of more than 500,000 ppm.²²

²² The full data set can be found in *Lead in New Decorative Paints*, IPEN 2009, http://www.ipen.org/ipenweb/documents/work%20documents/global_paintstudy.pdf

For most tested paint of a single brand and type, the white paint often had the least lead; the bright yellows, reds, and greens often had the highest lead content. It appears that white lead pigments are not now commonly used, but that lead pigments are still commonly used in the brightly colored enamel paints.

In some cases, both the white paint and the brightly colored paints of a particular brand and type both were found to contain substantial amounts of lead, but with the brightly colored paints having a much higher lead content. This is an indicator that these brands and types of paint may use lead drying agents or other added lead compounds in addition to using lead pigments for the bright colors.

The United States banned all lead paints for residential use in 1978 and most highly industrial countries have also banned the sale and use of lead decorative paints. It appears that at least one and possibly more of the large international paint manufacturing companies may not add lead pigments and other lead compounds to the decorative paints they sell in any market. For example, no more than trace or very low lead content has been found in any tested decorative paints branded Dulux or ICI, both subsidiaries of the world's largest manufacturer of decorative paints, AkzoNobel.

OTHER LEAD PAINTS

Decorative paints are not the only category of lead paint that is likely to contribute to childhood lead exposure. Significant lead exposure is likely to occur when paints are used as coatings in the manufacture of toys, pencils, cribs and playpens, furniture, and other household items, especially ones children may chew on. Specialized rust and corrosion-resistant paints for use on metal surfaces are often sold for home use and are also often used on school playground equipment and similar applications. These are all applications for which the use of lead paint should be controlled and eliminated, and they should be addressed specifically in national laws, regulations, and procedures adopted with the aim of eliminating lead paints most likely to contribute to childhood exposure.

Industrial paints generally have not been subject to strict controls on their lead content even in most highly industrial countries. Lead industrial paints are often used as coatings for automobiles and many other industrial applications; painting bridges and other structural applications; painting yellow lines on roads; and many other purposes. In some cases, these applications are less likely to contribute to childhood lead exposure than decorative paints. Nonetheless, these paints still represent a significant lead hazard to workers and, in some cases, also to children. Bridges and structures painted with lead paint are typically scraped and sanded before repainting. Products that contain leaded industrial coatings create lead hazards when recycled or

incinerated. In virtually every application in which it is used, lead paint represents a potential exposure hazard to workers and children. Substitutes for lead in industrial paints and in paints for structures, bridges, street markings and other uses have been available and widely used for many years.

In recent years, some countries have begun imposing bans and restrictions on lead pigments and other lead compounds used in industrial paints – most prominently, the European Union as it progressively implements REACH (the European Community's regulation on chemicals and their safe use). In response, some paint companies have started to eliminate the use of lead pigments in their industrial paints and some pigment manufacturers are ending their production of lead pigments. In February 2012, BASF, one of the world's largest pigment makers, announced that it would stop producing and selling lead chromate pigments by the end of 2014.²³ DuPont, the world's leading producer of automotive paints, has already removed lead pigments from the formulation of all the paints and coatings for new passenger cars, and it announced in June 2012 that it has plans to discontinue adding lead pigments to its other automotive coatings. DuPont stated that by the end of 2012, lead pigments will have been removed from all its automotive refinish paint products and that it is in the process of phasing out the use of lead pigments in all its commercial vehicle coatings.²⁴ International Paint, the marine coatings subsidiary of AkzoNobel, announced in August 2012 that it has become “the first producer in the heavy duty coatings sector to completely phase out of the use of lead chromates.”²⁵ And even where lead compounds in industrial and paints are permitted, they are falling into disfavor due to costs associated with occupational health law compliance and hazardous waste liabilities.

Global lead paint elimination should include phasing out lead compounds from all categories of paints and coatings worldwide with very few, if any, exceptions. The global elimination of added lead compounds from all industrial, structural, and certain other categories of lead paint may present more challenges and require more time than will the global elimination of lead decorative paints. Nonetheless, these challenges are not great, and the goal of the total global elimination of all lead paints is realistic and can be achieved.

23 BASF concentrates on alternatives to lead chromate pigments, <http://www.basf.com/group/pressrelease/P-12-160>

24 Press Releases, DuPont Refinish to discontinue lead pigments, June 2012, http://www.dupontrefinish.eu/portal/en?page=GU-1.3.1_Current_Press_Release&category=PressReleaseCategoryOne&catid=48&catid2=5256

25 Beyond Compliance - Improving The Sustainability Of Our Product Offer, August 8 2012, <http://www.international-pc.com/resource-centre/news.aspx>, <http://www.international-pc.com/resource-centre/news/phasing-out-lead-chromates.aspx>

HEALTH EFFECTS OF LEAD EXPOSURE

Exposure to lead causes significant and widespread injury to human health. Lead poisoning sometimes is also called lead intoxication, plumbism, or painter's colic. *Of all toxic environmental pollutants, harms from lead exposure are probably better understood and better documented than the effects of any other toxic environmental pollutant.*

LEAD EXPOSURE AND ITS EFFECTS

Lead serves no useful biological function in humans,²⁶ and exposure to lead can affect many different parts of the human body. A single high dose of lead can cause severe symptoms, although most people are affected from cumulative exposure over time. High lead exposure may cause vomiting, staggering walk, muscle weakness, seizures, and coma. Other symptoms of lead exposure can include abdominal pain and cramping (usually the first sign of a high, toxic dose of lead poisoning); aggressive behavior; anemia; constipation; difficulty sleeping; headaches; irritability, loss of previous developmental skills (in young children); low appetite and energy; and reduced sensations.²⁷ Lead exposure is a particularly insidious hazard since it has the potential for causing irreversible health effects before the exposure is clinically recognized. These effects include hypertension, central nervous system problems, anemia, and diminished hearing acuity.²⁸

The two most common routes of human lead exposure are respiratory (breathing lead fumes or lead dust into the lungs) and gastrointestinal (ingesting lead through the mouth into the stomach and intestines). The respiratory route is the most common route for occupational exposure; the gastrointestinal route is the predominant route of childhood exposure.

Metallic lead and inorganic lead compounds are not easily absorbed through the skin. Once it is in the body, lead is generally excreted slowly with a biological half-life ranging up to 30 years. Since excretion is slow, lead accumulates in the body, primarily in the bones.

Lead in the body is distributed through the blood stream and reaches its highest concentrations in bone, teeth, liver, lungs, kidneys, brain, and spleen. Lead in blood has an estimated half-life of 35 days, in soft tissue 40 days and in bone 20 to 30 years. Most absorbed lead ends up in bone and is not known to cause deleterious effect on the bone itself. The lead, however, does not necessarily remain in the bones,

and it can be remobilized and cause continued toxicity after exposure ceases.²⁹ The lead that has accumulated in a mother's bones, when mobilized during pregnancy, can cross the placenta and reach the developing fetus.

While acute lead poisoning is very serious, repeated exposure to small quantities of lead is more common and can cause detrimental lifelong impacts. The effects of lead poisoning build up slowly over time, and the individual's health problems get worse as the level of lead in the blood gets higher. And even low levels of lead exposure not easily associated with any obvious symptoms can still harm a child's mental development.³⁰

LEAD EXPOSURE IN CHILDREN

Until the 20th century, lead poisoning was viewed almost exclusively as an occupational disease of workers in certain industries. Medical practitioners working with children focused almost all of their attention on the treatment and prevention of infectious diseases. With rising prosperity in highly industrial countries in the early 20th century, however, much of the population began to receive better nutrition, clean water, functioning sewage systems, and access to healthcare. As a result, deaths and disabilities caused by infectious agents started to decline and health workers began to reconsider the dominant paradigm that automatically assumed infectious agents were the cause of all the childhood diseases they observed.³¹

Starting in the early 1900's, published reports linked lead paint exposure to childhood lead poisoning. By the 1920s, many articles on childhood lead poisoning began to appear in the medical and public health literature. These articles documented that convulsions, mental retardation, and some other diseases of infancy and childhood that previously had been ascribed to infectious causes were actually symptoms of lead poisoning. The 1926 article *Lead Poisoning in Children*, which appeared in the *American Journal of Diseases of Children*, concluded that lead poisoning was a relatively frequent occurrence in children and was usually associated with the ingestion of lead paint.³²

²⁹ same

³⁰ U.S. National Library of Medicine, from the U.S. National Institutes of Health cited above

³¹ *Deceit and Denial: The Deadly Politics of Industrial Pollution*, Gerald Markowitz and David Rosner, University of California Press, 2003

³² *Deceit and Denial: The Deadly Politics of Industrial Pollution*, Gerald Markowitz and David Rosner, University of California Press, 2003

²⁶ <http://www.aafp.org/afp/1998/0215/p719.html>

²⁷ U.S. National Library of Medicine, from the U.S. National Institutes of Health, <http://www.nlm.nih.gov/medlineplus/ency/article/002473.htm>

²⁸ <http://www.aafp.org/afp/1998/0215/p719.html> (cited above)

Lead is much more harmful to children than adults, and the health effects are generally irreversible and can have a lifelong impact. The younger the child, the more harmful lead can be. The human fetus is the most vulnerable.

Children are often at a higher risk for lead exposure than adults. When a woman of childbearing age has been exposed to lead, her fetus can be exposed throughout pregnancy. Children eat more food, drink more water, and breathe more air per unit of body weight than do adults. Children have an innate curiosity to explore their world and engage in developmentally appropriate hand-to-mouth behavior. For example, a typical one to six year old child ingests approximately 100 milligrams of house dust and soil each day. Wherever house dust and soils are contaminated with lead, children ingest lead along with the dust and soil. In those children who suffer from nutritional deficiencies, ingested lead is absorbed at an increased rate.³³

Some children exhibit a condition called pica, that is, they intentionally eat abnormal quantities of paint, clay, chalk, or other nonfood materials. Causes of pica are not well understood, but it is thought to be caused by such factors as cultural tradition, acquired taste, or a neurological mechanism such as an iron deficiency or chemical imbalance. According to one study in the United States, children with pica may eat as much as 10 grams of nonfood materials per day. When children with pica eat lead contaminated soils or paint chips, they are likely to suffer high lead exposure.

Children are more biologically susceptible to lead than adults:³⁴

- A child's brain undergoes very rapid growth, development and differentiation and lead interferes with this process. Brain damage caused by chronic, low-level exposure to lead is irreversible and untreatable.
- Exposure to lead early in life can re-program genes, which can lead to altered gene expression and an associated increased risk of disease later in life.
- Gastrointestinal absorption of lead is enhanced in childhood. Up to 50 percent of ingested lead is absorbed by children, as compared with 10 percent in adults. (Pregnant women may also absorb more ingested lead than other adults).

The recognized clinical symptoms of lead exposure in children include abdominal pain and arthralgia (pain in the joints). Clumsiness and staggering may also be seen, followed by headache and behavioral change.³⁵

SUBCLINICAL LEAD EXPOSURE IN CHILDREN

Clinically observable symptoms of lead exposure in children do not generally appear until a high level of lead exposure has been reached: symptoms often begin to appear when a child's blood lead level (BLL) reaches 60 micrograms per deciliter ($\mu\text{g}/\text{dL}$). Until the 1980s, most medical practitioners did not consider lead exposure in children to be a problem until and unless clinical symptoms were observed.

Some researchers, however, disagreed. Starting in the 1940s, some researchers began finding suggestive evidence that children were being harmed by exposure to lead even though they exhibited no clinically observable lead poisoning symptoms. These researchers began to speculate that a proportion of school failure and behavioral disorder was caused by unrecognized lead toxicity, and that, therefore, subclinical lead exposure in children is also a serious concern. This conjecture was controversial at first and was vigorously challenged by lead industry interests.

In 1979, a well-designed study by pediatrician and psychiatrist Herbert Needleman resolved the issue. His study collected children's baby teeth and tested them for lead. Needleman found that the children with higher lead content in their teeth, on average, performed worse in school, scored lower on intelligence quotient tests (lower IQs), and had higher incidents of bad classroom behavior. Follow-up studies on these same children 12 years later found that those who had the highest lead levels in their teeth as children continued to have school problems through their last year of high school. Other researchers reached similar conclusions and also found correlations between childhood lead exposure and higher rates of attention deficit, aggression, delinquency, and crime.³⁶

Needleman's findings and other studies convinced both the medical community and also authorities in many countries to recognize that children suffer significant neurological harm from relatively low-level exposure to lead even when they exhibit no clinically-observable symptoms. Widespread subclinical childhood lead exposure, by itself, came to be recognized as a very serious public health concern. As a result, many jurisdictions began revising downward what they considered an acceptable threshold limit of blood lead in children.³⁷

By the 1990s, the WHO and the international medical community were in general agreement that a blood lead level in children of 10 $\mu\text{g}/\text{dL}$ was the threshold for concern for public health interventions.

³³ *Childhood Lead Poisoning*, World Health Organization, 2010

³⁴ same

³⁵ Lead Poisoning, by Herbert Needleman, Annual Review of Medicine 2004, http://www.rachel.org/files/document/Lead_Poisoning.pdf

³⁶ Lead Poisoning, by Herbert Needleman, Annual Review of Medicine 2004, http://www.rachel.org/files/document/Lead_Poisoning.pdf

³⁷ Lead Poisoning, by Herbert Needleman, Annual Review of Medicine 2004, http://www.rachel.org/files/document/Lead_Poisoning.pdf

Based on the evidence of reduced intelligence caused by childhood exposure to lead, the WHO has listed “lead-caused mental retardation” as a recognized disease and classifies it as one of the world’s most serious diseases caused in whole or in part by environmental factors.

NEEDLEMAN FOUND THAT CHILDREN WITH HIGHER LEAD CONTENT IN THEIR TEETH, ON AVERAGE, PERFORMED WORSE IN SCHOOL, SCORED LOWER ON INTELLIGENCE QUOTIENT TESTS (LOWER IQS), AND HAD HIGHER INCIDENTS OF BAD CLASSROOM BEHAVIOR

A 2006 WHO report, *Preventing Disease through Healthy Environments: Towards an estimate of the environmental burden of disease*, states that approximately one-quarter of the global disease burden and more than one third of the burden among children is due to modifiable environmental factors, and it lists the 24 diseases that have the largest environmental contribution. These include diarrhea, lower respiratory infections, malaria, road traffic injuries, and chronic obstructive pulmonary disease. The report ranks these diseases by a weighted measure of death, illness, and disability. Of the top 24 diseases associated with environmental causation listed by WHO, lead-caused mental retardation is ranked number 10.³⁸

NO SAFE LEVEL OF LEAD EXPOSURE IN CHILDREN

Children’s overall blood lead levels in highly industrial countries began to drop after lead was removed from automotive fuels in those countries. This allowed researchers to more easily study the effects of childhood lead exposure at levels below 10 µg/dL. They found that children with blood lead levels well below 10 µg/dL were still exhibiting mental deficits and behavioral effects. For example, a 2002 study by Bruce Lanphear found that children’s math and reading scores showed reductions that correlate to blood lead levels as low as 2.5 µg/dL. One conclusion that health researchers have drawn from this and similar studies is that no threshold level for safe lead exposure has yet been demonstrated.³⁹

In response, a Joint Expert Committee of the United Nations Food and Agricultural Organization (FAO) and the WHO in 2010 withdrew its previous reference standard for provisional

tolerable weekly intake (PTWI) of lead and determined that it is not possible to establish a new PTWI that is health protective. Recent WHO lead guidelines now indicate that they can establish no tolerable weekly intake for lead.⁴⁰

In 2010, the European Food Safety Authority Panel on Contaminants in the Food Chain reviewed the work of the Joint FAO/WHO Expert Committee and concluded that the EU’s previous provisional tolerable weekly intake of lead is no longer valid since “there is no evidence for a threshold for critical lead-induced effects.”⁴¹

In 2012, the U.S. Centers for Disease Control and Prevention (CDC) concluded that there is no known acceptable lead exposure level for children. It therefore eliminated the use of terminology that identifies any blood lead “level of concern.” CDC instead adopted a reference value approach that compares an individual child’s blood lead level to that of the average blood lead level of the U.S. population of children. The CDC also adopted a new policy guidance that emphasizes primary prevention: preventing lead exposure rather than responding after the exposure has taken place.⁴²

Since children appear to have no safe level of lead exposure, all exposures should be avoided.

ECONOMIC AND SOCIAL IMPACT OF WIDESPREAD CHILDHOOD LEAD EXPOSURE

Lead exposure in children is associated with a lifelong, irreversible decrease in their intelligence. Studies on animals have found an association between lead exposure during development and aggressive behavior.⁴³ Human health studies have found associations between blood lead concentrations in children and arrests for offenses involving violence later in their lives.⁴⁴ Other neurological effects of childhood lead exposure may include problems maintaining attention in school or home; hyperactivity; problems with learning and remembering new information; rigid, inflexible

38 http://www.who.int/quantifying_ehimpacts/publications/preventingdisease.pdf

39 Lead Poisoning, by Herbert Needleman, Annual Review of Medicine 2004, http://www.rachel.org/files/document/Lead_Poisoning.pdf

40 *Preventing Disease through Healthy Environments, Exposure to Lead: A Major Public Health Concern*, WHO 2010, <http://www.who.int/ipcs/features/lead.pdf>

41 Scientific Opinion on Lead in Food, EFSA Panel on Contaminants in the Food Chain (CONTAM), EFSA Journal 2010, <http://www.efsa.europa.eu/fr/scdocs/doc/1570.pdf>

42 CDC Response to Advisory Committee on Childhood Lead Poisoning Prevention Recommendations in “Low Level Lead Exposure Harms Children: A Renewed Call of Primary Prevention” June 2012 http://www.cdc.gov/nceh/lead/ACCLPP/CDC_Response_Lead_Exposure_Recs.pdf

43 *Exposure to lead during development alters aggressive behavior in golden hamsters*, <http://www.ncbi.nlm.nih.gov/pubmed/10440488>

44 *Association of Prenatal and Childhood Blood Lead Concentrations with Criminal Arrests in Early Adulthood*, <http://www.plosmedicine.org/article/info:doi/10.1371/journal.pmed.0050101>

problem-solving abilities; problems controlling aggressive or impulsive behavior; problems paying attention; poor work completion; and others.⁴⁵

On the basis of multiple studies in several countries, it is estimated that about a quarter to half of an IQ point is lost for each microgram per deciliter increase in a preschool child's blood lead level (for children with blood lead levels in the range of 10 to 20 µg/dL). For children with blood lead levels lower than 10 µg/dL, the dose/response relationship is stronger: an increase in a child's blood lead level from less than 1 µg/dL to 10 µg/dL is associated with a six point decrease in IQ.⁴⁶

When national childhood lead exposure is sufficiently widespread to cause a decrease in average intelligence and school performance, this can have a nationwide impact on the country as a whole. These mental deficits continue to adulthood and affect the average intelligence and learning ability of the country's population as a whole. Widespread childhood lead exposure in a country causes a shift in the distribution of intelligence and learning performance in a country's population. At the low end of the intelligence spectrum, the total number of a country's citizens exhibiting symptoms of mental retardation is substantially increased; at the high end, the number with truly superior intelligence is substantially decreased.

One result can be a large increase in the number of children who do poorly in school and who may not contribute fully to society when they become adults. Another result can be a reduction in a country's future intellectual, business and political leadership potential and a widening gap in socioeconomic attainment between countries with high and low levels of lead exposure in their children.⁴⁷

Blood lead levels in children vary widely from country to country and region to region. The highest blood lead levels are generally seen in low-income countries. In 2004, 16 percent of all children worldwide were estimated to have blood lead levels above 10 µg/dL. Ninety percent of these children were in low-income regions.⁴⁸

A 2002 study by Philip Landrigan and others investigated the socio-economic impacts of lead exposure in U. S. children. (The U.S. is a country with low childhood lead exposure compared to most developing countries and countries with economies in transition.) The study estimated the cumulative reduction in childhood intelligence associated with 1997

levels of lead exposure in children, and it correlated this to a child's lifetime earning potential. The study concluded that the decreased adult earning potential that results from this childhood lead exposure costs the U.S. economy \$43.4 billion (thousand million or milliard) per year.⁴⁹ This finding has been used to justify government programs to reduce lead exposure in U.S. children, such as lead abatement in homes that had been painted with lead paints 35 years ago and longer.

Circumstances in different countries, of course, vary widely. The Landrigan study, nonetheless, provides an indication of the magnitude of the economic impact of widespread childhood lead exposure in one highly industrial country. And the full costs are likely to be higher than those documented by Landrigan's study since it does not attempt to capture several other costs to society associated with lead exposure such as increases in violence and criminal behavior or added cost burdens on the national education system.

While it would be difficult to accurately quantify the national socio-economic impact of widespread childhood lead exposure on any particular developing country or country with an economy in transition, it is reasonable to assume that, in relative terms, national socio-economic costs associated with childhood lead exposure in the developing world is generally greater than the costs documented by Landrigan for the U.S. In part, this is because average childhood lead exposure in the U.S., where systematic efforts have been made for years to address this problem, is much lower than childhood lead exposure in most developing countries and countries with economies in transition. Additionally, issues associated with increasing national labor productivity and improving national education systems are among the most important challenges facing most developing countries. Lead-caused diminished intelligence and mental retardation together with other lead-caused neurological effects such as increased violent behavior are major barriers toward meeting and overcoming this challenge.

45 *Neuropsychological Effects of Lead Poisoning on Child Development*, Mt. Washington Pediatric Hospital, http://www.mwph.org/services/effects_lead_poisoning.htm

46 Childhood Lead Poisoning; World Health Organization, 2010

47 same

48 same

49 Philip Landrigan and others, *Environmental Pollutants and Disease in American Children*, <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1240919/pdf/ehp0110-000721.pdf>

LEAD PAINT AND THE SOUND MANAGEMENT OF CHEMICALS

At the 1992 Rio World Environmental Summit and at subsequent World Environmental Summits in 2002 and 2012, governments pledged to work toward achievement of the Sound Management of Chemicals. In 2002, the World Summit on Sustainable Development in Johannesburg set a goal that was reiterated at the 2012 Rio+20 Summit: *the achievement of the sound management of chemicals throughout their life cycle so that by 2020, chemicals are produced and used in ways that minimize significant adverse impacts on human health and the environment.*

This goal is of direct relevance to the lead paint issue: exposure to lead causes serious adverse impacts on human health, especially children's health; lead paints are a widespread and significant source of childhood lead exposure; and the economic and social costs associated with effectively prohibiting the use of lead additives in those paints most likely to contribute to childhood lead exposure are very low. Of all the chemicals whose production and use cause significant adverse impacts on human health, the use of lead compounds in the formulation of paints is among those that cause the greatest harm, and it is also a use that can be eliminated with a modest effort and at minimal cost. This suggests that progress toward the global elimination of lead paints by 2020, especially lead decorative paints and lead paints for other applications most likely to contribute to childhood lead exposure, can be considered one very good indicator of how well the world's governments are performing in relationship to the sound chemicals management goals that they agreed to the 2002 and 2012 World Environmental Summits.

SAICM

In 2006, environment ministers, health ministers, and other government delegates from more than 100 countries met in Dubai along with representatives of United Nations specialized agencies, NGOs, industry trade associations, and others for the first International Conference on Chemicals Management (ICCM1). The ICCM1 adopted the SAICM, a policy framework and program of action whose goal is to achieve sound chemicals management in all countries by 2020.⁵⁰

At the time that SAICM was being prepared and adopted, it appears that most participating government and NGO experts were unaware that lead paints remain widely available in the developing world. For example, the word "paint" does not appear in the 120-plus pages of SAICM's founding documents. Soon afterwards, however, NGOs began testing decorative paints on the market in their home countries. In every country where testing was conducted, most brands

of oil-based decorative paints tested had hazardous lead content. IPEN and others concluded that the elimination of lead paint should be considered a critical SAICM issue and a necessary part of the implementation of sound chemicals management in any country.

Two of SAICM's founding principles, as expressed in the high-level declaration adopted by Environment Ministers and others at SAICM's founding meeting, are:

The sound management of chemicals is essential if we are to achieve sustainable development, including the eradication of poverty and disease, the improvement of human health and the environment and the elevation and maintenance of the standard of living in countries at all levels of development; and ...

We are determined to protect children and the unborn child from chemical exposures that impair their future lives.⁵¹

These principles speak directly to the continuing widespread sale and use of lead paints. Childhood lead exposures associated with lead paints harm human health, undermine the eradication of poverty and disease, and create barriers to the elevation and maintenance of standards of living. Lead paint elimination is necessary to protect children and the unborn child from chemical exposures that impair their future lives.

One of the agreed pillars of the SAICM Policy and Strategy is the SAICM Risk Reduction Objective:

To ensure, by 2020 that chemicals or chemical uses that pose an unreasonable and otherwise unmanageable risk to human health and the environment based on a science-based risk assessment and taking into account the costs and benefits as well as the availability of safer substitutes and their efficacy, are no longer produced or used for such uses.⁵²

This SAICM objective speaks very clearly and precisely to the continued use of lead compounds in the formulation of paints. Lead compounds used in decorative and other paints pose an unreasonable and otherwise unmanageable risk to human health and the environment. They impose very high costs on society, provide very little if any benefits, and should no longer be produced and used. Safer substitutes for the lead pigments, lead drying agents, and other lead compounds used in the manufacture of paints have long been used, are widely

51 *Dubai Declaration on International Chemicals Management*, http://www.saicm.org/documents/saicm%20texts/SAICM_publication_ENG.pdf

52 *SAICM Overarching Policy Strategy*, http://www.saicm.org/documents/saicm%20texts/SAICM_publication_ENG.pdf

50 SAICM, <http://www.saicm.org/index.php?menuid=2&pageid=256>

available, have well-demonstrated efficacy, and have at most marginal impact on the wholesale price of the paint product.

For the following reasons, national lead paint elimination should be relatively easy to achieve in every country if government officials and stakeholders work together:

- The significant harms associated with childhood lead exposure, including low-dose subclinical exposure, are now well-documented and not likely to become a subject of serious national controversy.
- The barriers that national paint manufacturers and importers will need to overcome to eliminate the use of lead pigments, lead dryers, and other lead compounds in their decorative and other paint formulations are minimal, not costly, and not technically difficult to implement.
- The drafting of an appropriate national legal instrument to prohibit the manufacture, import, sale, and use of lead decorative paints is not a difficult exercise.
- Modalities can be found for compliance monitoring and enforcement of a well-crafted national lead paint control instrument that are neither costly nor technically challenging to implement.

Any country with the will to do so can relatively easily eliminate the manufacture, import, sale, and use of lead decorative paints and the other categories of paint most likely to contribute to childhood lead exposure. Additionally, the largely transnational character of the global paint and coatings industry and its supply chain suggests that the industry itself, with leadership from the large companies that dominate it, could easily decide to eliminate these lead paints. Therefore:

- If SAICM is to be considered to be a meaningful international initiative
- If governments and stakeholders take seriously the SAICM goals and objectives they adopted
- If purely voluntary international agreements such as SAICM are to be viewed as having any utility

Then the global elimination of lead decorative paints should be undertaken as a SAICM target objective that can be realistically achieved by 2020 in virtually all countries.

GLOBAL ALLIANCE TO ELIMINATE LEAD PAINT

In 2009, a second meeting of the International Conference on Chemicals Management (ICCM2) was held in Nairobi. IPEN and others presented evidence to the ICCM2 that lead paints continue to be widely manufactured, sold, and used in many developing countries and countries with economies in transition. Delegates from government ministries and

stakeholder organizations responded by adopting a resolution that identified Lead in Paints as an emerging SAICM policy issue and that invited the UNEP and the WHO to establish a global partnership to promote phasing out the use of lead in paints and to serve as its secretariat.⁵³

UNEP and WHO jointly initiated this partnership at an organizational meeting held in May 2010 under the name *Global Alliance to Eliminate Lead Paint* (GAELP).⁵⁴ GAELP's agreed broad objective is to phase out the manufacture and sale of paints containing lead and eventually to eliminate the risks from such paint.⁵⁵ Using the ICCM2 resolution as its point of departure, GAELP has defined the term "paint" to also include varnishes, lacquers, stains, enamels, glazes, primers, and coatings. GAELP defines the term "lead paint" as paint to which one or more lead compounds has been added.⁵⁶

ANY COUNTRY WITH THE WILL TO DO SO CAN RELATIVELY EASILY ELIMINATE THE MANUFACTURE, IMPORT, SALE AND USE OF LEAD DECORATIVE PAINTS AND THE OTHER CATEGORIES OF PAINT MOST LIKELY TO CONTRIBUTE TO CHILDHOOD LEAD EXPOSURE.

GAELP's overall goal is to prevent children's exposure to lead via paints containing lead and to minimize occupational exposures to lead in paint. GAELP's broad objective is to phase out the manufacture and sale of paints containing lead and, eventually, to eliminate the risks from such paint.⁵⁷

GAELP's specific objectives are to:⁵⁸

- (a) Raise the awareness of government authorities and regulators, the private sector, manufacturers, consumers, workers, trade unions, and health-care providers about the toxicity of lead in paints and the availability of technically superior and safer alternatives

53 ICCM2 omnibus resolution II/4 on emerging policy issues, http://www.saicm.org/documents/iccm/ICCM2/emerging%20issues/ICCM2%20Outcomes/Emerging%20issues/Omnibus%20resolution%20II_4.doc

54 See GAELP Home Page, <http://www.unep.org/hazardoussubstances/Lead-Cadmium/PrioritiesforAction/GAELP/tabid/6176/Default.aspx>

55 See GAELP Objectives, <http://www.unep.org/hazardoussubstances/LeadCadmium/PrioritiesforAction/GAELP/GAELPObjectives/tabid/6331/Default.aspx>

56 See GAELP *Operational Framework*, March 2011, http://www.unep.org/hazardoussubstances/Portals/9/Lead_Cadmium/docs/GAELP/Final_operational_framework_GAELP.pdf

57 *Global Alliance to Eliminate Lead Paint: Objectives*, <http://www.unep.org/hazardoussubstances/LeadCadmium/PrioritiesforAction/GAELP/GAELPObjectives/tabid/6331/Default.aspx>

58 same

- (b) Catalyze the design and implementation of appropriate prevention-based programs to reduce and eliminate risks from the use of lead in paints and products coated with lead paints
- (c) Help identify paint manufacturers and formulators that continue to produce and market paints containing lead so as to foster actions to phase out lead from their products
- (d) Promote the establishment of appropriate national regulatory frameworks to stop the manufacture, import, export, sale, and use of lead paints and products coated with lead paints
- (e) Promote, as appropriate, international third-party certification of new paint products to help consumers to recognize paint and coatings without added lead
- (f) Share guidance and promote assistance to identify and reduce potential lead exposure in and around housing, childcare facilities, and schools in which paint containing lead and paint dust is present and in industrial facilities producing or using paint containing lead to reduce workers' lead exposure

GAELP'S OVERALL GOAL IS TO PREVENT CHILDREN'S EXPOSURE TO LEAD VIA PAINTS CONTAINING LEAD AND TO MINIMIZE OCCUPATIONAL EXPOSURES TO LEAD IN PAINT. GAELP'S BROAD OBJECTIVE IS TO PHASE OUT THE MANUFACTURE AND SALE OF PAINTS CONTAINING LEAD AND, EVENTUALLY, TO ELIMINATE THE RISKS FROM SUCH PAINT.

The WHO and the UNEP devote resources, staff time, and their organizational influence to GAELP and the achievement of its objectives. Several academics in the fields of medicine and public health, and NGO representatives associated with IPEN, Occupational Knowledge International, and others are active GAELP participants and contributors. The leading paint industry international trade association, International Paint and Printers Ink Council (IPPIC), has also been an active participant in GAELP meetings. Until recently, government participation in GAELP activities was sparse. However, a second general meeting of GAELP was held in Bangkok in July 2012, hosted by the Thai Government, with 22 government representatives in attendance together with participants from UNEP, WHO, NGOs, academics, and the Thai paint industry trade association.

Following the ICCM2 decision, strong resolutions in support of GAELP's lead paint elimination objectives were adopted at the *Fourth African regional meeting on SAICM* in Nairobi in April 2011 and at the *Third Latin American and Caribbean regional meeting on SAICM* in Panama City in June 2011.⁵⁹ The SAICM regional Group of Asian and Pacific countries announced at a global SAICM meeting in Belgrade, in November 2011, that it also "accorded high priority to work on lead in paint, urging the world community to phase out the use of lead forthwith."⁶⁰

Despite these statements of support, only a small handful of developing world governments have so far adopted meaningful measures to actually prohibit or strictly control lead paint manufacture, import, sale, and use in their countries. Additionally, while paint industry trade association representatives have indicated international paint industry support for GAELP and its objectives, this has not yet translated into meaningful industry engagement in lead paint elimination efforts of a kind or on a scale comparable to the initiatives of petroleum companies and their trade associations during the successful global campaign to eliminate leaded automotive fuels. Nor have donor governments provided UNEP and WHO with sufficient resources to employ dedicated full-time staff to GAELP or to fund concerted GAELP-led initiatives.

Nonetheless, GAELP provides a useful framework for lead paint elimination initiatives and dialogue with paint manufacturing companies and their trade associations. It can potentially serve as a vehicle through which UNEP can influence national environment ministries and WHO can influence national health ministries in support of national regulatory actions to control lead paints. GAELP can also serve as a useful framework for cooperation between health professionals, academics, NGOs, and others who have an interest in launching their own national or global initiatives in support of lead paint elimination objectives.

As a participant in GAELP, IPEN has had some initial successes in mobilizing resources for NGO lead paint elimination efforts from governmental, intergovernmental, and non-governmental donors. For example, participation in GAELP has helped IPEN secure a grant of €1.4 million from a European Commission Development and Cooperation program to support NGO initiated lead paint elimination activities in seven Asian countries. GAELP has also provided

⁵⁹ http://www.saicm.org/images/saicm_documents/OEWG/Meeting%20documents/OEWG%201%20INF%2011%20Compilation%20of%20reg%20mtgs.pdf

⁶⁰ Report of the work of the Open-ended Working Group of the International Conference on Chemicals Management, http://www.saicm.org/images/saicm_documents/OEWG/Meeting%20documents/OEWG1%2019_OEWG1%20Report%20E.pdf

a framework for discussions between IPEN, UNEP, and the Global Environment Facility about a possible \$1 million grant for a global NGO lead paint elimination project with focal activities in five regionally diverse countries. These projects may be used as models by both governmental entities and other NGOs who may wish to seek their own funding from environmental or development assistance donors for lead paint elimination programs and projects.

INTERNATIONAL LEAD POISONING PREVENTION DAY OF ACTION

One decision GAELP has taken is to sponsor an *International Lead Poisoning Prevention Day of Action* that will take place in October 2013 with lead paint elimination as its theme. This decision was proposed by agencies of the U.S. Government, which have sponsored national Lead Poisoning Preventions Days of Action for many years and have offered GAELP to provide technical and in-kind support for this global initiative. At ICCM3 (September 2012), a resolution to support the Day of Action will be proposed.

One objective of organizing a national Lead Poisoning Prevention Day of Action with lead paint elimination as its theme can be to send a clear signal of the intent to take further action aimed at the elimination of lead paint production, import, sale, and use. The Day of Action can be used to raise public and political awareness on the issue. It can provide an opportunity for direct outreach to paint companies and vendors and to national paint industry trade associations. It can also be useful in identifying national allies for lead paint elimination objectives. The costs associated with organizing a Day of Action should be minimal and would mostly be of an in-kind character. And documenting a successful effort might be helpful in approaches to potential donors with requests to support more substantive national initiatives.

Utilizing the Day of Action to mobilize support for national lead paint elimination efforts will be most effective if one or more government ministry or agency such as health, environment and/or others provides national sponsorship for the event. In becoming a sponsor, the ministry or agency takes a meaningful step toward national lead paint elimination, which will help create a foundation upon which more substantive follow-up activity can be built. However, where government agencies are not in a position to sponsor or organize the Day of Action, NGOs, health professional organizations, and/or others in a country may take the initiative on their own.

Once the date is firmly set and initial sponsors or organizers have been identified, an effort should be made to identify additional participants and supporters. These might include

agencies of state, provincial, and/or municipal governmental entities; national or regional political, intellectual, cultural, or social leaders; the WHO national office; organizations of medical and health professionals; hospitals and medical schools; paint manufacturers and/or their trade associations; NGOs and other organizations of civil society working on issues such as health and/or environmental protection, consumer rights, and children's advocacy; and others.

Additional activities could include posters, brochures, and similar materials promoting lead poisoning prevention; public meetings and seminars on this theme; promotion coverage in print and electronic media; etc. Presumably, GAELP will be able to provide useful and appropriate poster and brochure templates, informational materials, and other forms of support.

A NATIONAL LEAD PAINT CONTROL INSTRUMENT

One of GAELP's most important objectives is to promote the establishment of appropriate national regulatory frameworks to eliminate lead paints. Governments can do this by passing laws or by issuing regulations, directives, mandatory procedures, or standards, or by other means. The instrument may impose different controls and/or different timelines for entry into force for different paint categories. Priority should be given to those paint categories most likely to contribute to childhood lead exposure. These include decorative paints; paints applied to toys, pencils, children's furniture, and other articles that children might chew on; and anti-rust or anti-corrosive paints that are sold on the consumer market or used on playground equipment. Consideration should also be given workers' occupational exposure to lead.

Although it is appropriate to define lead paint as paint to which one or more lead compounds have been added, as a practical matter, an effective national control instrument needs to also establish a quantitative standard that can be easily tested for and measured. The proper standard is a limit on the total lead content of the non-volatile portion of the dried paint film. The standard adopted by the United States imposes an upper limit of 90 ppm on total lead (dry weight) for decorative and many other paint categories. Other countries have adopted standards in the range of 90 to 600 ppm total lead (dry weight). NGOs associated with IPEN generally promote the 90 ppm standard as one that is fully achievable and maximally protective. However, the difference in practical effect between a 90 ppm standard and a 600 ppm standard is not very great. If the paint manufacturer adds lead compounds to paint to serve as a pigment, as a drying agent, or for some other intentional purpose, the lead content

of the paint is almost always substantially greater than 600 ppm; if no lead compound is intentionally added, the lead content is generally well below 90 ppm.

An appropriate national lead paint control instrument should prohibit production, import, export, sale, and use of any controlled paint product that fails to meet the national standard. It should use a broad definition of paint to include varnishes, lacquers, stains, enamels, glazes, primers, and coatings. It should specify a uniform analytical method or methods that are appropriate for measuring total lead in the non-volatile portion of the dried paint film. The approved methods should specify procedures for sample collection and drying; sample preparation and digestion; and chemical analysis. The instrument should establish the date when it enters into force, and it should address requirements for paints that are sitting in warehouses or on store shelves at the time of entry into force. An effective instrument must also contain provisions specifying enforcement mechanisms including monitoring as well as fines or other consequences

AN APPROPRIATE NATIONAL LEAD PAINT CONTROL INSTRUMENT SHOULD PROHIBIT PRODUCTION, IMPORT, EXPORT, SALE AND USE OF ANY CONTROLLED PAINT PRODUCT THAT FAILS TO MEET THE NATIONAL STANDARD.

for non-compliance that are sufficient to induce paint producers, importers, and vendors to comply.

It is also advisable for a national paint control instrument to include provisions aimed at minimizing lead exposure from lead paint that was applied to surfaces prior to the instrument taking effect. For example, it may require labels on all decorative paint cans with warnings that sanding or scraping a previously painted surface in preparation for repainting can produce hazardous lead dust, and it may specify procedures for preparing surfaces for repainting that minimize this lead dust hazard.

If a national lead paint control instrument includes exemptions or delayed implementation for the control of certain categories of lead paint, it is advisable that the instrument require labels on the lead paints that state: “Hazard: Contains Lead.”

A lead paint control instrument may enumerate a non-exclusive list of lead compounds whose intentional use in paint formulations is explicitly prohibited. If this were to be

done, the list should include, at a minimum, all the lead paint additives that have been identified by GAELP: lead monoxide, lead octanoate, lead chromate, lead 2-ethylhexanoate, lead sulfate, lead oxide, lead molybdate, lead nitrate, lead sulfochromate yellow, lead naphthenate, lead chromate molybdate sulfate red, lead peroxide, lead carbonate (white lead), lead chromate oxide and trilead bis(carbonate) dihydroxide.⁶¹

A few countries have recently adopted lead paint control instruments with standards for decorative and other paints that are not based on the total lead content of the paint. These standards, rather, are based on what has been called “soluble lead” defined as the amount of lead in the dry paint film that is dissolved by a dilute acid solution. Pigment vendors have responded to soluble lead standards by offering paint manufacturers yellow and red pigments of lead chromate and lead molybdate that have been engineered not to easily dissolve in dilute hydrochloric acid. When such engineered lead pigments are used in the formulation of decorative or other paints, the paints will likely comply with the soluble lead standard but would still be considered to be “lead paint” according to the internationally agreed definition of lead paint. Therefore, the adoption of a national lead paint control instrument that uses a soluble lead standard for decorative or other paints is not advised.

A probable rationale for the adoption of soluble lead standards is the assumption that when a child ingests paint residues, only lead pigments or other lead compounds that are easily dissolved by gastric acid in the child’s stomach (dilute hydrochloric acid) will enter the blood stream and cause harm. The scientific basis for such an assumption, however, is dubious. These engineered lead compounds are likely to behave very differently upon entry into a child’s gastrointestinal tract than they do in the test laboratory. The testing laboratory measures how much lead in a sample of the new paint dissolves in dilute acid. Paint residues that a child may ingest, on the other hand, are not likely to come from new paint. Usually these residues come from paints that have been painted onto surfaces, aged, weathered, exposed to sunlight, pounded and grinded, and so on. There is no good reason to expect that these engineered lead pigments will continue to remain non-soluble.

⁶¹ Global Alliance to Eliminate Lead Paint, Operational Framework, paragraph 7, http://www.unep.org/hazardoussubstances/Portals/9/Lead_Cadmium/docs/GAELP/SecondMeeting/GAELP_operational-framework-full-JM120706_r.pdf

PROGRESS

Limited progress toward global lead paint elimination has been made since 2007.

PROGRESS AS MEASURED BY PAINT SAMPLING AND TESTING

In some of the countries where IPEN and others tested paints between 2007 and 2009, it appears that many of the paint brands whose oil-based decorative paints were found to contain high quantities of lead have since reduced or completely eliminated their use of lead pigments, lead drying agents, and other lead compounds in the decorative paints that they produce for sale in those markets. This progress is difficult to quantify and the information is incomplete because IPEN and others have had access to only very modest resources for paint sampling and testing. Nonetheless, based on the limited data available, it appears that in some of the countries of South Asia and Southeast Asia, and also in Cameroon (and possibly other countries where NGOs and others have carried out active public information campaigns on lead paint elimination), a number of the large paint brands have stopped or reduced their use of lead pigments and other lead compounds in the decorative paints that they sell in those markets.

IPEN currently has knowledge of paint sampling and testing results from approximately 25 developing countries and countries with economies in transition. This means that for most countries, there still appears to be no publicly available data on the lead content of paints for sale on the national market. As a result, for most countries, there is not even baseline information against which progress could be measured. And the data that is currently available is incomplete. It does not cover all the brands for sale on any market and usually covers only a small number of the paint colors or textures of any single brand. Additionally, in most cases, the available data comes from sampling and testing undertaken only one time, which makes it difficult to evaluate progress over time.

The best measure of real progress toward global lead paint elimination would be based on extensive, periodic paint sampling and testing in countries of all regions. This is because even after a country adopts a national law or regulation to prohibit lead decorative paints, these paints might remain widely available for sale on the national market if compliance is lax. Hopefully, as a growing number of governments of developing countries and countries with economies in transition take an interest in lead paint and its elimination, many are likely to initiate their own national

lead paint sampling and testing activities or programs. Some may do so to help them evaluate the scale of the national problem; some may do so as part of the compliance regime associated with a national lead paint control instrument. As governments collect such data, it would be extremely useful if they would agree to be transparent and share the data that they collect with the international community; and it would also be useful for GAELP to maintain a global publicly available database of paint sampling and testing results.

While extensive paint sampling and testing would provide, in principle, the best measure of progress toward global lead paint elimination, other useful measures include: the number (and the paint market size) of countries that have adopted meaningful lead paint control measures; and the number (and paint market share) of the paint manufacturers that do not add lead pigments, lead drying agents, and other lead compounds to paints that they produce or who have made a meaningful public commitment to stop by an announced date.

THE BEST MEASURE OF REAL PROGRESS TOWARD GLOBAL LEAD PAINT ELIMINATION WOULD BE BASED ON EXTENSIVE, PERIODIC PAINT SAMPLING AND TESTING IN COUNTRIES OF ALL REGIONS.

Examples of progress include:

BRAZIL ADOPTS LEAD PAINT CONTROL LAW

In August 2008, Brazil adopted an administrative lead paint control law which establishes the maximum allowable limit for lead in paints, varnishes, and similar surface coating products for use on buildings and schools. The law entered into force in August 2009.⁶²

The Brazilian law prohibits the manufacture, sale, distribution, and import of surface coating products for use on buildings and schools with total lead content greater than or equal to 600 ppm (0.06%) of the non-volatile portion of the dried paint as determined by laboratory testing in accordance with national or international technical standards. Paint companies and vendors were given one year to comply and remove lead paints from their supply chains. Following the law's entry into force in August 2009, it became impermissible to sell lead paints even if stocks remained.

⁶² Presidência da República, Casa Civil, Subchefia para Assuntos Jurídicos, Lei No. 11.762, de 1º de Agosto de 2008, http://www.planalto.gov.br/ccivil_03/ato2007-2010/2008/lei/11762.htm

The law requires paint importers to provide documentation of laboratory tests that demonstrate that imported paints comply with the standard before being granted permission to import. Paint manufacturers or importers that fail to comply with the lead paint control administrative law may receive penalties including notification, seizure of the product, and a fine equal to the value of goods seized. The law does not specifically indicate any other monitoring or enforcement mechanisms.

The listed categories of paints which are exempted from the Brazilian law are paint and coating materials for use on agricultural and industrial equipment, steel structures, industrial, agricultural and commercial applications, motor vehicles, aircraft, ships, railway carriages, appliances, and metal furniture. The law additionally exempts paints used on traffic signs, anticorrosive paints, or any paint, ink or similar material used exclusively in graphic arts.

The Brazilian NGO Environmental Protection Association, in collaboration with IPEN, initially sampled and tested paints on the market in Brazil after the law was adopted but before it had entered into force.⁶³ Of the six brands of enamel paints on the market in Brazil that were sampled and tested, paints from two of the brands contained only trace or low quantities of lead. Tested paints from the other four brands, however, included some with very high lead content: the highest contained 170,000 ppm of lead and one or more of the samples of each of the four brands contained 5,000 ppm of lead or more.

Paints on the market in Brazil were sampled and tested again after the new law entered into force. The results were not available by the time this report went to press. However, based on informal communications, it appears that very significant progress has been made. All of the Brazilian enamel decorative paints that were tested before the law entered into force were tested again in December 2011. The tested samples from all six were found to contain no lead at the level of detection. However, two brands that were not previously tested did contain significant amounts of lead. One tested sample from each of these brands contained more than 45,000 ppm of lead – 75 times the allowable limit under Brazil's new law. Since the new law has only recently entered into force, compliance should continue to improve.

SRI LANKA ADOPTS LEAD PAINT CONTROL DIRECTIVE

Sri Lanka is another country where progress toward lead paint elimination is being made. In 2009, the Sri Lankan NGO Centre for Environmental Justice released a report prepared in cooperation with IPEN and the Indian NGO Toxics Link which included the first data ever made publicly available on the lead content of decorative paints for sale on the Sri Lankan market. All the decorative paints tested from one of the brands in the national market (ICI Dulux) contained only trace amounts of lead. However, paints from the three other brands tested had very high lead content.

The release of these results set off a fierce debate between the paint companies themselves and also in the Sri Lankan press and society. The Centre for Environmental Justice then successfully petitioned the Sri Lankan Supreme Court requesting it order the Consumer Affairs Authority to formulate a suitable lead paint control regulation taking into consideration the serious health impacts that result from adding lead compounds to decorative paints.

In September 2011, the Sri Lankan national Consumer Affairs Authority, using powers granted to it by the Consumer Affairs Authority Act, published a lead paint control directive which states:

“... no Manufacturer, Importer, Packer, Distributor or Trader shall manufacture, import and use or distribute, pack, store or sell or display for sale, expose for sale or offer for sale, wholesale or retail any paints unless such paints shall conform to the corresponding Total Lead Content specified by the Sri Lanka Standard Institution for such paints.”

The specified permissible maximum total lead content, as stated in the directive is 600 ppm (mg/kg) for enamel paints and floor paints and 90 ppm (mg/kg) for emulsion paints both for exterior and interior use. The directive additionally establishes a permissible maximum soluble lead content for “Paints used on Toys and Accessories for Children” of 90 ppm (mg/kg). The directive does not specify the test methods to be used for monitoring compliance with its standards nor a specific lead paint monitoring and enforcement regime. However, the enforcement provisions and penalties for non-compliance specified in the Consumer Affairs Authority Act will apply.

The Sri Lankan lead paint control directive will enter force and become effective on January 1, 2013.

Many decorative paint brands that are sold on the Sri Lanka market appear to have already begun to comply with this directive even though it has not yet entered into force. Several major brands, including Asian Paints, ICI Dulux, and Multilac, have placed statements on their labels saying “no added lead.”

⁶³ http://www.ipen.org/ipenweb/documents/work%20documents/global_paintstudy.pdf

THAILAND MAY SOON ADOPT A NEW PAINT CONTROL INSTRUMENT

In 2009 the Thai NGO Campaign for Alternative Industry Network (since renamed Ecological Alert and Recovery – Thailand or *EARTH*) released a report prepared in cooperation with IPEN and the Indian NGO Toxics Link that included data on the lead content of decorative paints for sale on the Thai market. This report and subsequent activities by *EARTH* and other Thai stakeholders stimulated renewed national interest in the issue.

Several major paint brands on the Thai market have participated for years in a green labeling program, a voluntary program for water-based and solvent-based paints. Participating companies many years ago appear to have decided not to use lead pigments and other lead compounds in the decorative paints that they sell in Thailand. Some of these paints were sampled and tested for the 2009 report and contained no more than trace amounts of lead. On the other hand, paints from some of the same brands as well as other brands of oil-based paints on the Thai market sampled and tested for the report were found to contain extremely high lead: a yellow Nippon enamel paint was found to contain more than 500,000 ppm of lead and a Rust-Oleum enamel paint was found to contain more than 300,000 ppm of lead.

Thai Government agencies, paint industry representatives, NGOs, and others entered into a stakeholder dialogue on the issue. In 2012, the Thai Ministry of Environment agreed to host the second meeting of the GAELP held on July 12, 2012, in Bangkok.

The President of the Thai Paint Manufacturers Association (TPMA), who is also the Managing Directory of one of Thailand's largest paint manufacturing companies, gave a presentation to the GAELP meeting. She stated that more than 80 percent of all paint sold on the Thai market is produced by TPMA member companies. Because TPMA understood that the Thai Government agencies might be considering the adoption of a national lead paint control instrument, it polled its members to ask them whether any had an objection to the Thai government initiating a ban on the use of lead compounds in the formulation of decorative paints. When no objections were received, TPMA forwarded an official letter to the Thai Ministry of Industry giving its consent to such a ban.

The interest shown by the Thai Government in its agreement to host a GAELP meeting and the letter from TPMA stating its consent to a ban on lead compounds in decorative paints are good reasons for optimism that Thailand will soon adopt a binding regulation or directive banning the use of lead compounds in decorative paints.

LEAD PAINT CONTROL ORDER PROPOSED IN THE PHILIPPINES

The Philippine NGO EcoWaste Coalition sampled paints on the national market in 2009 as part of the IPEN/Toxics Link Global study and also tested paints again in a 2010 follow-up study. In both of the studies, some but not all of the oil-based decorative paints contained high added lead content. Paint testing results were released to the news media in both Manila and Cebu City and received extensive newspaper and television coverage. Resolutions in support of a prohibition on lead decorative paints were introduced into both the Philippine Senate and House of Representatives. The Philippine Health Secretary issued a statement in support of EcoWaste's advocacy for the immediate phasing out of lead in paints in the country. The Philippine Environment Secretary called for stricter controls on lead, especially in paints. In response, the Philippine paint industry trade association has indicated it could accept a phase-out of the use of lead drying agents over a two-year period and a phase-out of the use of lead pigments over a six-year period.

The Philippine Department of Environment and Natural Resources has released a draft Chemical Control Order (CCO) which defines lead paints as "any paints containing total lead on dry basis that is above the specific limit of 90 parts per million (ppm)." The draft CCO states that, "All lead compounds in paints for architectural and industrial paints, coatings, pigments, varnishes, lacquers, stains, enamels, glazes, topcoats and primers shall be gradually reduced up to the allowable limit of 90 ppm in concentration within the period of six (6) years from the approval and signature of this CCO." The draft CCO also requires that a warning label be placed on paint and coatings containers indicating that lead dust is hazardous and it can be created when preparing previously painted surfaces for repainting.

This draft Control Order is still under discussion and has not yet been adopted. NGOs and stakeholders, among other issues, are pressing for the provisions of the Control Order to be phased-in more rapidly than the six-year period currently called for in the draft.

APPARENT PROGRESS BY THREE OF INDIA'S FOUR LARGEST PAINT BRANDS

Four major paint brands dominate the Indian paint industry: Asian Paints, Berger Paints, Dulux ICI (India), and Goodlass Nerolac Paints. In 2007, when the Indian NGO Toxics Link first sampled and tested paints on the Indian market, none of the samples of Dulux ICI brand paints tested contained more than trace quantities of lead. Samples of oil-based decorative paints from each of the other three major brands contained more than 600 ppm of lead.

Toxics Link released these results to the news media and initiated contacts with several paint companies. When Toxics Link again tested paints on the Indian market in 2009, neither the Dulux ICI nor the Nerolac Paints tested contained more than trace quantities of lead.⁶⁴ The NGO campaign continued, and in 2011 Toxics Link once more tested paints on the Indian market. This time none of the tested paints from three of the four major brands contained more than 90 ppm of lead. Of the market leaders, only Berger paints still contained high lead content: as high as 34,700 ppm.⁶⁵ Based on these testing results and other indications, it appears that three of India's four largest paint manufacturing companies may have taken decisions to not use lead pigments, lead drying agents, and other lead compounds in the formulation of their decorative paints.

This good news, however, comes with qualifications. The Indian paint industry contains a very large number of small and mid-size paint companies that may comprise as much as 40 percent of the Indian paint market. There is still little information about what progress, if any, these companies are making toward lead paint elimination and the Government of India has not yet decided to establish any mandatory lead paint standard.

Additionally, India's four largest brands also command large market shares in neighboring countries such as Bangladesh and Nepal. According to testing results from 2011, both the Berger and Asian Paints oil-based decorative paints purchased in Bangladesh and Nepal contained extremely high concentrations of lead. A Berger yellow paint purchased in Nepal contained 212,700 ppm of lead; a Berger yellow paint purchased in Bangladesh contained 121,900 ppm; an Asian Paint orange paint purchased in Nepal contained 64,400 ppm; and an Asian Paint yellow paint purchased in Bangladesh contained 43,600 ppm.⁶⁶

CAMEROON PLANS LEAD PAINT STANDARD

In 2011, the Cameroon NGO Research and Education Centre for Development sampled and tested paints on the national market with financial support from the SAICM Quick Start Program Trust Fund and UNEP Chemicals. CREPD tested 60 paint samples that were purchased in retail stores in seven of the country's ten regions. Thirty-nine of the samples (65 percent) contained more than 600 ppm of lead; the highest contained 500,000 ppm of lead. CREPD also surveyed paints on the market and estimated that 80 percent of the paint products available on the market are manufactured in Cameroon, although the market shares of the different paint brands could not be determined.

Several Cameroon Ministries cooperated with CREPD in its work on lead paint including the Ministries of Environment and Protection of Nature; Public Health; Mine, Industry and Technological Development; Trade; and Labor and Social Welfare. The results of the tests were presented to two national workshops and ten regional workshops with participation from ministries and stakeholders. In response, the Cameroon Agency of Standard and Quality (ANOR) announced plans to move forward with a standard to regulate the manufacture, import, and sale of lead paint. The Prime Minister approved taking action on this issue. Stakeholders and civil society have been invited to participate in the development of the national standard.

64 Lead in New Decorative Paints: A Global Study, Toxics Link and IPEN, August 2009, Dr. Abhay Kumar, http://www.ipenweb.org/ipenweb/documents/work%20documents/global_paintstudy.pdf

65 Double Standard: Investigating Lead Content In Leading Enamel Paint Brands In South Asia, by Toxics Link, India, Environment and Social Development Organization, Bangladesh, and Center for Public Health and Environmental Development, Nepal, June 2011, http://toxicslink.org/docs/Double_Standard_Lead_Paint_29_June_2011.pdf

66 Same

LEAD PAINT ELIMINATION STRATEGIES

Effective lead paint elimination strategies will generally include two complementary components: 1) efforts aimed at achieving binding national laws, regulations, standards, and procedures to control the manufacture, import, sale, and use of lead paints; and 2) market-based and other initiatives aimed at influencing paint manufacturers, brand holders, and vendors to take their own voluntary actions to stop manufacturing and selling lead paints. These two components are closely linked. Neither can be effectively initiated without already having data on the lead content of paints being sold on the national market; and public and consumer awareness and demand are often important drivers for both. The two components are also linked because, on the one hand, many governments are likely to be more willing to promulgate binding lead paint control measures when they see that leaders within their national paint industry have already begun moving toward eliminating lead from their paints or have expressed their willingness to do so; and on the other hand, many paint companies will likely be more willing to voluntarily stop manufacturing lead paints when they perceive that binding laws or regulations are coming.

While global and regional initiatives can make important contributions to achieving global lead paint elimination, their main role will be to support and complement country-by-country efforts. There is no prospect that any global or regional legally-binding instrument to control lead paint will be considered or adopted any time in the foreseeable future. Meaningful national laws or regulations to prohibit or control lead paints therefore must be individually adopted by each national government. Market-based lead paint elimination strategies must largely be carried out on a country-by-country basis, but the transnational character of many larger paint companies means that global and regional initiatives can make important contributions. Paints are marketed nationally, sometimes with local or regional variations. Therefore, both the nationally-owned paint companies and the national subsidiaries of international companies will be responsive mainly to consumer and public pressures coming from inside the country.

ROLES IN GLOBAL LEAD PAINT ELIMINATION FOR INTERNATIONAL ACTORS

While the roles of international and regional actors are complementary to country-by-country efforts, they nonetheless make critically important contributions in achieving lead paint elimination.

Non-Governmental Organizations. Very little international expert or institutional attention was being given to the production, sale, and use of lead paints in the developing world until IPEN, an international NGO network, first brought this issue to the 2008 meeting of the Intergovernmental Forum on Chemical Safety in Dakar and then to the second meeting of the International Conference on Chemicals Management in Geneva in 2009. International NGO networks like IPEN have an important continuing role. IPEN conducts outreach to NGOs and organizations of civil society in countries of all regions to keep them updated on global lead paint elimination efforts and stimulates NGOs to take up the issue in their own countries. IPEN provides interested NGOs with information, materials, advice, and assistance and, as appropriate, helps coordinate NGO lead paint elimination efforts between countries. IPEN helps NGOs share their experiences and the lessons learned in the different national campaigns. Within budgetary constraints, IPEN also provides NGOs in all regions with technical assistance and works to mobilize resources that can be used to support national NGO campaigns and projects. IPEN additionally participates in the GAELP Advisory Committee and provides assistance to the GAELP Secretariat in carrying out the work of GAELP.

WHILE THE ROLES OF INTERNATIONAL AND REGIONAL ACTORS ARE COMPLEMENTARY TO COUNTRY-BY-COUNTRY EFFORTS, THEY NONETHELESS MAKE CRITICALLY IMPORTANT CONTRIBUTIONS.

Intergovernmental Organizations. After the lead paint elimination resolution was adopted at ICCM3, UNEP and WHO became more actively engaged in the issue and agreed to establish, support, and cooperatively manage the GAELP. WHO and its regional and national offices have close and important relationships with ministries of health in most countries. WHO's agreement to co-manage the GAELP Secretariat sends a signal of its support for national lead paint elimination. This signal could be greatly amplified through direct outreach to national health ministries by WHO regional and national offices. In a similar manner, UNEP has important influence over national environment ministries. WHO and UNEP working together through GAELP could greatly influence many national governments to start giving serious consideration to the adoption of a

national lead paint control instrument. Strong statements of support for lead paint elimination objectives that SAICM regional groups adopted following ICCM2 has also helped to create a climate that encourages relevant national authorities in many countries to begin their own lead paint elimination initiatives. The challenge following ICCM3 is to continue efforts aimed at encouraging national authorities to take up the issue of lead paint elimination, and to make available to them the informational materials and other kinds of support and assistance that they will need to go forward.

GAELP and other international actors have been slow, so far, in preparing and disseminating informational and awareness-raising materials and templates for use or adaption by those engaged in national lead paint elimination efforts. Guidance materials on the elements of effective national lead paint elimination laws or regulations should have already been made available to government officials and others considering possible adoption of a national lead paint control instrument. Some small and mid-size paint manufacturers apparently lack the technical and supply chain information that they would need to cost-effectively reformulate their lead paints—information that should be relatively easy to compile and disseminate. Instructional information would be useful for government agencies, NGOs, and others on how to sample paints on the national market, prepare them for testing, select an appropriate testing laboratory, and interpret and disseminate results.

Progress also needs to be made to establish an internationally agreed framework for third-party paint certification of paint brands that have voluntarily agreed to remove lead compounds from their paint formulations. Such a framework could make it relatively easy to create national paint certification and labeling programs in countries where some, but not all, of the paint brands on the national market contain added lead compounds, and consumers are not able to identify with confidence which paint brands contain added lead and which do not. Third-party paint certification, based on an internationally agreed framework, might also be usefully incorporated as a component of a national lead paint control regime, especially in countries that might otherwise have difficulties establishing effective monitoring and enforcement measures.

Trade Associations. International and regional paint industry trade associations have the potential to become very important and constructive contributors toward achieving global lead paint elimination. The International Paint and Printers Ink Council (IPPIC) formally adopted a resolution in 2008 that supports the restrictions on the use of lead in paints that are already in place and that recommends their widespread adoption by authorities in countries not currently regulating the use of lead in paint. IPPIC has participated in the GAELP Interim Advisory Committee and

has also apparently engaged in discussions with regional paint industry associations on issues related to lead paint. IPPIC has additionally expressed a possible interest in cooperating with other GAELP participants in the creation of a framework for third-party paint certification and labeling, and in the preparation and dissemination of technical and supply chain information for small and mid-size paint companies. However, there has so far been little, if any, forward motion on these matters.

The most useful role international and regional paint industry trade associations might play is to inform national paint industry trade associations that they will not be able to ignore growing international and national pressures on their member companies to discontinue the use of lead pigments, lead drying agents, and other added lead compounds in paints that they produce and sell. Since these pressures are expected to continue and are not likely to stop, national associations might be advised to take a number of actions including proactively discussing this issue among their members; encouraging members to discontinue using lead compounds in their paint formulations; providing relevant technical and supply chain information to those member companies who may need it; and, eventually, being able to inform their national governments that their members have no objection to the adoption of a national lead paint control instrument. National paint industry trade associations in at least two countries, Thailand and the Philippines, have already indicated to their national government that they support, or at least do not oppose, the adoption of a national lead paint control instrument.

Health Professionals. International associations of health professionals (e.g., International Pediatric Association, the World Federation of Public Health Associations) can play important roles by helping to mobilize interest and engagement by health professionals in national lead paint elimination initiatives. Charitable foundations and large international service organizations might also consider mobilizing support for global lead paint elimination. Of all significant international interventions to reduce the global burden of disease, the achievement of the global elimination of the manufacture and use of lead paints is probably the easiest to fully achieve; and it probably has a higher ratio of potential health benefit to cost than other global public health interventions.

Donors. Governmental and intergovernmental donors can also make important contributions. The European Union's SWITCH Asia Program has already awarded a €1.4 million grant to IPEN in support of NGO lead paint elimination activities in seven Asian countries. The SAICM Quick Start Program Trust Fund has given support to two national NGO lead paint elimination projects. The Swedish Government, the Swedish Society for Nature Conservation, and the Swiss

Government have funded NGO lead paint elimination efforts. The Global Environment Facility has signaled an interest in providing at least one \$1 million grant in support of a lead paint-related project. In addition, the U.S. and a few other governments have provided funds to GAELP. This funding, taken together, is a good start. However, GAELP is still woefully underfunded. It does not employ even one full-time dedicated staff person and has virtually no budget for direct interventions. Funding made available for country interventions by NGOs and/or governments has been sufficient to support ongoing work in less than a dozen countries. Hopefully, contributions in support of the goal of global lead paint initiative will increase in the near future.

AWARENESS RAISING

In many countries, public awareness-raising efforts are a key component of any national lead paint elimination strategy. This, however, need not be the case in all countries. Relevant government officials and/or political leaders in a country might see the need to take action to protect their public's health and the environment from lead in paint prior to the public demanding it. In such cases, an effective lead paint control law or regulation might be adopted and enforced without much of the public even being aware that lead paint ever was a national issue or concern.

In most countries, however, at least some public awareness-raising efforts will be needed. The government officials in health and environment ministries who best understand why it is important to eliminate lead from paint often do not have the high-level political or institutional support that they need to adopt and enforce an effective, legally-binding national lead control instrument. And in many countries, political leaders and higher-level officials may be more willing to support adoption of a national lead paint control instrument if they perceive that sectors of the public and key stakeholder groups in society are concerned about the issue and are expecting the government to act. Awareness-raising efforts may additionally serve to convince consumers to avoid the purchase of lead paints and may convince paint manufacturers and vendors that continuing to produce and sell lead paints may be harmful to brand reputation and decrease brand equity.

Fortunately, public awareness-raising on issues relating to lead exposure and lead paint is relatively easy. In most countries, many people are already broadly aware that lead exposure is bad, especially when children are exposed. Additionally, the evidence of harm from lead exposure is so strong and well-documented that industry representatives have generally been unwilling to try to publicly argue the case that there is no good reason for the public to be concerned about lead house paints and other lead paints for children-related applications. It appears that lead decorative paints

can only prosper in the marketplace when the public is kept unaware of them. Once the public becomes informed about them, lead decorative paints become an embarrassment to their producers, their vendors, and their brand holders.

Experience so far has shown that lead paint is an issue that often easily attracts the interest of the press: both the print and the electronic media. There is currently no data available in most countries on the lead content of decorative paints for sale on the national market. When new data is generated by sampling and testing, and when the results show that some or many of the paint brands on sale contain hazardous quantities of lead, the press is often willing to prominently report on the story. When doing so, it is generally also willing to report on the harms associated with lead exposure in children, on the contribution of lead paint to childhood lead exposure, and so on. And finally, after the national news media has already once widely reported on the issue of lead paints, it is often relatively open to possible follow-up stories.

**IN MANY COUNTRIES, PUBLIC
AWARENESS-RAISING EFFORTS ARE A
KEY COMPONENT OF ANY NATIONAL
LEAD PAINT ELIMINATION STRATEGY**

News media need not be the only target for awareness-raising efforts. Posters warning about dangers associated with lead paints that are posted in health clinics and hospitals can, in some countries, be a useful awareness tool as can brochures distributed by doctors and hospitals to their patients. Other strategies could include public meetings on the issue and petition or sign-on campaigns. The size and ambition of a national lead paint awareness campaign sufficient to achieve the desired result will vary greatly from country to country. In many cases, however, even relatively modest efforts will get the attention of paint companies, paint vendors, political leaders, and relevant national authorities.

ELEMENTS OF A NATIONAL LEAD PAINT ELIMINATION STRATEGY

As already indicated, the starting point for any national lead paint elimination strategy is the collection and dissemination of data on the lead content of paints for sale on the national market. In almost all countries, another key element of the strategy is an ambitious and ongoing awareness-raising campaign to inform consumers and the public about the presence of lead paint on the national market, the contribution of lead paint to childhood lead exposure, and the significant health and societal harms this causes.

Elements of a national lead paint elimination strategy might include:

- 1) Organizing a National Alliance to Eliminate Lead Paint
- 2) Identifying the major lead paint brands for sale on the national market and the major national vendors of lead paint brands
- 3) Encouraging consumers to avoid those brands and vendors
- 4) Encouraging bulk paint purchases such as housing developers, housing agencies, school systems, large companies and others to specify in all paint purchase orders that they will only accept paints that are verified to contain no added lead compounds
- 5) Conducting direct outreach seeking discussions and dialogue with paint manufacturers, major paint vendors and national paint industry trade associations
- 6) Identifying barriers to lead paint elimination that small or mid-size paint companies may be facing and helping these companies get access to the information and advice they may need to overcome those barriers
- 7) Promoting the establishment of a national voluntary third-party paint certification and labeling program and encouraging paint companies to participate in it
- 8) Holding policy dialogues aimed at identifying and securing agreements on the elements of an effective national lead paint control instrument with participation from relevant government officials, political leaders, paint companies and their trade associations, relevant NGOs and representatives of civil society, and others

AT LEAST 59 OF THE WORLD'S LARGEST PAINT COMPANIES ALREADY HAVE ALL INFORMATION THEY WOULD NEED TO QUICKLY AND COST-EFFECTIVELY DISCONTINUE THE USE OF LEAD PIGMENTS, LEAD DRYING AGENTS AND OTHER LEAD COMPOUNDS IN ALL THE DECORATIVE PAINTS THAT THEY AND THEIR SUBSIDIARIES MANUFACTURE AND SELL.

AN APPROACH TO LARGE INTERNATIONAL PAINT MANUFACTURERS

The global paint and coatings industry had total sales of approximately USD \$90 billion (thousand million or milliard) in 2011. Decorative paints were the largest single component with sales of more than USD \$40 billion.⁶⁷

The top 10 global companies control more than 50 percent of the global market. Certain national and regional companies, however, often out-compete these global brands in their own countries and regions. In the fiscal year 2010, there were 22 paint and coating companies with more than USD \$1 billion in sales and 59 companies with sales of \$200 million or more.⁶⁸ While we currently lack information on what fraction of paint sales in the developing world are controlled by these top 59 companies, one can reasonably assume that they command a significant share of the total.

All 59 of these largest paint companies certainly already have all information necessary to quickly and cost-effectively discontinue the use of lead pigments, lead drying agents, and other lead compounds in all the decorative paints that they and their subsidiaries manufacture and sell. Some appear to have already done so. For example, the world's largest paint company, AkzoNobel, whose decorative paint brands include Dulux and ICI paints, appears to have had in place a global policy of not adding lead to the decorative paints that they sell in any market. Other large paint companies may have similar policies; and all companies that sell decorative paints in markets of the highly industrial world are already producing non-lead decorative paints for those markets.

A reasonable international demand would be to call upon the world's 59 largest paint industry companies – those with annual sales of more than USD \$200 million per year – to completely eliminate, before 2015, the use of lead pigments, lead drying agents, and other added lead compounds in all decorative paints that they or their subsidiaries manufacture for sale anywhere in the world.

ICCM4 is scheduled for 2015. If the largest paint companies in the world can be induced to discontinue manufacturing and selling decorative lead paints in all markets by ICCM4, this would be a major step toward achieving the global goal of eliminating the manufacture and sale of all lead decorative paints by 2020.

⁶⁷ *Architectural Coatings Market*, Coatings World, January 2012, http://www.coatingsworld.com/issues/2012-01/view_features/architectural-coatings-market-608997/

⁶⁸ *2011 Top Companies Report*, Coatings World, July 2011, http://www.coatingsworld.com/issues/2011-07/view_features/2011-top-companies-report/

CONCLUSIONS

There is a strong, robust and widely accepted body of evidence documenting the personal and social harms caused by childhood lead exposure. Numerous scientific and public agencies have concluded that there is no safe level of lead exposure, and lead in paint decorative paints has been banned in the industrial countries for more than 40 years.

The source of significant childhood lead exposure affecting the largest number of the world's children today is lead paint.

Exposure to lead causes a lifelong, irreversible decrease in children's intelligence. Childhood lead exposure sufficiently widespread to cause a decrease in average intelligence and school performance has an adverse impact on the entire country. One outcome is an increase in the number of children who do poorly in school and who may not contribute fully to society when they become adults. Another result can be a reduction in a country's future intellectual, business, and political leadership potential and a widening gap in socioeconomic attainment between countries with high and low levels of lead exposure in their children.

Early action to eliminate the manufacture, import, sale, and use of lead decorative paints is essential to a country's economic future and to minimize or avoid the large-scale legacy problems that many highly industrial countries must contend with.

The global elimination of all manufacture and use of lead decorative paints in countries of all regions by the year 2020 is an achievable objective and one against which both the GAELP and the SAICM can and should be evaluated. The harms from lead exposure are well documented and not subject to controversy. National measures to prohibit and eliminate the manufacture, import, sale, and use of lead decorative paints should entail only minimal national economic or social costs and can be expected to yield very great public health and economic development benefits. The paint industry itself has been aware of the hazards of lead exposure for many years and decades ago stopped adding lead compounds to the paints that it sells in highly industrial countries.

Moreover, positive steps to eliminate lead in paint are underway. The GAELP creates a very useful international framework for lead paint elimination initiatives, including fostering dialogue with paint manufacturing companies and their trade associations and providing information and support to government officials and others considering taking actions in their own countries to eliminate lead paint.

National actions to eliminate lead paints are needed in every country. In some of the countries where there have been lead paint public information campaigns, several paint manufacturers have taken voluntary action to stop adding lead compounds to their decorative paints. At least two countries have recently adopted binding lead paint control instruments and in some other countries, they are under active consideration. Nonetheless, much more progress is needed.

No government of a country in which lead decorative paints continue to be manufactured, imported, sold, and used can be said to have yet made significant progress toward implementing the sound management of chemicals.

The 59 largest paint manufacturing companies in the world should stop manufacturing and selling lead decorative paints in all markets by 2015, at the latest. There are 59 paint manufacturing companies in the world with annual sales of USD \$200 million or more. These companies produce most of the decorative paints on sale in the world. It is reasonable to demand and expect that these top companies completely halt the manufacture and sales of all lead decorative paints, including by all of their subsidiaries, by 2015, at the latest. All of these companies have the knowledge and technical skills needed to eliminate the use of lead compounds in the formulation of all their decorative paints while still offering to consumers high-quality, cost-competitive products.

In addition to decorative paints, priority attention also should be given to the elimination of other categories of paints most likely to contribute to childhood lead exposure. These include paints used as coatings in the manufacture of toys, pencils, cribs and playpens, furniture, and other household items, especially ones that children may chew on. They also include rust and corrosion-resistant paints for use on metal surfaces that are sold for home use or use on school playground equipment and similar applications.

The phase out and elimination of leaded automotive fuels provides a good model to follow. The decision to launch a global partnership to eliminate leaded automotive fuels was taken in 2002. At the time, leaded automotive fuels were very common in most developing countries and countries with economies in transition. Now, 10 years later, the objective of the global elimination of leaded automotive fuels has been largely achieved. One important reason for this success is that the world's petroleum companies and their national, regional, and international trade associations played a very active and constructive role. If national, regional,

and international paint industry trade associations could be convinced to act similarly, the total global elimination of lead decorative paints could be easily achieved by 2020.

Lead paint legacy issues need to be addressed. In highly industrial countries, lead paints were very widely used thirty years ago and more. These paints remain a serious legacy problem in old homes and buildings, and their residues continue to contribute to significant childhood lead exposure. In most developing countries, on the other hand, the sale and use of lead decorative paints was relatively small until recently compared to their populations. But now, sales of decorative paints are growing very rapidly in the developing world as the middle class in many countries greatly expands. This means that early action to eliminate the manufacture, import, sale and use of lead decorative paints in these countries still has the potential to avoid legacy problems on the relative scale that many highly industrial countries must contend with. Nonetheless, legacy issues will remain in all

countries where lead decorative paints have been used. It is therefore necessary to create increased awareness of the hazards of lead dust produced when surfaces coated with these legacy paints are re-painted, and also of the techniques that can be used to greatly reduce these hazards.

Industrial lead paints and coatings also need to be phased out. Progress also needs to be made toward the phase-out and elimination of lead paints produced for industrial, structural, and other applications. These paints often also contribute to childhood lead exposure. They represent serious occupational hazards and entail very high costs to users who comply with good occupational health and hazardous waste management practices. Lead industrial and structural paints are a source of worker and community health hazards when lead painted bridges and structures are prepared for repainting, and when lead paint coated products are recycled or disposed of.



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International Conference on Chemicals Management

Third session

Nairobi, 17–21 September 2012

Item 4(f) of the provisional agenda*

Implementation of the Strategic Approach to

**International Chemicals Management: Information exchange and scientific
and technical cooperation**

**Submission by the American Petroleum Institute on Progress in
Implementing the Strategic Approach**

Note by the secretariat

1. The secretariat has the honour to circulate, in the annex to the present note, a document outlining the contributions of the American Petroleum Institute (API) and its member companies to implementation of the Strategic Approach to International Chemicals Management (SAICM).
2. The present document highlights some of API and member company activities related to chemical management in selected SAICM Global Plan of Action Work Areas. The highlighted activities range from hazard data generation, to human health protection, to cleaner production, to removal of lead in motor vehicle gasoline, to prevention and response for chemical emergencies, among others.
3. The document has been reproduced as received without formal editing.

Annex



GLOBAL CHEMICAL MANAGEMENT
API Supporting SAICM

American Petroleum Institute (API)

API represents more than 500 oil and natural gas companies, leaders of a technology-driven industry that supplies most of America's energy, supports 9.2 million U.S. jobs and 7.7 percent of the U.S. economy, delivers more than \$86 million a day in revenue to the federal government, and, since 2000, has invested more than \$2 trillion in U.S. capital projects to advance all forms of energy, including alternatives and renewables.

www.api.org

Strategic Approach to International Chemicals Management (SAICM)

SAICM is a policy framework to promote chemical safety around the world. SAICM has as its overall objective the achievement of the sound management of chemicals throughout their life cycle so that, by 2020, chemicals are produced and used in ways that minimize significant adverse impacts on human health and the environment. This "2020 goal" was adopted by the World Summit on Sustainable Development in 2002 as part of the Johannesburg Plan of Implementation.

www.saicm.org

What is API?

Why is SAICM Relevant to API?

API Activities Related to
Chemical Management

Examples of API Activities in
SAICM Work Areas

Assessment of National Chemicals Management

Hazard Data Generation and Availability

Risk Assessment, Management and Communication

Human Health Protection

Occupational Health and Safety

Implementation of GHS

Cleaner Production

Lead in (Motor Vehicle) Gasoline

PBTs and Other Chemicals of Concern

Waste Management (and Minimization)

Remediation of Contaminated Sites

Prevention and Response of Emergencies
Involving Chemicals

Pollutant Release and Transfer Registers (PRTs)

Lifecycle



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www.api.org/saicm



What is API?

The American Petroleum Institute (API) is the only United States (U.S.) trade association that represents all aspects of America's oil and natural gas industry. Our more than 500 corporate members come from all segments of the petroleum industry, including producers, refiners, suppliers, pipeline operators, and marine transporters of oil and natural gas, as well as service and supply companies that support all segments of the industry.

API conducts a variety of activities in addition to representing the oil and natural gas industry on public policy matters. For instance, API organizes seminars, workshops, conferences and symposia on public policy issues. We conduct or sponsor research ranging from economic analyses to toxicological testing on petroleum chemicals. For more than 80 years, API has led the development of petroleum and petrochemical equipment and operating standards. API maintains more than 600 standards, recommended practices and technical reports, many of which have been incorporated into government regulations around the world. API's standards program is accredited by the American National Standards Institute (ANSI). For many years, API licensed the International Organization for Standardization (ISO) to republish API standards as ISO publications. API also implements a certification program for manufacturers of equipment for petroleum production and refining.

Why is SAICM Relevant to API?

The United Nations Environment Programme (UNEP) Strategic Approach to International Chemicals Management (SAICM) is the main global forum to address chemical management issues. Petroleum and petroleum products—including but not limited to fuels—are chemical products. Many other petrochemical products are derived from petroleum substances. Thus, API's members are important participants in the global chemical supply chain—as producers, refiners, processors, distributors and users of chemicals.

API and its members are dedicated to continuous efforts to meet chemical management responsibilities while economically developing energy resources and supplying high-quality products and services to businesses, consumers and governments. We recognize our responsibility to work with other industries, the public, government and nongovernmental organizations to address potential risks or concerns that may arise during the lifecycle of our products. Our efforts to manage chemical risks are directly aligned with SAICM's aim to minimize harm to human health or the environment.

API supports SAICM's central aim that chemicals should be manufactured, used and managed safely at the international level in an efficient and cost-effective manner. API is contributing to the dialogue by developing industry positions on selective SAICM initiatives, coordinating with the U.S. Environmental Protection Agency (EPA) and others (including the chemical industry), and contributing directly in the SAICM process as an important stakeholder in global chemical management.



API Activities Related to Chemical Management

Many API members' operations are global and cover every stage of the chemical lifecycle from research and development through production, use and eventual disposition. API has established Environmental Principles that are a condition of membership and incorporate concepts of sound chemical management. Under API's Environmental Principles, members pledge to manage their businesses in accordance with the following management practices:

- To recognize and to respond to community concerns about our raw materials, products and operations.
- To operate our plants and facilities and handle our raw materials and products in a manner that protects the environment and the safety and health of our employees and the public.
- To make safety, health and environmental considerations a priority in our planning and our development of new products and processes.
- To advise promptly appropriate officials, employees, customers and the public of information on significant industry-related safety, health and environmental hazards, and to recommend protective measures.
- To counsel customers, transporters and others in the safe use, transportation and disposal of our raw materials, products and waste materials.
- To economically develop and produce natural resources and to conserve those resources by using energy efficiently.
- To extend knowledge by conducting or supporting research on the safety, health, and environmental effectiveness of our raw material, products, processes and waste materials.
- To commit to reduce overall emission and waste generation.
- To work with others to resolve problems created by handling and disposal of hazardous substances from our operations.
- To participate with government and others in creating responsible laws, regulations and standards to safeguard the community, workplace and environment.
- To promote these principles and practices by sharing experiences and offering assistance to others who produce, handle, use, transport or dispose of similar raw materials, petroleum products and wastes.

Each API member implements programs appropriate to the particular company for pollution control, occupational health and safety, emergency response, transportation safety and other aspects of chemical management. Furthermore, many API members voluntarily engage in sustainability reporting based on the *Oil and Gas Industry Guidance on Voluntary Sustainability Reporting*¹, which was developed by API and IPIECA (the global oil and gas industry association for environmental and social issues). The Guidance allows for the reporting of sustainability indicators important to the oil and gas industry, as shown in Table 1.

In addition, many of our member companies are also members of the International Council of Chemical Associations (ICCA), and thus are participants in Responsible Care and the Global Product Strategy (GPS). API supports member company activities in chemical management and also directly participates in chemical management activities. Below we discuss some of our specific activities related to chemical management, with examples for the work areas defined under SAICM.

Table 1 Indicators and Issue Categories

Environmental Issues
Climate change and energy [4 indicators]
Ecosystem services [2 indicators]
Local environment impacts [4 indicators]
Health and Safety Issues
Workforce protection [3 indicators]
Product health, safety and environmental risks [1 indicators]
Process safety and asset integrity [1 indicators]
Social and Economic Issues
Community and society [4 indicators]
Local content [3 indicators]
Human rights [3 indicators]
Business ethics and transparency [4 indicators]
Labor practices [4 indicators]



Examples of API Activities in SAICM Work Areas

The SAICM Global Plan of Action includes 36 work areas comprising almost 300 specific activities. The work areas cover virtually every aspect of chemical management, and API has a direct or indirect interest in virtually all of them. Selected SAICM Global Plan of Action Work Areas are listed below with discussion of API activities in each area.



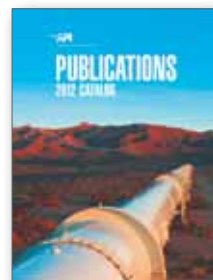
Assessment of National Chemicals Management

API is participating actively in the legislative process in the U.S. in which there is legislation in progress that would result in a modernized chemical management law. For national chemical management laws, API supports an evidence-based science and risk-based chemical management framework that includes working in partnership with other countries and global harmonization, as appropriate. Since our member companies operate globally, they also have expertise in the chemical management laws of other jurisdictions, such as the European Union, China, Japan, Korea, Australia and other countries and regions.



Hazard Data Generation and Availability

API has conducted toxicity, hazard, and environmental studies on petroleum substances since the 1970s, striving to enhance safety operations, improve quality assurance and promote best practices with an inventory of more than 600 standards and recommended practices. Much of this information is publicly available through an extensive publications catalog, easily available online at <http://www.api.org/Publications/>.



Our industry has participated in several important U.S. government programs to evaluate chemical substances, including the U.S. High Production Volume (HPV) Chemical Challenge program. Under the HPV program, participating companies sponsored toxicity testing for chemicals manufactured or imported in the U.S. in total quantities over 1 million pounds per year. API was the administrator of the Petroleum HPV Testing Group, a consortium of 70 member companies from API, the American Fuels and Petrochemicals Association (AFPM, formerly NPRA), the Gas Producers Association (GPA) and the Asphalt Institute. The consortium sponsored approximately 400 specific chemicals in the HPV program, assigning them to appropriate categories for





data fulfillment. Sponsorship included summarizing existing data, developing a test plan to fill data gaps and making the data generated available to the public. API is working on electronically publishing the data submitted to the HPV program at <http://apitox.api.org>.

API has conducted numerous studies on acute toxicity; chronic toxicity; genotoxicity; immunotoxicity; and cancer, reproductive and development toxicity; as well as irritation, absorption and other health aspects of gasoline, gasoline streams (e.g., naphthas) and chemical constituents of gasoline (i.e., hexane). API has also conducted environmental fate and effects studies on many petroleum products and components. Examples include but are not limited to the following:

- API sponsored research on benzene topics including DNA binding, effects of toluene co-exposure and correlation between health effects and levels detected via biomonitoring.
- API sponsored research on toxicology topics related to naphthalene, including the mode of action of carcinogenicity, upper respiratory tract uptake, metabolism and effects in nasal epithelium.
- API helped sponsor key studies on hydrogen sulfide including evaluation of potential neurological effects, biochemical effects on tissues, including the brain, and sensory and cognitive effect of acute exposure in human volunteers.
- In compliance with the U.S. Clean Air Act Section 211(b), the petroleum industry has sponsored extensive toxicology testing for baseline fuel and fuel additive registration, including various testing for potential carcinogenicity, reproductive and developmental toxicity, subchronic toxicity and other toxicological endpoints.
- API developed and sponsored a project to examine the environmental impacts of synthetic muds that are used during offshore drilling. The project included field study of the deposition of muds on the ocean bottom and developing tests for biodegradation and toxicity.
- API provides scientific information to U.S.-based government and standards organizations to support development of American Conference of Industrial Hygienists (ACGIH) exposure guidelines; U.S. Occupational Safety and Health Administration (OSHA) regulatory threshold limit values (TLVs); Integrated Risk Information System (IRIS) profiles; and other reference and regulatory levels.



Risk Assessment, Management and Communication

Identifying and addressing potential risks associated with petroleum raw materials and products involve ongoing evaluation of their potential hazards and of the scenarios in which people and the environment may be exposed to them. Many of our member companies employ toxicology, epidemiology and industrial hygiene experts who identify the risks of their products and ensure that risks are communicated and mitigated throughout the supply chain. The results of product risk assessments are incorporated into business decision making through workflow processes in which potential health, safety, and environmental impacts are identified and considered at each phase of product development. All member companies implement hazard communication programs (see below under “Occupational Health and Safety”).



Human Health Protection

Our member companies have environmental, health and safety programs at production sites, refineries, storage facilities, distribution terminals and all other company locations that involve chemical management. They implement comprehensive programs to prevent pollution and control emissions to air, water and land. In the area of workplace safety, they comply with U.S. OSHA, global equivalents and company safety standards that aim for continual improvement of workforce safety and process safety programs. Over the years, our industry has established proven programs for pollution prevention, emergency preparedness and response, and community outreach.

In 2011, API issued a report on expenditures by the U.S. oil and natural gas industry related to pollution prevention, control, abatement or elimination in the U.S. and its territories.² It concluded that the industry invested more than \$239 billion between 1990 and 2010 to improve the environmental performance of its products, facilities and operations.

The oil and gas industry faces a complex agenda that increasingly requires an evaluation of health, social and environmental impacts throughout all of its operations. API supports the International Association of Oil and Gas Producers (OGP) and IPIECA's *Guide to Health Impact Assessments in the Oil and Gas Industry*³, which is a useful tool for business, communities and government policymakers.





Occupational Health and Safety

The petroleum industry has numerous programs to address the safety and health of workers. Petroleum companies have worker safety systems that comply with U.S. OSHA and analogous requirements in other countries covering employees in all work environments. Standard setting organizations such as ACGIH and the U.S. National Institute for Occupational Safety and Health (NIOSH) have developed standards, programs and safe exposure limits for workers engaged in all aspects of the petroleum industry.

Hazard communication efforts are a key component of occupational health and safety programs. All U.S. petroleum companies have hazard communication programs in compliance with requirements of the U.S. OSHA and various regulatory schemes around the world. U.S. hazard communication in the workplace includes the elements presented in Table 2.

Table 2 U.S. Hazard Communication in the Workplace

Have a written hazard communication plan available to all employees.
Maintain a hazardous chemical inventory and a safety data sheet (SDS) for every hazardous chemical on site.
Ensure that each chemical container is labeled with the identity of the material and its hazard warnings.
Provide employees with information and training on the hazards of materials in their workplace.

In a typical major petroleum company, SDSs are authored by a multidisciplinary staff of experts in fields such as toxicology, industrial hygiene, environmental science and regulatory compliance. They use state-of-the-art scientific information to characterize the hazards of each material and to accurately communicate the associated warnings and precautions on the SDS. API member companies have central repositories of SDSs, which are used both at sites internal to the company and for providing SDSs to customers and other requestors. Hazard communication goes two ways—i.e., petroleum companies have systems for receiving as well as distributing hazard information. Major petroleum companies have processes for receiving, evaluating, and responding to incident reports or any new health, safety or environmental information about their products.



Some petroleum companies produce hazard summary documents that supplement the required SDS, in addition to GPS safety summaries. These summary documents highlight key points such as required personal protective equipment and what to do in case of a spill. Some of our member companies follow the International Programme on Chemical Safety program to promote the use of International Chemical Safety Cards (ICSCs). An ICSC includes standard phrases summarizing health and safety information, which are verified and peer-reviewed by internationally recognized experts and take into account advice from manufacturers and Poison Control Centers.

The OGP and IPIECA *Guide to Health Impact Assessments in the Oil and Gas Industry*⁴ recommends a systematic approach to protecting workers' health. OGP and IPIECA have developed an assessment process designed to help employers identify, measure, and deal with health risks. The committee has also produced a set of performance indicators for promoting employee health.

To enhance safety and improve process safety performance, API and AFPM are offering new programs to further advance process safety improvements by providing industry with more opportunities to communicate and share experiences and knowledge – vital components of the industry's commitment to improve process safety performance. The new programs are as follows:

- Process Safety Performance Metrics;
- Training and Certification;
- Site Assessments;
- Regional Networks;
- Event Sharing; and
- Hazards Identification.



A man wearing a yellow hard hat, a dark blue suit, a light blue shirt, and a patterned tie stands in front of an industrial facility. He is smiling and has a Standard Oil identification badge hanging from his neck. The background shows large white storage tanks, pipes, and structural steel beams under a clear blue sky. A semi-transparent blue oval is overlaid on the upper right portion of the image, containing a quote.

“Petroleum companies have worker safety systems that comply with U.S. OSHA and analogous requirements in other countries covering employees in all work environments.”



Implementation of GHS

API actively supports implementation of the Globally Harmonized System of Classification and Labeling of Chemicals (GHS). API members are moving toward GHS format for SDSs in advance of full GHS implementation in individual countries, to the extent possible while still maintaining compliance with current local laws.

To facilitate appropriate classification and labeling of petroleum substances, including crude oil, API with IPIECA has developed guidance on the application of the GHS to petroleum substances, in consultation with the UN Subcommittee of Experts on the GHS. The IPIECA *Guidance on the Application of Globally Harmonized System (GHS) Criteria to Petroleum Substances*⁵ identifies the constituents of concern for crude oil, for example, as hydrogen sulfide, benzene and PACs. It guides the user through the GHS criteria to meet national and international standards for classification and labeling. From there, appropriate risk management actions can be designed to minimize human health risks from potential exposure to crude oil and other petroleum chemicals. This guidance seeks to facilitate appropriate classification and labeling of petroleum substances around the globe.

API has also worked with international organizations such as the International Maritime Organization (IMO) and the Asia Pacific Economic Cooperation (APEC) Chemical Dialogue to support harmonized hazard communication requirements in general and GHS implementation in particular.



Cleaner Production

API and its members continually strive to minimize the health and environmental impacts of oil and natural gas production and to produce cleaner-burning fuels that result in cleaner production in global industry. Regarding oil and natural gas production itself, there are more than a million oil and natural gas wells operating in the U.S. Advances in technology allow our members to conduct many aspects of production operations far more efficiently than they could just a few years ago. This means smaller “footprints” (the amount of surface area disturbed), less waste generated, cleaner and safer operations and greater compatibility with the environment. Today’s oil and natural gas producers are applying a host of new technologies and strategies to minimize the environmental impact of their operations.

Technological advances in production of natural gas are making a huge contribution to the ability of other industries, including electric utilities, to achieve cleaner production. Recent innovations have unlocked vast new supplies of natural gas, which burns cleaner and more efficiently than alternatives.

Many of our member companies are investing in active research and development of products with potential environmental benefits, e.g., biofuels, alternate sources of fuels and environmentally preferable solvents and other chemicals. Petroleum company scientists are well-positioned to contribute to the next generation of energy and chemical innovations that enable sustainable product solutions.





Lead in (Motor Vehicle) Gasoline

In 1995 petroleum companies completed the removal of leaded gasoline in the U.S. (where leaded gasoline has not been available since 1995). Furthermore, petroleum companies have removed lead from gasoline in more than 175 countries worldwide—representing near-global elimination of lead in motor vehicle gasoline. API is a member of IPIECA, a founding member of the international Partnership for Clean Fuels and Vehicles, which is helping developing countries eliminate lead from gasoline, reduce sulphur levels in transportation fuels and introduce cleaner motor vehicles that use these fuels.

Clear Air Act. In the 1990 amendments to the Act, provisions were added to regulate the emissions of 188 hazardous air pollutants (HAPs) from stationary and mobile sources.

The 1990 amendments also require the installation of technology-based control measures, defined as Maximum Achievable Control Technology (MACT) for all industrial sectors. Most MACT standards affecting the petroleum industry have been promulgated, and the U.S. EPA reviews and updates MACTS every eight years if new technology has become available. In addition, CAA Section 112(f) requires EPA to evaluate whether there is any remaining residual risk eight years after each MACT standard is promulgated, and to implement additional controls, if necessary, to protect the public health with an ample margin of safety.



PBTs and Other Chemicals of Concern

API member companies have experience addressing issues related to toxic chemicals such as persistent, bioaccumulative, and/or toxic (PBT) chemicals and other chemicals of global concern. Air pollution prevention and mitigation efforts are key activities where chemical concerns are addressed because many of the chemicals of global concern have the potential to be air pollutants. Advances by API companies in the U.S. in reducing toxic air pollutants have been made as the industry has complied with regulations under the U.S.

The oil and natural gas industry is covered by a large number of regulations, tailored to specific industry categories, or source categories. The industry is subject to MACT rules to reduce hazardous air pollutant (HAP) emissions for source categories including hazardous organics; gasoline distribution; marine vessel loading operations; petroleum refineries; natural gas transmission and storage; site remediation; organic liquids distribution; reciprocating internal combustion engines; industrial, commercial, and institutional boilers and process heaters; and combustion turbines.



“Our members operate under the various regulatory schemes around the world for prevention of and responding to chemical emergencies.”





Waste Management (and Minimization)

Responsible waste treatment, storage and disposal is a given for our member companies. In addition, waste minimization – including extensive reuse and recycling – is a key component of petroleum production and refining operations. Petroleum companies maximize product recycling and encourage others in the value chain to do so as well. Some companies formulate petroleum products to extend product life—which means a reduction in energy consumption and waste. Petroleum companies routinely provide customers instructions for proper disposal on SDSs and other materials.

Used oil collection and recycling is an important example of our industry's effectiveness at waste minimization and recycling. Most people are familiar with recycling newspapers, aluminum cans, glass and plastic, but may not be aware of the efforts of the petroleum industry to promote recycling of used motor oil. API reminds consumers and industry to recycle used motor oil, thereby keeping it out of waterways and ground water supplies. Additionally, we provide educational materials on how to recycle used oil.

API's Engine Oil Licensing and Certification System (EOLCS), a voluntary licensing and certification program that authorizes engine oil marketers who meet specified requirements to use the API Engine Oil Quality Marks, is another example of waste minimization. Many of these oils are formulated to help improve fuel economy and protect vehicle emission system components in passenger cars, sport utility vehicles, vans and light-duty trucks powered by gasoline engines.



Remediation of Contaminated Sites

Petroleum companies have been involved in many successful remediation projects and have expertise in the most current remediation technologies. One example of collective involvement in this issue is the Total Petroleum Hydrocarbon Criteria Working Group, which was formed as a voluntary initiative of industry and other stakeholders to develop a set of clear, science-based health benchmarks for use during cleanup at sites with petroleum/hydrocarbon contamination. The Working Group was formed to address the use of diverging cleanup requirements by various federal, state and local agencies in the U.S. The Working Group was guided by a steering committee consisting of representatives from industry, government, and academia.



Prevention and Response for Emergencies Involving Chemicals

Petroleum industry best practices include operating procedures and employee training to manage risk through storage, handling, transportation and distribution of our raw materials and products. Because of the flammable nature of many petroleum products, safety and risk management have always been essential components of storage and handling. These safe practices also mitigate health and environment hazards.

It is a fundamental business objective to maintain petroleum product integrity through the whole chain of custody of a product. Thus, many petroleum companies have strict requirements for distributors that cover both product quality and facility conditions. Some companies implement facility assessment programs to ensure that products are handled properly at all points from the refinery to eventual delivery to the end user. These controls during storage and distribution serve to prevent potential emergencies involving our products.

Many petroleum companies are members of Chemtrec, which was established in 1971 by the chemical industry as a public service hotline for emergency responders, such as firefighters and law enforcement personnel, to obtain information and assistance for emergency incidents involving chemicals and hazardous materials. Oil transportation companies in the U.S. have developed oil-spill response co-ops known as Oil Spill Removal Organizations (OSROs). These organizations, on contract with oil companies, provide equipment, personnel and the skills needed to respond to an oil spill.

Our members operate under the various regulatory schemes around the world for prevention of and responding to chemical emergencies. For example, under oil-pollution prevention regulations in the U.S., petroleum facilities prepare and implement programs for preparing for and responding to a worst-case discharge. As another example, many petroleum facilities must comply with the chemical accident



prevention provisions of the U.S. Clean Air Act. These provisions require a risk-management program, and aim to prevent accidental releases of substances that can cause serious harm to the public and environment from short-term exposures, and to mitigate the severity of releases that do occur.

Consistent with transportation requirements in the U.S. and other countries, petroleum companies implement programs to mitigate the risks to life, property and the environment inherent in the transportation of hazardous materials by strategies related to shipping papers, packaging materials, hazard communication, safe handling, incident reporting, training and security. Numerous standards, including API standards, have been developed to cover all aspects of gasoline storage, transporting and handling. These standards cover the design, construction and operation of virtually every piece of equipment from aboveground and underground storage tanks, to piping, terminals and loading racks, to tank trucks, rail cars and barges.



Pollutant Release and Transfer Registers (PRTs)

Petroleum refineries, bulk stations, and terminals have extensive experience with PRT-type reporting through compliance with the U.S. Toxics Release Inventory (TRI) requirements - the world's first PRT program. Petroleum facilities in subject sectors in the U.S. file annual TRI reports and have been stakeholders in the TRI program since its inception. API supports the community's right to know about chemical releases, and our members actively work to minimize waste and releases. The companies have valuable insight on the practical application of PRTs and ideas for how to maximize their accuracy and effectiveness.



Lifecycle

The petroleum industry has experience using the life-cycle management concept as a tool in risk assessment and product stewardship. The first stage in the life of a petroleum product is exploration and production, in which crude oil is drilled from land wells or offshore - in many countries around the world. In the U.S., crude oil is processed in one of the nation's 142 refineries, which

process more than 15 million barrels of crude oil every day into hundreds of products including gasoline, heating oil, diesel fuel, engine oils, jet fuel, kerosene and many others. Petroleum products are distributed by rail, road, water or pipeline through distribution terminals and storage facilities to the U.S. and to other countries.

Eventual destinations for petroleum products include service stations, homes and direct-served users such as airports. Some refinery outputs are intermediate products that are used to manufacture other products, and petroleum serves as the feedstock for the production of diverse petrochemicals which support solutions for a healthy and plentiful food supply, clean air and water, safe and comfortable living conditions, efficient and affordable energy sources, as well as lifesaving medical treatments in communities around the world. (Many petroleum products do not have a disposal phase because they are burned as fuel, but others (e.g., oils) do have a post-use stage in which the product or its residuals are treated, recycled, and/or disposed.)

API and its members have deep expertise on chemical lifecycle issues. We are a unique industry trade association in the scope and variety of global activities our members undertake—from drilling crude oil, to refining it into various petroleum products, to the distribution and sale of our products. The international nature of the trade and commerce of petroleum makes SAICM an important issue for API and our members. We have a long history understanding and addressing the various chemical management issues which are inherent in our fundamental business activities. API remains supportive of the SAICM process, and we hope our knowledge and experience have and will continue to make a valuable contribution to the Strategic Approach.

1. IPIECA, API, and OGP. *Oil and Gas Industry Guidance on Voluntary Sustainability Reporting*. 2nd edition, 2010.
2. American Petroleum Institute. *Environmental Expenditures by the U.S. Oil and Natural Gas Industry 1990 – 2010*. 2011.
3. IPIECA and OGP. *A Guide to Health Impact Assessments in the Oil and Gas Industry*. 2005.
4. IPIECA and OGP. *A Guide to Health Impact Assessments in the Oil and Gas Industry*. 2005.
5. IPIECA. *Guidance on the Application of Globally Harmonized System (GHS) Criteria to Petroleum Substances*. Version 1, 17 June 2012. Also, see <http://www.ipieca.org/good-practice/guidance-application-globally-harmonized-system-ghs-criteria-petroleum-substances>.





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Item 4 (f) of the provisional agenda*

Implementation of the Strategic Approach to

International Chemicals Management:

Information exchange and scientific and technical cooperation

**Submission by the ICMM - Minerals and Metals Management
2020: a chemicals management progress report**

Note by the secretariat

1. The secretariat has the honour to circulate, for the information of participants, in the annex to the present note a report of the International Council on Mining and Metals (ICMM) entitled *Minerals and Metals Management 2020: a chemicals management progress report*.
2. The information is presented as submitted and has not formally been edited.

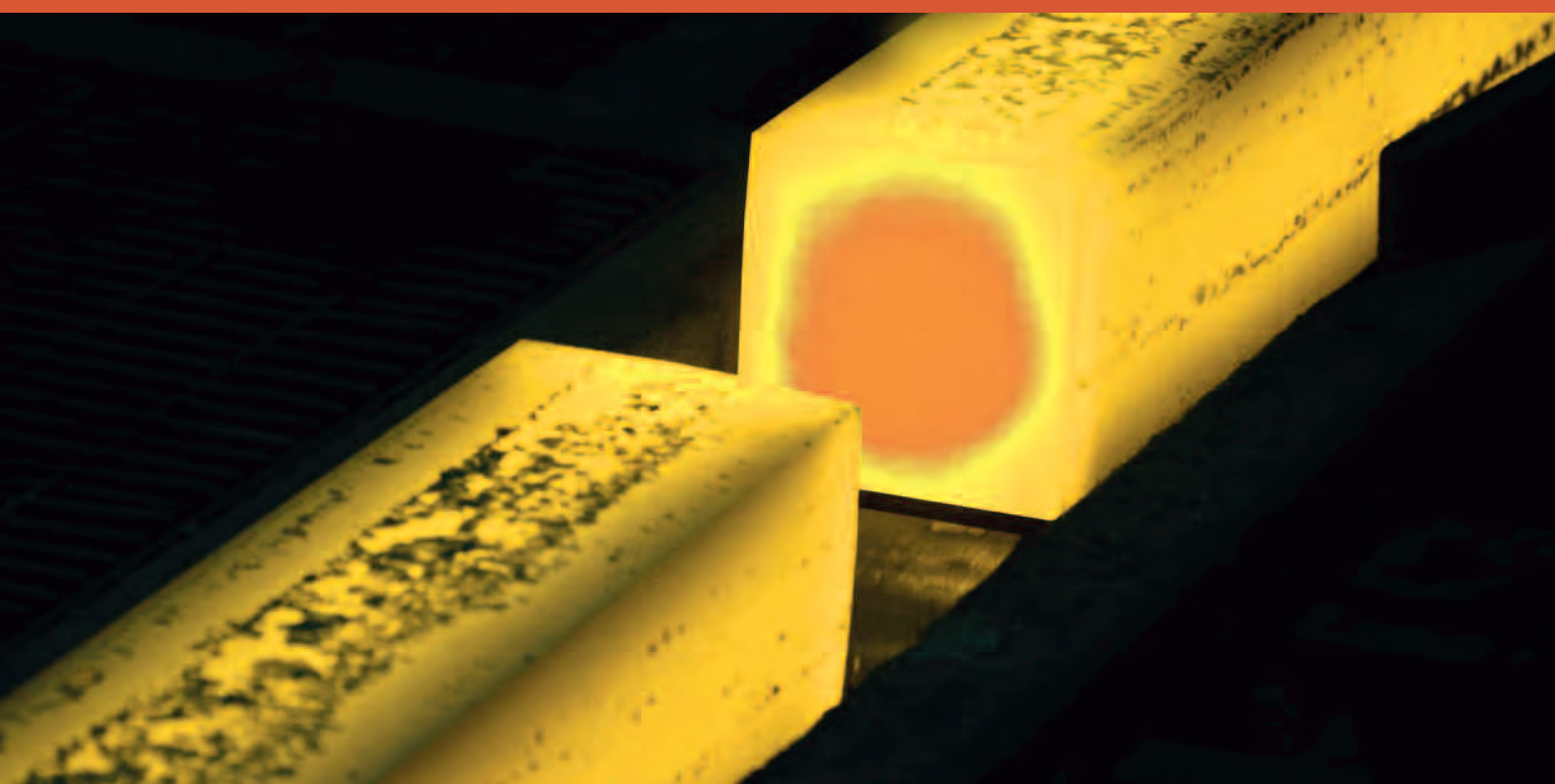
*SAICM/ICCM.3/1.

Annex I

Report

Minerals and Metals Management 2020: a chemicals management progress report

Materials Stewardship
September 2012

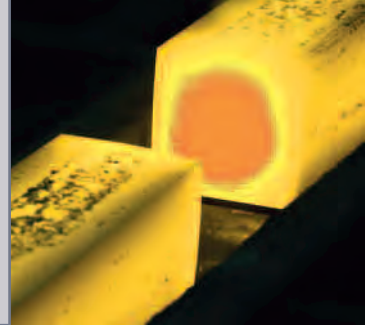


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This publication describes the progress made since the 2009 release of *Minerals and Metals Management 2020* – ICMM's action plan for chemicals management in the mining and metals sector.





Mining and metal production requires chemicals. The products of the mining and metals industries are classified and regulated as chemicals and are precursors of yet other chemicals. All are most accurately described through the use of chemical symbols and nomenclature.

Thus, a large part of the management of mining and metal production is the management of chemicals: their sourcing, transport, storage, use, production, and the management of their occupational health and environmental risks through their life cycles.

The understanding and acceptance of this reality has grown over the decades. Moreover, in the industry and in the communities in which it operates, the lines and levels of responsibility are becoming better understood as expectations rise for the responsible use of chemicals.

With this evolution has come an increasing sophistication and commitment to the management of chemicals. It takes place on a number of planes: in the understanding and behaviour of individual employees; in corporate policies, practices, and expectations of their employees and their processes; in the cross-fertilization from other industry sectors; from regulatory initiatives such as REACH; and in the programs of the national, regional and global associations that help the industry co-ordinate, build and communicate chemical management norms.

The performance in different industrial sectors and societies is not perfect but the direction is clear. Various corporations and industrial sectors are establishing themselves as leaders in the management of chemicals, providing the benchmarks of best practice that others will be trying to match or better.

With this understanding, the International Council on Mining and Metals (ICMM) wanted to check on progress. What commitments had ICMM made and how did they reflect or respond to broader societal goals – particularly those reflected in the Strategic Approach to International Chemicals Management (SAICM)? Where was the mining and metals industry in relationship to those goals? What are the collective plans to ensure a position of leadership, to reach a particular goal, or to at least close the gap between an ultimate goal and present performance?

This publication is the result and it is, in the first instance, a report to the member companies and associations of ICMM as well as external stakeholders. Third parties will have their own views on the quality and speed of the industry's collective performance. ICMM welcomes their constructive criticism and hopes that this status report on performance and intentions contributes to the dialogue and future activities.

SECTION 1

Setting the scene

It has been 20 years since the Rio Earth Summit and Agenda 21, 13 years since nine of the largest mining companies launched the Global Mining Initiative to prepare for the World Summit on Sustainable Development, 11 years since the International Council on Mining and Metals (ICMM) was established, and 10 years since the World Summit on Sustainable Development and the Johannesburg Plan of Implementation.

It has been six years since SAICM, the most politically developed statement of purpose and objectives for chemicals management, was set out in the Dubai Declaration. It is time to see how we are doing.

What is SAICM asking for?

This document reviews the four central SAICM objectives to determine whether the global mining industry, and the members of ICMM in particular, are achieving a more responsible management of chemicals.¹ This includes actions so far and actions envisaged between now and 2020 at which time “chemicals [are to be] used and produced in ways that lead to the minimization of significant adverse effects on human health and the environment.”

How has the mining and metals industry responded?

In terms of the speed of major advances in science research, organizational change, and patterns of development, 2020 is very close indeed. All the more important to take stock: what has been accomplished, what is underway, what is planned and where does that leave the industry in terms of the ambitious goals envisaged in SAICM?

The “Minerals and Metals Management 2020” (MMM2020) action plan was developed as the mining and metals industry response to the challenges of SAICM and adopted in 2009. It has four organizational principles – “taking a system perspective”, “building new and strengthening existing relationships”, “optimizing the production and application of minerals and metals”, and “contributing to a robust and accessible base of information to support decision-making”. These link directly to the key objectives of SAICM and are given substance by 23 specific commitments to action (see page 21).

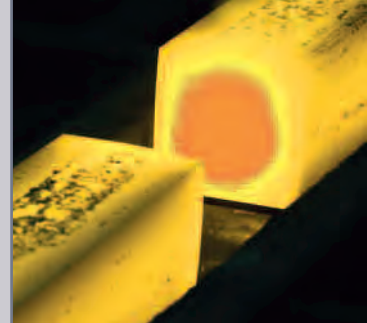
The MMM2020 action plan does not exist in isolation nor is it the first ICMM undertaking in chemicals management. It flows from the high-level statements contained in the 10 Principles of the ICMM Sustainable Development Framework, itself agreed to by the members of ICMM in 2003. At least six of those principles are directly relevant to SAICM and all 10 of them are compatible with and supportive of SAICM objectives.²

The following pages report on some of the significant chemicals management products of the mining and metals industry relevant to the SAICM objectives. Throughout the report, these examples are associated with numbers that refer to one or more of the 23 actions in the MMM2020 action plan – e.g.

1 2 3

1 The Dubai Declaration has a fifth objective: the suppression through various means of the international traffic in toxic, hazardous, banned and severely restricted chemicals. While an important issue, it is narrower in scope than the four principle objectives, has its own international instruments such as the Basel Convention, and is less relevant for the global mining and metals industry. For more information on the fifth SAICM objective, see “Strategic Approach to International Chemicals Management”, UNEP, 2006, especially p.20.

2 For more on the ICMM Sustainable Development Framework and the 10 Principles, see: www.icmm.com/our-work/sustainable-development-framework



MMM2020 organizational principles	SAICM objective
1. Taking a system perspective	Risk reduction The systems approach is a natural way to begin to meet the objectives of SAICM with regard to risk reduction throughout the life cycle. This recognizes the importance of scientific understanding to systematically identify, characterize and ultimately manage potential risks to the environment and human health. The approach should be inclusive of all stakeholders and encourage transparency throughout the materials supply chain.
2. Building new and strengthening existing relationships	Governance Building relationships is key to SAICM, which recognizes that governance needs to be addressed through a multi-sector and multi-stakeholder approach in pursuing the sound management of chemicals. There is therefore a need to recognize the roles that all stakeholders, from producers to consumers to the broader civil society, play in the life cycle of a material and the ways in which they can be impacted. SAICM acknowledges that there are currently gaps, overlaps and duplication in both policy and practice at many levels which, if addressed, will lead to more effective management of chemicals.
3. Optimizing the production and application of minerals and metals	Capacity-building and technical assistance Optimizing the application of minerals and metals will require increased capacity to develop concepts and act, coupled with improved technical assistance to support others in the life cycle. SAICM recognizes the widening gap in such capacity between developed countries, developing countries and economies in transition. Strengthening stakeholder capacities will result in more widespread application of sound chemicals management practices.
4. Contributing to a robust, accessible base of information to support decision-making	Knowledge and information Contributing transparently to the global knowledge base to share information, data and tools in pursuit of a more integrated approach to chemicals management responds directly to this objective. Knowledge, information and public awareness are basic needs for decision-making, which will be enhanced with more co-operation throughout the value chain.

The order in which the objectives appear in SAICM have their own logic but they are not numbered nor are they weighted. This reflects the reality that they are all important and all are compromised if one or more of the objectives are not achieved. Thus in this publication the activities related to SAICM objectives are examined, not in the same order as they appear in the Dubai Declaration but in ways appropriate to the issues faced by the mining and metals industry. The early activities of industry favoured certain SAICM objectives more than others. A more complete and balanced accounting will be possible by 2020.

A more exhaustive list of activities and products appears at the end of the publication, together with the relevant URLs.

SECTION 2

Delivering on the MMM2020 commitment

This informal review does not attempt to provide quantitative measures of progress. Indeed there is little plausible congruity between the country-orientated reporting structure formalized within SAICM and the membership structure of ICMM. It focuses instead on industry-led developments in science and the methodologies needed for hazard classification and risk assessment of inorganic chemicals. These have and are being applied in activities that address SAICM objectives as a whole.

Links to documentation for the tools, programs and institutions mentioned in this report can be found in section 4.

Theme 1

SAICM objective:

“Risk reduction is a key need in pursuing the sound management of chemicals throughout their entire life cycle including, where appropriate, products and articles containing chemicals.”

Mining and metals industry response:

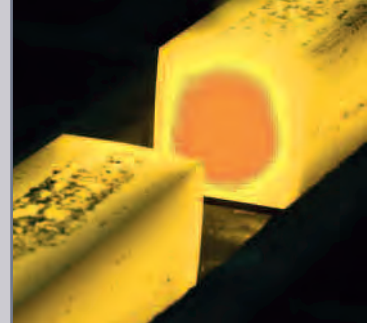
Building the tools in the context of a systems perspective: MMM2020 commitments to develop tools, develop guidance, provide scientific input.

Risk reduction measures undertaken with data derived from inappropriate methodologies has led to inappropriate decisions. In the past, there were no reliable comparisons to be made and regulatory and process control decisions were made that could be either excessive or insufficient.

This critical deficiency has been the subject of intense scientific examination over the last two decades. The REACH (Registration, Evaluation, Authorization and restriction of CHemicals) initiative of the European Union and its data requirements forcefully underlined the need for appropriate and practical methodologies and had the effect of greatly accelerating the efforts already underway.

Extraordinary progress has been made. There have been solid advances in science that, with technical, financial and data support from industry, have come from academics and public and private laboratories. The examples described below either did not exist a decade ago or were unperfected concepts. Protocols and methodologies that yield accurate and reproducible results for different human and environmental endpoints now exist and many of them have achieved international acceptance. They are increasingly considered “standard practice”.

Risk reduction measures are now undertaken with greater confidence. The efforts are better targeted and the results are relevant to the various environments, the understanding of what is being done and why it is shared, understood and discussed between stakeholders, including regulators and NGOs.



Risk reduction

Metals Environmental Risk Assessment Guidance (MERAG) and Health Risk Assessment Guidance for Metals (HERAG)

1 19

Metals are natural components of the earth and exist in many forms – each with its own specific chemical characteristics that define its interactions with the environment and with living organisms. The process of mining and metals production alters the levels of these natural components in different ecological compartments. It becomes important, therefore, to know how bioavailable they are, what levels can be tolerated, and how the metals are mobilized or sequestered or neutralized. Equally the mining and metals industry must assess and manage potential health risks from their operations in ways that at least comply with regulations and which engender confidence in their workforces and the communities in which they operate. Ultimately, the survival of the corporation or, in some instances, the ability to place a chemical on the market depends on this. It is not a trivial responsibility.

In the past, the majority of risk assessments for the environment and health, and consequently guidance materials, have focused on organic chemicals. In many cases such guidance has failed to adequately address specific characteristics that must be taken into account to perform risk assessments for metals that reflect their behaviour in the environment.

The MERAG and HERAG initiatives address that and have consolidated the extensive scientific progress that has been made in this field. The critical concepts are set out in discrete fact sheets. Collectively they enable regulators, scientists in government and academia as well as in industry, to create new or adapt local, national or regional risk assessment systems to reflect the behaviours of metals and their compounds in local environments. These fact sheets are living documents and are updated as the science evolves and new challenges emerge.

MERAG guidance sections

- Risk Characterization
- Exposure Assessment
- Effects Assessment: Data compilation, selection and derivation of PNEC values for the risk assessment of different environmental compartments (water, STP, soil, sediment)
- Marine Risk Assessment: Use of freshwater data for the derivation of ecotoxicity thresholds for marine species
- Bioavailability – Water and Sediment
- Bioavailability – Soils
- Uncertainty Analysis
- Classification for effects on the aquatic environment of metals/metal compounds and alloys
- Weight of Evidence

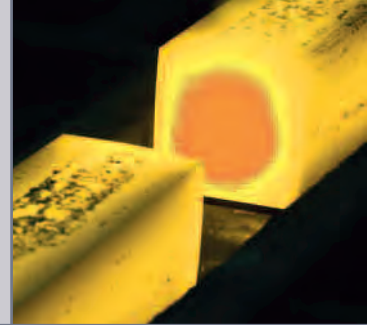
HERAG guidance sections

- Assessment of occupational dermal exposure and dermal absorption for metals and inorganic metal compounds
- Assessment of occupational inhalation exposure and systemic inhalation
- Indirect exposure via the environment and consumer exposure
- Gastrointestinal uptake and absorption, and catalogue of toxicokinetic models
- Mutagenicity
- Quality screening procedures for health effects literature
- Essentiality
- Choice of assessment factors in health risk assessment for metals



“THE REACH REGULATION IN THE EU HAS SEEN AN UNPRECEDENTED REQUIREMENT FOR DATA AND INFORMATION ON THE MATERIALS OUR INDUSTRY PRODUCES AND USES. INDUSTRY, THROUGH THE LEADERSHIP OF EUROMETAUX AND THE METALS COMMODITY ASSOCIATIONS HAS RESPONDED WITH A HUGE INVESTMENT IN MODELS AND CONCEPTS THAT ENABLE COMPANIES TO ASSESS THE CHEMICAL SAFETY OF THEIR MATERIALS PRIOR TO MARKETING. OF COURSE THESE RESOURCES ARE VALID BEYOND THE EU. THROUGH THE MMM2020 PROGRAM WE ARE ENSURING THAT COMPANIES AROUND THE WORLD ARE ABLE TO BENEFIT EQUALLY FROM THIS SOUND BASE OF SCIENTIFIC KNOWLEDGE.”

Guy Thiran, Director General, Eurometaux



Risk reduction

Hazard and risk reduction tools and models

1 6

Insights and understandings of mechanisms are the starting point. They then have to be applied by technicians and managers, both up and down the value chain and in situations far removed from the expert bodies that developed those insights. Responsible managers, concerns of employees and communities, and initiatives of governments and in particular REACH, require that there be ways to translate knowledge into management protocols for everyday use. The mining and metals industry, and in particular the commodity, regional and national associations, have been instrumental in making it possible for manufacturers and users of metals to meet their regulatory obligations and internal management goals. Examples include:

- Best Available Technology Reference (BREF) Notes (revisions)
- Biotic Ligand Models (BLMs)
- Downstream User Scaling Tool
- The GARD Guide
- The International Cyanide Management Code
- The Metals Classification Tool (MeClas)
- The Metals Occupational Exposure Assessment Tool for REACH (MEASE)
- Specific Environmental Release Categories (SPERCS)

Links to additional information on these and other developments in support of chemicals management are found in Section 4: Resources.

Risk reduction

Partnership with the UNEP/SETAC Life Cycle Initiative to improve life cycle impact assessment for metals

4

Life Cycle Impact Assessment (LCIA) translates the inventory of emissions from a product's life cycle (through resource acquisition to use and disposal or end-of-life management) into an environmental profile of the product – representing its potential contributions to a wide range of environmental impacts.

For each impact category (e.g., global warming or ecotoxicity), model-derived factors are used to provide indicators of a substance's impact to the environment or human health. For metals there has always been a significant shortcoming with existing models because of the lack of necessary parameters such as spatial and temporal information, comprehensive assessment of stocks and consideration of factors such as bio-availability and speciation. This can result in greatly exaggerated predictions of resource depletion or environmental impact and inappropriate ecotoxicology predictions for metals – as recognized in the 2004 Apeldoorn declaration.

Through the UNEP-SETAC partnership, ICMM has been supporting research on methodologies to incorporate the necessary metals-specific parameters. The outputs of this 4-year partnership have recently been peer-reviewed and published and work is underway to incorporate this new approach into commercial LCIA models.

SECTION 2

Delivering on the MMM2020 commitment

Theme 2

SAICM objective:

“Governance is an important issue that needs to be addressed through a multi-sector and multi-stakeholder approach in pursuing the sound management of chemicals.”

Mining and metals industry response:

Building new and strengthening existing relationships: MMM2020 commitments to convene/support workshops, develop guidance, undertake materials stewardship, engage stakeholders.

Governance is under examination more than ever in the 21st Century. How institutions organize and govern themselves has become more transparent and the consequences of failure more evident. Good governance is essential if there is to be sustainable development and that includes the sound management of chemicals as envisaged by SAICM.

The recognition of the existence and importance of a social licence to operate and the understanding of the economic, social and ethical implications of poor management: these have led to profound changes in how the mining and metals industry organizes itself. The internal and external resources dedicated to chemicals management – both in amounts and in sophistication – are directly related to this increased understanding of the importance of the issues.

There are hundreds if not several thousand examples of how this is working at the plant and community level. It includes changes in management and operational practices and the training and education of work forces as well as those in the community responsible for emergency measures. In the context of the SAICM objective, the existence, activities and growth of ICMM is significant evidence of the evolution of governance in the industry.

Governance

Partnering with international institutions and NGOs

7

ICMM can be described as a collaboration of industry actors. That idea of collaboration very naturally extends to other stakeholders in the life cycle of metals and minerals. It reflects the legitimate interests of society as well as the reality that many sources of expertise exist outside the industry. It is also where authority – in the form of rules, regulations and enforcement – lies.

This interdependence has been recognized from the beginning. Virtually every workshop or seminar – organized by industry or third parties – includes participation from a variety of stakeholders, including academics, NGOs, governments and communities. A sampling of longer standing relationships relevant to the objectives of SAICM include the United Nations Environment Programme (UNEP), the OECD Chemicals Program, the International Labour Organization (ILO), the Minerals Industry Safety and Health Centre/University of Queensland, Society of Environmental Toxicology and Chemistry (SETAC), and the World Conservation Union (IUCN).

The form of partnering varies. It can be formal financial support for operations, commissioned research, granting access to facilities for measurements and experiments, making data available and discussion of policy aims and means. The range of engagement is very large, is tailored to the needs of the issues and is continuing.

An aerial photograph of a large, calm reservoir with several forested islands. The water is a deep blue-grey. The islands are covered in dense forest, with some trees showing autumnal yellow and orange hues. In the background, a large-scale mining operation is visible on a hillside, with terraced earth and industrial structures. The sky is filled with soft, white clouds.

“WE APPRECIATED THE
CONSTRUCTIVE PARTNERSHIP
WITH THE METALS SECTOR IN
BUILDING APPROPRIATE RISK
ASSESSMENT AND HAZARD
CLASSIFICATION GUIDANCE FOR
METALS AND METAL COMPOUNDS,
A GROUP THAT IS TECHNICALLY
NOT EASY TO DEAL WITH. THE
MERAG AND HERAG PUBLICATIONS
CERTAINLY FOSTERED THE
SCIENTIFIC/TECHNICAL DEBATE
IN THE EU AND WERE A GOOD
BASIS FOR ECHA TO BUILD
PRACTICAL GUIDANCE.”

Jack de Bruijn, Director, Directorate of Risk Management,
European Chemicals Agency (ECHA)

SECTION 2

Delivering on the MMM2020 commitment

Governance

Integration of MERAG concepts into EU Guidance

7

The comprehensive REACH regulation process in the EU required chemical safety assessment reports. In developing guidance for their drafting, the European Commission recognized that metal-specific aspects of environmental risk assessment needed to be summarized in an annex of its own.

It was possible to develop this annex in a timely way because MERAG already existed. The basic MERAG concepts, along with related experience obtained during the discussions of EU-focused risk assessment reports prepared for several metals under the EU's Existing Substances Regulation, were translated into the relevant guidance format and were formally adopted by the REACH Competent Authorities.

Governance

Creating opportunity – Zinc Saves Kids

10

Many metals are essential to human life and health. It can make sense, then, to see an effort to address a metal deficiency as just another facet of chemicals management.

The Zinc Saves Kids initiative, established by International Zinc Association (IZA), quickly gained the endorsement of UNICEF. It supports programs that are getting supplemental zinc to zinc-deficient children in developing countries who would otherwise be at higher risk of death from diarrhoea, pneumonia and malaria. In this way, up to 50,000 child deaths per year are being avoided.

Governance

Fostering shared knowledge – co-ordination among a global network of associations

7

8

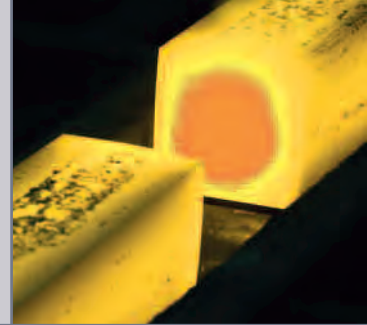
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Since 1995, and currently known as the Minerals and Metals Technical Working Group (MMTWG), scientists and technical experts within the mining and metals industry have met on a regular basis. Collectively they have worked to identify the issues associated with a science-based understanding of the behaviour of metals and their alloys and compounds, in different environments and exposure scenarios. The breadth of disciplines and interests in the group ensures cross-fertilization of ideas and rapid spread of knowledge. MMTWG members interact with peers in academia and other institutions that have an interest in metals and collaboratively they have helped define issues, refine research directions and undertake or support research.

The MMTWG membership has evolved with the issues and reflects the increasingly significant sources of scientific competence that lie within industry associations. The interaction of the MMTWG members makes them essential conduits of information, understanding and good practice between commodities and down to operational levels.

There is an additional element at work. The regional and national associations are part of their community. In languages and ways appropriate to their political and regulatory systems, they take the knowledge and the tools of chemicals management to the broader community including many small and medium-sized companies and sub-national authorities.

The Minerals Council of Australia for example is such an association, defined by geography. Its activities are not unique but provide a comprehensive example of what such an association does in support of its membership and, by extension, the entire sector. It has produced guidance documents with local relevance and international credibility on risk communication, chemical substances of relevance to community and environmental health. It has collaborated with the Government of Australia in the development of guidance documents on hazardous materials management and materials stewardship. Similarly, Euromines, the recognized representative of the mining industry to European institutions, provides services to its members with regard to EU chemicals policy and serves as a network for exchange of information throughout the sector. In close collaboration with Eurometaux and ICM, Euromines has raised awareness, developed guidance documents and managed the preparation of regulatory submissions related to new chemicals regulations in the EU.



Governance

Corporate sustainable development reporting

13 16 22

The importance of managing materials responsibly throughout their life cycles is reflected in the ICMM Sustainable Development Framework.

All ICMM members are required to implement the Framework. In practice this includes integrating a set of 10 Principles and seven supporting position statements into corporate policy, as well as setting up transparent and accountable reporting practices and external assurance. The framework emerged out of the Mining, Minerals, and Sustainable Development project – a two-year consultation process with stakeholders to identify key issues relating to mining and sustainable development – and has been developed continuously since.

Since 2010, ICMM has conducted an annual assessment of member performance against their commitments – measured against the five elements of sustainability performance addressed in ICMM's assurance procedure. Each year a member performance table is published as part of ICMM's Annual Review.

We have already seen our members make significant progress as set out below.

2011

Seventeen out of 21 member companies obtained a G3 A+ application level and 18 companies sought external assurance.

2010

Fifteen out of 18 member companies obtained a G3 A+ application level and 16 companies sought external assurance.

2009

Eight out of 19 companies obtained a G3 A+ application level and 13 companies sought external assurance.

Theme 3

SAICM objective:

"Capacity-building and technical assistance in relation to all aspects of the sound management of chemicals are among the essential elements of the successful implementation of the Strategic Approach."

Mining and metals industry response:

Applying the tools and optimizing the production and application of minerals and metals: MMM2020 commitments to develop guidance, promote integration, workshops, best practices, supply chain outreach, hazardous waste minimization, mercury stewardship.

If there is to be sound management of chemicals, the science needs to be sound and the tools derived from that science need to be used knowledgeably. The existence of relevant knowledge is just the necessary beginning. Now, however, the science for inorganic chemicals has advanced sufficiently for there to be serious and sustained propagation of the insights achieved. Over the past five years ICMM and its members have organized many capacity-building workshops and events – both for industry and stakeholders such as regulatory policy makers – to share and promote the basis of sound science that has been developed.

Every company, and national, regional and commodity association organizes, sponsors or participates in dozens of interactions with stakeholders every year on matters that touch on chemicals management. Knowledge and experience is shared and open to examination, challenge and improvement.

SECTION 2

Delivering on the MMM2020 commitment

Capacity-building

Developing and applying technical expertise

12 17

While the organizational models vary, all the non-ferrous metals associations have long conducted or sponsored research in universities and research laboratories.

One example of a commodity-specific centre of excellence is the Nickel Producers Environmental Research Association (NiPERA). For more than 30 years a strong mixture of knowledge, competence and integrity has allowed NiPERA's scientists to contribute to the understanding of the mechanisms that determine human and environmental impacts. At the same time NiPERA has worked with the nickel industry and the nickel value chain, as well as with research institutions and governments, to ensure that the science drives changes in industry practice.

In addition to issues of specific interest to nickel, NiPERA scientists have collaborated with scientific personnel specialized in other metal commodities on the development of resources such as the MERAG and HERAG documents.

Capacity-building

Mercury stewardship

13

The toxicity of mercury is not in doubt, and the consequences of mercury poisoning are part of the human record going back several thousand years. Even as the use of mercury is being designed out of products and alternatives are actively sought, mercury still has end uses. Chief among them is for the amalgamation of gold produced by small and artisanal mining (ASM) in developing countries. The potential for human exposure and releases to the environment through this use is very high and the consequences severe.

In spite of its known dangers, mercury has value and finds its way into the hands of those least able to manage it.

With this knowledge, the member companies of ICMM have made commitments specific to mercury, commitments that go beyond those made in the context of SAICM. They flow directly from the Principles contained in the ICMM Sustainable Development Framework and speak directly to the capacity-building objective of SAICM. In précis, those mercury-specific undertakings include:

- not to develop any mine for the production of mercury
- promote responsible management of by-product mercury
- identify, quantify and minimize point source emissions
- report emissions
- support low- or no-mercury technology transfer for ASM
- support continuing environmental research
- assist development of strategies that would end the flow of mercury into the marketplace.

“MANY OF THE INITIATIVES OUTLINED IN THE MMM2020 ARE HELPING TO ENSURE THAT MINING AND METALS COMPANIES ARE ABLE TO IDENTIFY AND COMMUNICATE ANY POTENTIAL HAZARDS AND RISKS THROUGHOUT THE SUPPLY CHAIN – FOR EXAMPLE THROUGH THE CREATION OF ROBUST SAFETY DATA SHEETS AND LABELS. THIS IS THE KEY STEP IN ENSURING OUR PRODUCTS ARE USED SAFELY AND SUSTAINABLY IN THE YEARS TO COME.”

Sandra Carey, HSE Executive, International Molybdenum Association



SECTION 2

Delivering on the MMM2020 commitment

Capacity-building

Protecting the workforce – development of Health Impact Assessment methods

1 3 14

Planning and managing for the health of workers has a long history and current best practices are reflected in the ICMM publication “Good Practice Guidance on Occupational Health Risk Assessment”. Similar investments in the health of communities have been made but often in reaction to observed impacts: the first concern was for the workers and the workplace. In recent years, however, there has been increasing rigour and formalization of the health assessments that go beyond the boundaries of operations to the environments where the workers and their families live and play. The World Health Organization has actively promoted this Health Impact Assessment (HIA) approach.

HIA is a systematic way of predicting and managing the potential health outcomes of policies, plans, programs and projects on communities regardless of their proximity to an operation. It can have merit on its own but is increasingly an element of the broader and still evolving practice of doing Integrated Environmental, Social and Health Impact Assessments (ESHIA).

The use of HIA as part of a broader risk management strategy is increasing in the mining and metals industry. In the 2010 ICMM publication “Good Practice Guidance on Health Impact Assessment”, HIA processes are described and a methodology provided that in-house practitioners can use, secure in the knowledge that all the right questions and end-points will be captured in their assessment.

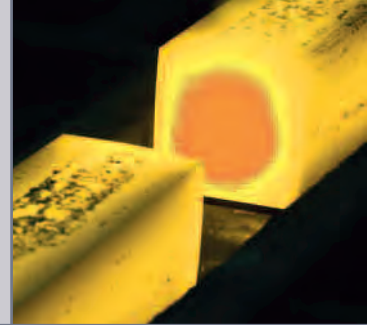
Capacity-building

ICMM Health and Safety Conferences

14

It is essential that knowledge is continually developed and that experience in the application of that knowledge is shared. Building on the success of its first International Health and Safety Conference in 2006, ICMM is holding its second, entitled “Sharing successes and challenges – learning from each other”, in Santiago, Chile, in November 2012.

At these conferences participants learn about and discuss the challenges their colleagues in the industry face, the lessons learned, what is being done to continually improve, and how good practices can be embedded in the corporate culture. Issues discussed include leadership in occupational hygiene, exposure control effectiveness and how health and safety become integrated into value chains.



Capacity-building

GHS: delivering the tools for global implementation

15 20

Many countries have developed their own standards for classifying the hazards posed by chemicals. In many cases, differences among these national standards have caused confusion for companies that market chemical products globally. This is particularly true for the mining and metals industry, with diverse supply chains and market geographies. An attempt to provide a common basis for classification for all the different target audiences, through the UN's Globally Harmonized System (GHS) is therefore of high relevance and welcomed by industry.

The on-going work to revise safety data sheets and labelling, consistent with GHS health and environmental criteria, is substantial. Many mining and metals companies have responded through the creation of dedicated GHS groups with managers from all business units co-ordinating to ensure a smooth and effective transition.

Implementing GHS also represents a large and on-going investment by both governments and industry in scientific concepts. To ensure that this investment is productive, ICMM has embarked on a program of outreach and interaction in areas with significant mining and metals operations. This has seen workshops aimed both at industry and policy makers in Australia, Brazil, China, Canada, Japan, South Africa and the United States.

In addition, written guidance documents have been published on general aspects of implementation of GHS as well as aspects that are particularly challenging for the sector – including assessment of complex mixtures such as ores and concentrates.

Theme 4

SAICM objective:

“Knowledge, information and public awareness are basic needs for decision-making for the sound management of chemicals...”

Mining and metals industry response:

Sharing the tools and contributing to a robust, accessible base of information to support decision-making: MMM2020 commitments to publish risk assessment and LCA data, publish methodologies, convene/support workshops, publish emissions data, maintain database of occupational exposure limits.

For the chemicals and mixtures that are the business of the mining and metals industry it was early determined that the tools needed to produce and organize information upon which risk management decision-making could be based were either lacking or insufficient to the task. The absence of data – or the presence of data generated from protocols that did not account for the specificity of inorganic chemicals and compounds – prevented informed classification actions or effective risk reduction measures. The tools necessary to develop that knowledge had to come first as described in Theme 1. However, having developed many of the necessary tools, the data arising from their use need to be widely available.

ICMM develops guidance documents based on science data, regulatory requirements, and best practice associated with the use of tools appropriate to the chemicals and processes of the metals industry. Much of this is applicable to the whole value chain, from mining to end-of-life management of metal-containing product systems. In addition, it is a requirement for ICMM member companies to report under the GRI Mining and Metals Sector Supplement. As well, “sustainability reports” have increased in number and sophistication and they, with GRI, bring a high level of transparency to industry performance.

The commitment goes beyond just the existence of information. The continuing practice of workshops, partnerships and collaborations, and activities of the commodity and mining associations noted elsewhere all assist in the dissemination of knowledge relevant to chemicals management.

SECTION 2

Delivering on the MMM2020 commitment

Knowledge

Documents, workshops, toolkits

18 19 20

The existence of tools relevant to the tasks makes successful risk reduction possible. Just as important is the knowledgeable application of those tools so that consistent reproducible results are obtained by different operators. When designers and users of the tools share their knowledge and experience, the most efficient and reliable approaches to different risk scenarios are realized.

This process has, in fact, been the largest sustained project of ICMM in the first decade of its existence. ICMM has been the catalyst and platform for leading corporations and industry associations to share – in a variety of languages and forms of delivery – expertise and experience with miners, metal producers and users, and those responsible for regulating inorganic chemicals through their life cycles.

Because of their importance and originality, MERAG and HERAG have been mentioned several times. In addition, all the major areas of professional interest now have guidance documents and others will be developed as the need arises. Existing guidance documents – especially those associated with the management of risk – will be revised in the light of operational experience and further scientific and regulatory developments.

Investments in risk reduction knowledge Freely available guidance

Search “guidance” on the ICMM website to find the 143 guidance documents, workshop reports and “toolkits” that teach and offer good practice insights for the mining and metals industry. This selection is particularly relevant to SAICM objectives.

Human health

- Health Risk Assessment Guidance for Metals
- Leadership Matters: Managing fatal risk guidance
- Good Practice Guidance on Occupational Health Risk Assessment
- Good Practice Guidance on HIV/AIDS, TB and Malaria

Environment

- Metals Environmental Risk Assessment Guidance
- Good Practice Guidance for Biodiversity Conservation (under development in collaboration with the World Conservation Union – IUCN)
- Good Practice Guidance for Mining and Biodiversity
- IUCN-ICMM Roundtable Discussion on Restoration of Legacy Sites
- Ores and concentrates: An EU Guide to hazard classification

Knowledge

ICMM/OECD partnership for international data sharing

18 21

The OECD plays a significant role in chemicals management, by screening effects data sets for relevance and quality under their globally recognized Co-operative Chemicals Management CoCAM program (formerly the High Production Volume Chemicals or HPV program). These data sets become a worldwide reference for all OECD countries implementing national legislation on chemicals management.

ICMM has joined with the OECD to manage a mining and metals sector component which will introduce metals-specific concepts and effects datasets for evaluating the health and environmental hazards of chemicals. The development of this methodology has until now been driven largely by the requirements of the REACH legislation in the European Union but this program will assist in broader uptake around the globe consistent with the aim of SAICM.

The initiative was launched in early 2011 and has received strong support from OECD members with enthusiastic backing from the EU, US and Canada in particular, where elements of the industry’s MERAG concepts (see Theme 1) have already been used in the design of national guidelines.

In tandem with the OECD program, ICMM is developing a web portal to ensure that its work is accessible to all stakeholders. This will be launched by the end of 2012.



“DEVELOPING APPROACHES TO THE ENVIRONMENTAL AND HEALTH ASSESSMENT OF OUR METAL PRODUCTS IS A CHALLENGE THAT THE INDUSTRY HAS BEEN RESPONDING TO FOR OVER TWO DECADES. THE TOOLS AND MODELS THAT WE ARE NOW ABLE TO APPLY REPRESENT THE INTENSE EFFORT AND COMMITMENT OF THE ACADEMIC AND REGULATORY COMMUNITIES AS WELL AS THAT OF INDUSTRY. A WEALTH OF PEER-REVIEWED SCIENTIFIC LITERATURE, AS WELL AS PRACTICAL INDUSTRY GUIDANCE, ENSURES THAT THIS INFORMATION IS AVAILABLE TO ALL AND THAT THIS FIELD OF ACTIVITY WILL CONTINUE TO EVOLVE.”

Dr William Adams, Rio Tinto (Chair of ICMM's Minerals and Metals Technical Working Group)

SECTION 3

Building on what we have begun

Effective chemicals management remains essential to the achievement of sustainable development.

“The Future We Want”, the outcome document of the recent Rio+20 conference, called for “the effective implementation and strengthening of the Strategic Approach to International Chemicals Management as part of a robust, coherent, effective and efficient system for the sound management of chemicals throughout their life cycle, including to respond to emerging challenges”.

The ICMM membership remains focused and committed to making its contribution to the achievement of this goal.

Now as never before, the sector has the structures in place and expertise at hand to ensure that these challenges are met and that the contributions to society – in materials and quality of life and environment – are optimized and made sustainable.

This report provides a representative example of the activities taking place within the context of the Minerals and Metals Management 2020 action plan and the table opposite provides a snapshot of where the work stands in 2012. The work will continue and evolve but always reflect the sector’s commitment to the principles and objectives of SAICM.

How is the industry doing?

Challenges remain but the progress, as the table opposite shows, has been significant – especially in the creation of the tools for the job. Equally, it is understood that the needs and thus the agenda will evolve and actions not foreseen in 2009 will become necessary.

However, having begun the “responsible and integrative chemicals management” journey, the mining and metals sector believes that the direction remains clear. The commitments of 2009 remain valid and the progress made to date positions the industry for success in meeting the industry and SAICM objectives in the coming years.

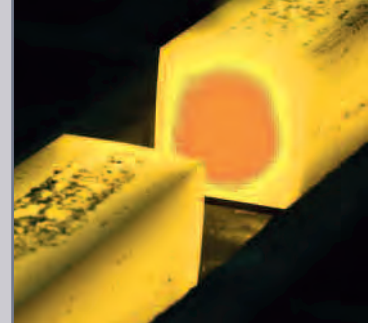
Assessing the true contribution of a global industry

Many of the future work challenges will arise as a result of the increasing global harmonization of regulatory systems for chemicals management. Over the past decade, the emergence of regional systems such as REACH in the EU has been an important driver but similar systems are emerging or in the planning stages elsewhere.

For an industry that operates and trades internationally this is profoundly welcome. Implementation, however, will pose challenges. Greater co-ordination than ever before will be required at a global level as well as a broadening of expertise into previously unfamiliar territory. It will require application of the new metals-specific tools and concepts documented here beyond the current geographic boundaries. This will require training, capacity-building and an open sharing of knowledge – both within industry and with regulatory authorities. The industry has begun building the necessary systems to facilitate this but more will be done.

One fundamental shift already seen in other policy areas in recent decades is an increasing recognition of the importance of considering benefits and impacts throughout the whole life cycle of any product system and the materials that go into it. This is fundamental to assessing the real contribution to society and underlines the importance of taking a systems approach. In the same way that the “carbon footprint” of a material has driven action by policy makers and consumers alike, it is anticipated that the “chemical footprint” will become part of a more holistic consideration of materials in coming years.

This thinking will lead to the consideration in more detail than ever before of the balance between the socio-economic benefits and potential chemical risks of materials. As it was with risk assessment, the integration of socio-economic factors will require validated approaches that can be applied to inorganic materials. This will increase the imperative for the mining and metals sector to ensure that tools and concepts appropriate to its products are developed in a consultative manner, peer-reviewed and supported with education and training for deployment in every economy regardless of its state of development.



SAICM objective	Risk reduction	Governance	Capacity-building and technical assistance	Knowledge and information
ICMM MMM2020 Action Plan element	Taking a systems perspective	Building new and strengthening existing relationships	Optimizing the production and application of minerals and metals	Contributing to a robust, accessible base of information to support decision making
Actions and status Activities completed or well advanced (note some of these are enduring) Begun but significant development still to be undertaken Yet to be commenced	1. Develop and implement hazard and risk assessment tools addressing the specific properties of metals, metal compounds, alloys and other inorganic substances and any related effects on health and the environment	7. Promote integration of specific assessment tools into broader risk characterization systems and government policy frameworks at the national, regional and international level	12. Develop guidance on chemicals management in the mining and metals sector	18. Make available high quality hazard and risk assessment information on specific metals and metal compounds
	2. Encourage the development of guidance on a harmonized approach to the setting of occupational exposure limits	8. Convene workshops with commodity associations to exchange experiences and information on chemicals management	13. Encourage the prevention and minimization of hazardous waste generation within ICMM member operations	19. Publish and disseminate fact sheets on new and revised hazard and risk assessment tools intended to address the specific properties of metals, metal compounds, alloys and other naturally occurring inorganic substances
	3. Establish guidance for identification, assessment and control of occupational health risks	9. Provide guidance for member companies on terms of reference for engagement with local communities and host governments on chemicals management, particularly in developing countries	14. Promote and exchange information on successful experiences and projects related to environmental site management and occupational health and safety	20. Convene training workshops for companies and organizations within the mining sector on key chemicals management topics such as the UN GHS and risk characterization
	4. Provide scientific input to the development of protocols for characterization of ecotoxicological and human health impacts in life cycle assessment	10. Encourage metal commodity associations to include chemicals management information and resources in their materials stewardship programs	15. Provide guidance on implementation of the UN Globally Harmonized System of Classification and Labelling	21. Develop a web-portal to provide common access to life cycle inventories for specific metals and metal compounds
	5. Promote eco-efficiency indicators to encourage efficient and effective use of materials and energy from a life cycle perspective	11. Develop a dialogue with the World Bank Group on chemicals management and poverty alleviation	16. Develop and implement mercury stewardship activities	22. Develop a sector specific framework for monitoring and public disclosure of emission levels of substances to air and water from ICMM member companies consistent with the Global Reporting Initiative guidelines
	6. Develop guidance on socio-economic assessment in risk management decision making for metals		17. Promote dissemination of existing guidance and address gaps relating to the safe handling of metals throughout the supply chain and specific metal containing products during recovery and recycling	23. Develop and publish a database of regulatory occupational exposure limits for substances linked to the production of minerals and metals

SECTION 4

Resources

Further information on institutions, tools and guidance referenced in this report

Institutions

For many more examples of the work that is being undertaken on chemicals management policies and their implementation linked to the MMM2020 program visit our company and association members' websites.

ICMM member companies and associations
www.icmm.com/members

Tools and guidance

All ICMM Guidance Documents
www.icmm.com/library

Best Available Technology Reference (BREF) Notes (revisions)
<http://eippcb.jrc.es/reference/nfm.html>

Biotic Ligand Model (BLM)
www.hydroqual.com/wr_blm.html

GARD Guide
www.gardguide.com/index.php/Main_Page

HERAG
www.icmm.com/page/1213/health-risk-assessment-guidance-for-metals-herag

International Cyanide Management Code
www.cyanidecode.org

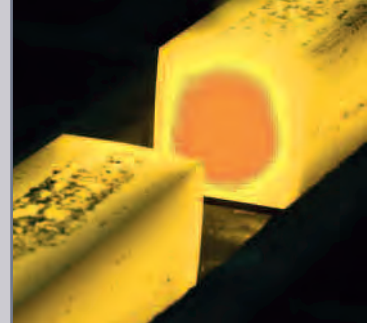
MeCLAS
www.meclas.eu

MERAG
www.icmm.com/page/1185/metals-environmental-risk-assessment-guidance-merag

Ores and Concentrates: An industry approach to EU hazard classification
www.icmm.com/library/oresandconcentrates

Transformation Dissolution Protocol
www.unece.org/fileadmin/DAM/trans/danger/publi/ghs/ghs_rev01/English/14e_annex10.pdf

Zinc Saves Kids
www.zincsavekids.org



EU REACH implementation tools and guidance

REACH Regulation
<http://echa.europa.eu/web/guest/regulations/reach>

REACH Metals Gateway
www.reach-metals.eu

Information on REACH-registered substances
<http://echa.europa.eu/web/guest/information-on-chemicals/registered-substances>

REACH Guidance on environmental risk assessment for metals and metal compounds:
http://echa.europa.eu/documents/10162/13632/information_requirements_r7_13_2_en.pdf

Downstream User Scaling Tool
www.arche-consulting.be/Metal-CSA-toolbox/du-scaling-tool

Metals Classification Tool – MeCLAS
www.meclas.eu

Metals Occupational Exposure Assessment Tool for REACH (MEASE)
www.ebrc.de/industrial-chemicals-reach/projects-and-references/mease.php

Specific Environmental Release Categories (SPERCS)
www.arche-consulting.be/Metal-CSA-toolbox/spercs-tool-for-metals

Life cycle impact assessment

Apeldoorn Declaration
Int J Life Cycle Assess. 2004, 9(5): 334

New method for calculating comparative toxicity potential of cationic metals in freshwater: application to copper, nickel, and zinc.
Gandhi N, Diamond M, van de Meent D, Huijbregts M, Peijnenburg W, Guinée J.
Environ. Sci. Technol. 2010, 44: 5195–5201

The Clearwater Consensus: the estimation of metal hazard in fresh water.
Diamond M, Gandhi N, Adams W, Atherton J, Bhavsar S, Bullé C, Campbell P, Dubreuil A, Fairbrother A, Farley K, Green A, Guinée J, Hauschild M, Huijbregts M, Humbert S, Jensen K, Jolliet O, Margni M, McGeer J, Peijnenburg W, Rosenbaum R, van de Meent D, Vijver M.
Int J Life Cycle Assess. 2010, 15: 143–147

Implications of geographic variability on Comparative Toxicity Potentials of Cu, Ni and Zn in freshwaters of Canadian ecoregions.
Gandhi N, Huijbregts M, van de Meent D, Peijnenburg J, Guinée J, Diamond M.
Chemosphere. 2011, 82(2): 268–277

Implications of considering metal bioavailability in estimates of freshwater ecotoxicity: examination of two case studies.
Gandhi N, Diamond M, Huijbregts M, Guinée J, Peijnenburg W, van de Meent D.
Int J Life Cycle Assess. 2011, 16(8): 774–787

SECTION 4

Resources

ICMM member companies

African Rainbow Minerals
Anglo American
AngloGold Ashanti
Areva
Barrick
BHP Billiton
Codelco
Freeport-McMoRan
Goldcorp
Gold Fields
Hydro
Inmet
JX Nippon Mining & Metals
Lonmin
Minerals and Metals Group
Mitsubishi Materials
Newmont
Rio Tinto
Sumitomo Metal Mining
Teck
Vale
Xstrata

ICMM member associations

Cámara Argentina de Empresarios Mineros
Cámara Asomíneros Andí – Colombia
Cámara Minera de México
Cámara Minera de Venezuela
Chamber of Mines of the Philippines
Chamber of Mines of South Africa
Chamber of Mines of Zambia
Cobalt Development Institute
Consejo Minero de Chile A.G.
Eurometaux
Euromines
Federation of Indian Mineral Industries
Ghana Chamber of Mines
Instituto Brasileiro de Mineração
International Aluminium Institute
International Copper Association
International Iron Metallurgy Association
International Lead Association
International Manganese Institute
International Molybdenum Association
International Wrought Copper Council
International Zinc Association
ITRI
Japan Mining Industry Association
Minerals Council of Australia
Mining Association of Canada
Mining Industry Associations of Southern Africa
National Mining Association – USA
Nickel Institute
Prospectors and Developers Association of Canada
Sociedad Nacional de Minería – Chile
Sociedad Nacional de Minería, Petróleo y Energía – Peru
World Coal Association
World Gold Council

Acknowledgements

Bruce McKean of Sustainability Matters is thanked for his work in compiling this report. Bruce McKean has extensive operational and communications experience in sustainability and stewardship issues associated with the life cycle of minerals and metals and the products derived from them. He has worked in government, industry and not-for-profit organizations and has lived and/or worked in more than 30 countries. (www.sustainabilitymatters.info)

Members of the ICMM Minerals and Metals Technical Working Group are thanked for their input and review to the report as well as their on-going efforts in implementation of the MMM2020 action plan.

The ICMM team included John Atherton, Ben Davies and Laura Pocknell.

A young child with blonde hair, wearing a blue and white striped sweater and blue jeans, is climbing a complex metal structure. The child is smiling and looking towards the camera. The structure consists of several thick metal poles radiating from central hubs, forming a star-like pattern. The background is a bright blue sky with scattered white clouds. The child is positioned in the lower-left quadrant of the frame, with their hands and feet gripping the metal poles. The overall image conveys a sense of achievement and exploration.

“A LOT HAS BEEN ACCOMPLISHED, MUCH IS BEING DONE, MORE IS PLANNED. IT WILL NEVER BE COMPLETE. THERE WILL BE SHORTFALLS AND LAPSES ALONG THE WAY. BUT IT IS UNDERSTOOD THAT THE MANAGEMENT OF CHEMICALS IS A CONTINUING RESPONSIBILITY AND AT THE CORE OF THE BUSINESS OF MINING AND METALS. THIS REALITY IS REFLECTED AT ALL THE DIFFERENT LEVELS – INDIVIDUALS, CORPORATIONS, ASSOCIATIONS OF VARIOUS KINDS – AND THE FOUR CENTRAL OBJECTIVES ARTICULATED UNDER THE SAICM BANNER RESONATE WITH THE INDUSTRY IN BOTH BUSINESS AND SOCIETAL TERMS.”

International Council on Mining and Metals, 2012

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The International Council on Mining and Metals (ICMM) was established in 2001 to improve sustainable development performance in the mining and metals industry. Today, it brings together many of the world's largest mining and metals companies as well as national and regional mining associations and global commodity associations. Our vision is one of leading companies working together and with others to strengthen the contribution of mining, minerals and metals to sustainable development.

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Strategic Approach
to International
Chemicals Management

Distr.: General
12 September 2012

English only

International Conference on Chemicals Management

Third session

Nairobi, 17–21 September 2012

Agenda item 4 (c)

**Implementation of the Strategic Approach to International
Chemicals Management: Strengthening of national
chemicals management capacities**

Information note on the high-level dialogue

Note by the secretariat

1. The International Conference on Chemicals Management provides a high-level international forum for multi-stakeholder and multi-sectoral discussion and exchange of experience on chemicals management issues. In line with this function, an interactive high-level dialogue will be held during the Conference as part of agenda item 4(c): Strengthening of national chemicals management capacities, on Thursday, 20 September 2012.
2. The secretariat has the honour to circulate, for the information of participants, in the annex to the present note an information note on the high-level dialogue.
3. The information is presented as submitted and has not formally been edited.

Annex

High-Level Dialogue – Information Note

A. Introduction and objective of the High-level Dialogue

Introduction

1. The sound management of chemicals was once again recognized as crucial for the protection of human health and the environment by Heads of State, Governments and high-level representatives having met at Rio de Janeiro for the United Nations Conference on Sustainable Development held on 20-22 June 2012. The outcome document entitled, *The future we want*, further recognizes that growing global production and use of chemicals and prevalence in the environment and calls for effective implementation and strengthening of the Strategic Approach to International Chemicals Management as part of a robust, coherent, effective and efficient system for the sound management of chemicals throughout their life cycle, including to respond to emerging challenges.
2. By reaffirming their commitment to achieve the 2020 goal as set out in the Johannesburg Plan of Implementation, and calling for the effective implementation and strengthening of the Strategic Approach, Heads of State, Governments and high-level representatives have provided a high-level policy direction for the third session of the Conference.
3. With only eight years remaining to reach the 2020 goal, there is an increased sense of urgency for concrete collaborative actions to further increase efforts towards achieving the sound management of chemicals. This was also highlighted by other events in the run up to Rio+20, such as at the dialogue on sound chemicals management convened during the Stockholm +40 celebrations.
4. The work recently completed by the United Nations Environment Programme on the Global Chemicals Outlook and the Costs of Inaction further stresses the increase of chemicals production and consumption, the shift from highly industrialized to developing countries, and the economic implications of this increase under unsound chemicals management. The Global Chemical Outlook identifies a number of approaches to mitigate the risks of unsound chemicals management while enjoying the benefits that chemicals bring to our daily lives.
5. The third session of the International Conference on Chemicals Management therefore presents an ideal forum to discuss the outcome of the United Nations Conference on Sustainable Development (Rio +20), and the recommendations of the Global Chemicals Outlook.

Objective of the High-level dialogue

6. The International Conference on Chemicals Management provides a high-level international forum for multi-stakeholder and multi-sectoral discussion and exchange of experience on chemicals management issues. In line with this function, an interactive high-level dialogue will be held during the Conference as part of agenda item 4(c): Strengthening of national chemicals management capacities, on Thursday, 20 September 2012.
7. The objective of the high-level dialogue is to provide a platform for high-level interaction between Strategic Approach stakeholders on strengthening the Strategic Approach for its more effective implementation towards the 2020 goal and identify further guidance for its achievement.

B. Organization of High-level Dialogue

8. The high-level dialogue will begin with a panel discussion of eight high-level Strategic Approach stakeholders to help identify issues for an interactive dialogue with the plenary and set the stage for additional interventions.
9. The panel discussion will be composed of ministers and other high-level representatives from industry, civil society and from the IOMC organizations.
10. The high-level panel is planned to take place during the morning session of Thursday, 20 September in the main conference room of the conference, immediately following any morning announcements and reporting as relevant and appropriate by co-chairs of small groups. The Chair of the Conference will moderate the panel
11. The session is expected to proceed along the following outline:
 - i) The Chair will make a short introduction.
 - ii) Panel members will be asked by the Chair to make short statements (3 min maximum) to reflect on the status of SAICM implementation both retrospectively and prospectively, with the latter specifically focusing on advancing the 2020 goal.
 - iii) Following a round of dialogue amongst the panellists and Chair, the Chair will open the floor to statements/questions from the plenary.
 - iv) The Chair will summarize and bring the panel to conclusion with a recommendation for the Conference.

C. Expected outcomes

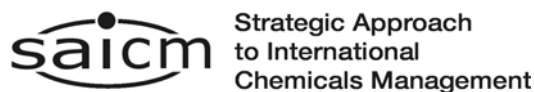
12. Consideration of strengthening the Strategic Approach should be prospective and retrospective, taking into account accomplishments and lessons learned as well as the importance of the regional dimension and multistakeholder nature of the Strategic Approach. The high-level dialogue should contribute to a possible resolution which will provide overall orientation and guidance on areas of focus, including some concrete elements, leading up to the 2020 goal.



SAICM/ICCM.3/INF/41

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International Conference on Chemicals Management
Third meeting
Nairobi, 17–21 September 2012

List of pre-session documents organized by agenda item of the third meeting of the International Conference on Chemicals Management (ICCM3)

Note by the secretariat

The secretariat has the honour to circulate, for the information of participants, in the annex to the present note the list of pre-session documents organized by agenda item of the third meeting of the International Conference on Chemicals Management (ICCM3).

Annex

List of pre-session documents organized by agenda item of the third meeting of the International Conference on Chemicals Management (ICCM3)

Item 2 (b): Organizational matters: adoption of the agenda	
SAICM/ICCM.3/1	Provisional agenda
SAICM/ICCM.3/1/Add.1	Annotations to the provisional agenda
SAICM/ICCM.3/2	Scenario note for the third session of the International Conference on Chemicals Management
Information documents	
SAICM/ICCM.3/INF/1	Report of the International Conference on Chemicals Management on the work of its second session
Item 4: Implementation of the Strategic Approach to International Chemicals Management	
SAICM/ICCM.3/INF/2.	Report of the Open-ended Working Group of the International Conference on Chemicals Management on the work of its first meeting
Item 4(a): Evaluation of and guidance on implementation and review and update of the Strategic Approach	
Item 4(i). Update of the Global Plan of Action	
SAICM/ICCM.3/3	Proposed additions to the Global Plan of Action for nanotechnologies and manufactured nanomaterials and hazardous substances within the life-cycle of electrical and electronic products
Information document	
SAICM/ICCM.3/INF/4/Rev.2	Submissions received from stakeholders on the inclusion of activities relating to nanotechnologies and manufactured nanomaterials and hazardous substances within the life cycle of electrical and electronic products to SAICM Global Plan of Action
SAICM/ICCM.3/INF/4/Rev.2/Add.1	Revised table of activities for inclusion under a new work area relating to hazardous substances within the life cycle of electrical and electronic products
(ii) (a). Reports by regional focal points	
SAICM/ICCM.3/INF/36	Reports from Strategic Approach Regional Focal Points on activities undertaken during the intersessional period
(ii) (b). Reporting according to the 20 indicators of progress	
SAICM/ICCM.3/4	Secretariat summary report on progress in implementation of the Strategic Approach
Information documents	
SAICM/ICCM.3/INF/1	Report of the International Conference on Chemicals Management on the work of its second session
SAICM/ICCM.3/INF/5	Baseline report of progress in implementation of SAICM (2006-2008)
SAICM/ICCM.3/INF/6	Progress in implementation of SAICM reported for 2009-2010
SAICM/ICCM.3/INF/7	Submission by the International Council of Chemicals Associations on progress in implementing the Strategic Approach
SAICM/ICCM.3/INF/8	Citizens' Report: Implementation of the Strategic Approach to International Chemical Management (SAICM) by IPEN participating organizations 2009-2012

SAICM/ICCM.3/INF/9	Activities of the Inter-Organization Programme for the Sound Management of Chemicals to support SAICM Implementation
Item 4 (b): Implementation of and coherence among international instruments and programmes	
SAICM/ICCM.3/INF/6	Progress in implementation of SAICM reported for 2009-2010
SAICM/ICCM.3/INF/27	Summary of Projects funded under the Quick Start Programme supporting the implementation of the Multilateral Environmental Agreements (MEAs)
SAICM/ICCM.3/INF/30	Synergies: further enhancing cooperation and coordination in the chemicals and wastes cluster
Item 4 (c): Strengthening of national chemicals management capacities	
SAICM/ICCM.3/INF/15	Global Chemicals Outlook
SAICM/ICCM.3/INF/25	Outcome document of the United Nations Conference on Sustainable Development (Rio+20): The future we want
SAICM/ICCM.3/INF/29	8 Years – 8 Actions: An initiative to reach the 2020 goal of Sound Chemicals Management
SAICM/ICCM.3/INF/40	Information note on the high-level dialogue
Item 4 (d): Financial and technical resources for implementation	
(i). Quick Start Programme	
SAICM/ICCM.3/8	Conclusions and recommendations of the Executive Board on the midterm evaluation of the Quick Start Programme
SAICM/ICCM.3/9	Executive Summary of the Report of the Mid-term Review of the Quick Start Programme.
SAICM/ICCM.3/10	Amending the time limit of the disbursement of funds under Quick Start Programme projects
SAICM/ICCM.3/23	Report on the implementation of the Quick Start Programme and its Trust Fund
Information documents	
SAICM/ICCM.3/INF/16/Rev.1	Status of projects funded under the Quick Start Programme Trust Fund
SAICM/ICCM.3/INF/17	Mid-term review of Quick Start Programme
SAICM/ICCM.3/INF/26:	Status of the implementation of the Quick Start Programme Business Plan
(ii). Financial and technical resources for the implementation of the Strategic Approach	
SAICM/ICCM.3/7	Financial and technical resources for the implementation of the Strategic Approach
Information documents	
SAICM/ICCM.3/INF/10	UNDP - UNEP Partnership initiative for the integration of the Sound Management of Chemicals (SMC) into Development Planning Processes
SAICM/ICCM.3/INF/11	Compilation of reports from stakeholders on implementation of Strategic Approach financial arrangements
SAICM/ICCM.3/INF/12	Guidance on the Development of Legal and Institutional Infrastructure for Sound Management of Chemicals and Measures for Recovering Costs of National Administration
SAICM/ICCM.3/INF/13	Global burden of disease attributable to chemicals: information provided by the World Health Organization
SAICM/ICCM.3/INF/15	Global Chemicals Outlook
SAICM/ICCM.3/INF/31	National Implementation of SAICM: A Guide to Resource, Guidance, and Training Materials of IOMC Participating Organizations

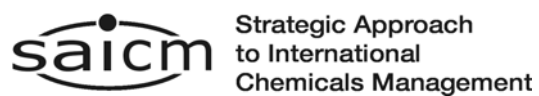
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