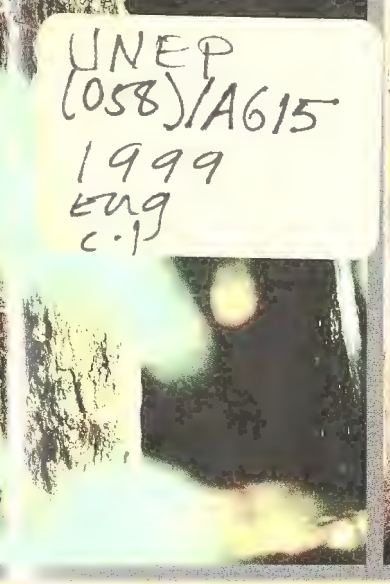
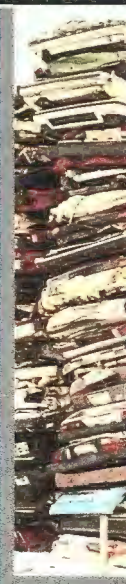
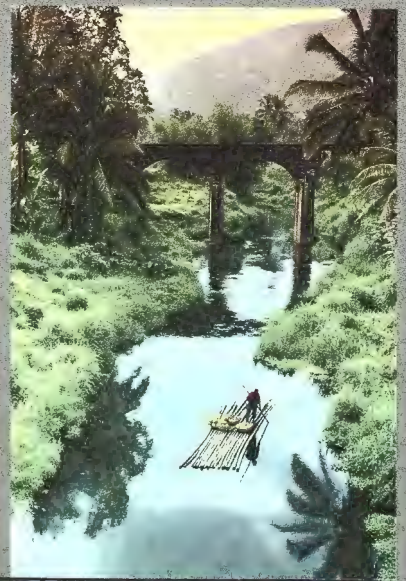


UNEP Annual Report 1999

UNEP
United Nations Environment Programme





UNEP / Mao Jing Hua

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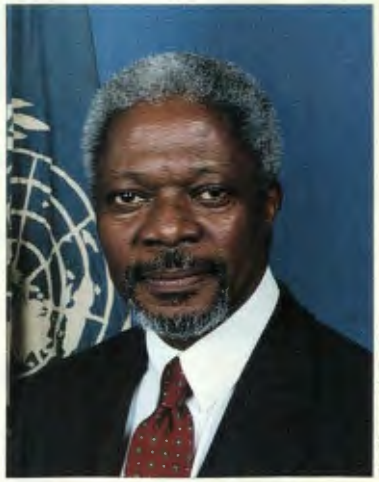
Message from the Secretary-General



UN Photo / M. Grant

Kofi A. Annan
Secretary-General
of the United Nations

The *1999 UNEP Annual Report* is testament to more than a quarter-century of international efforts to create a system of global environmental governance under the aegis of the United Nations Environment Programme (UNEP).

In the course of a short period, extraordinary progress has been achieved. The Montreal Protocol on Substances that Deplete the Ozone Layer, the Convention on Biological Diversity to protect our biological heritage, the Convention to Combat Desertification, the Climate Change Convention and the Rotterdam Convention to control the spread of hazardous chemicals were all products of the determined efforts of the United Nations to fulfil this critical part of its mission. Above all, there has been a revolution in the awareness of the environment's importance for the very existence of the human race. Today, more than ever, there is a global appreciation of the fact that to ensure an acceptable quality of life for ourselves and our children, we must act as responsible stewards of our air, our water and our land.

But much remains to be done. According to the UNEP *Global Environment Outlook 2000* report, the two major causes of environmental degradation are the continued poverty of the majority of the planet's inhabitants and the excessive consumption by the minority. The global environment has never before been under such pressure. On a number of issues, we now face full-scale emergencies.

The human population has reached the 6 billion mark. Almost half of these people live in urban areas, and although rates of urban growth are slowing down, we are still adding 60 million more people to cities every year. Severe water shortages already exist in many parts of the world. About 20 per cent of the human population lacks safe drinking water and 50 per cent have no access to a safe sanitation system. Land degradation has reduced fertility, thereby adding to the difficulties of producing enough food. Eighty per cent of the original forest cover of the earth has already been cleared, fragmented or degraded. Many of the planet's species have already been lost or condemned to extinction. Atmospheric concentrations of carbon dioxide have reached their highest levels for 160,000 years. Indications are that it is too late to prevent global warming, and that many of the targets agreed in the Kyoto Protocol to reduce greenhouse gas emissions will not be met.

Every one of these emergencies demands an effective and concerted response from all of us. In the next 25 years, environmental problems will be even more complex. The choice is clear. We can work together to address these problems today, or we can leave them till tomorrow when at best they will be far more difficult and expensive to solve, and at worst it will be too late. We must work industry by industry, community by community to prevent pollution, rather than clean it up after the fact. And we must involve those who have to live with the consequences of environmental decisions, to ensure that they have every opportunity to be a partner in making those decisions. I am confident that UNEP will play its part in meeting this vital challenge for humanity.

UNEP governing structure

Bureau Members of the UNEP Governing Council as at 20 December 1999

President	Professor László Miklós
Vice-Presidents	H.E. Hon. Jean P. Nsengiyumva; H.E. Mr. Leandro Arellano; H.E. Hon. P. Jan Pronk
Rapporteur	Mr. Hossein Fadaei

Bureau Members of the Committee of Permanent Representatives to UNEP as at 20 December 1999

Chairperson	H.E. Mr. Leandro Arellano
Vice-Chairpersons	H.E. Mr. Isslamet Poernomo; H.E. Mr. Nicolae Coman; H.E. Mr. Philip V. Green
Rapporteur	H.E. Mr. Griffiths M. Memela

Bureau Members of the High-level Committee of Ministers and Officials as at 20 December 1999

Chairperson	Mr. Simon Khaya Moyo (Zimbabwe)
Vice-Chairpersons	Mr. Wang Zhijia (China); Mr. Gonzalo Galdos (Peru); Mr. Jan Szyszko (Poland)
Rapporteur	Mr. Philippe Roch (Switzerland)

Members of the Governing Council of the United Nations Environment Programme

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Argentina *
Austria *
Bahamas **
Belarus *
Belgium *
Benin **
Botswana *
Brazil **
Burkina Faso **
Burundi *
Cameroon *
Canada *
China *
Colombia **
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Slovakia **
Sudan *
Suriname **
Syrian Arab Republic *
Thailand **
Turkey **
Uganda **
United Kingdom**
United State of America *
Venezuela *
Zimbabwe *

* Members whose terms expire on 31 December 2001

** Members whose terms expire on 31 December 2003

Introduction by the UNEP Executive Director


Schaack

Klaus Töpfer
Executive Director
of the United Nations
Environment Programme

The past year represented a milestone in the history of the United Nations Environment Programme. The beginning of the year marked the culmination of a period of review and evaluation when the twentieth session of the UNEP Governing Council endorsed a new vision and direction for the organisation. Having been provided with a clearly defined and strengthened role and mandate, and a strong spirit of rejuvenation, UNEP moved during 1999 to effectively implement its new vision and programme of work. Over the course of the year, UNEP built on its traditional strengths and solidified the institutional and operational modalities needed to position the organisation to meet the evolving challenges and expectations of the new century.

Those challenges, and the work UNEP has accomplished to address them, are detailed in the pages of this annual report. The report is structured on the foundation of five priority areas defined for UNEP by its Governing Council:

- Environmental information, assessment and research, including environmental emergency response capacity and strengthening of early warning and assessment functions.
- Enhanced coordination of environmental conventions and development of policy instruments.
- Fresh water.
- Technology transfer and industry.
- Support to Africa.

These areas of concentration provide a focus for all UNEP work and embody a vision for achieving the goal of long-term sustainable development worldwide. This report reflects that vision. Contained in the following pages is a picture of an organisation with a strong environmental assessment, monitoring and early warning capacity, fully capable of raising awareness and educating about activities that negatively affect the environment. It is a picture of an organisation that not only speaks strongly on behalf of the environment, but which goes well beyond speaking and is truly able to catalyse action. The report shows how, by working closely with governments, other United Nations organisations, the non-governmental community, the scientific community, the business and private sectors and the trade unions, UNEP is helping to achieve real and measurable improvements in the capacity of the Earth's natural resource base to support a decent quality of life for all the planet's inhabitants.

As the United Nations Secretary-General points out in his introductory message, the environmental challenges of the next quarter-century will become even more complex as the world's growing human population places ever-greater demands on the Earth's natural resources. I remain optimistic that we can meet those challenges and reverse the processes that are damaging the environment across the planet. The reasons I am optimistic are twofold. First, it is plain to me that that there is a growing commitment by the governments and people of the world to recognise their responsibility as guardians of the Earth's environment. And, second, I know that the rejuvenated United Nations Environment Programme is equipped to help them turn that commitment into action.

The challenge facing UNEP is to implement an environmental agenda that is integrated strategically with the goals of economic development and social well-being—an agenda for sustainable development.

UNEP in 1999

January: International Group of Experts on Environmental Dispute Avoidance and Settlement, New Delhi, India • 3rd Meeting of the Expanded Bureau to COP-4, Secretariat for the Basel Convention, Geneva, Switzerland • 2nd Session of the POPs Intergovernmental Negotiating Committee, Nairobi, Kenya • **February:** 20th Session of the UNEP Governing Council, Nairobi, Kenya • 4th Intergovernmental Experts Meeting on the Caspian Sea Convention, Baku, Azerbaijan • Extraordinary Meeting of the Conference of the Parties to the Convention on Biological Diversity, Cartagena, Colombia • **March:** 3rd International Working Group Meeting on the Clean Development Mechanism, Paris, France • Inter-Agency Committee for the Climate Agenda (IACCA), Paris, France • World Day for Water • 27th Meeting of the Executive Committee of the Multilateral Fund for the Implementation of the Montreal Protocol, Montreal, Canada • **April:** 15th Session of the Technical Working Group, Basel Convention, Geneva, Switzerland • 2nd Joint Meeting of the Technical Working Group with the Consultative Sub-group of Legal and Technical Experts, Geneva, Switzerland • **May:** 17th Session of the United Nations Commission on Human Settle-ments, Nairobi, Kenya • Meeting of the International Decade for Natural Disaster Reduction, Nairobi, Kenya • Intergovernmental Experts Meeting on the Caspian Sea Convention, Baku, Azerbaijan • **June:** World Environment Day • Intersessional Meeting on the Operations of the Convention on

1999 — a year of positive progress

The past year was one of significant advancement and achievement for the United Nations Environment Programme. In line with the organisation's role as the catalyst for environmental consciousness and action within the United Nations family, UNEP has been able to promote environmental awareness around the globe and ensure that environmental concerns are high on the international agenda.

Two major examples serve to illustrate this point: the establishment of a joint UNEP/UNCHS (Habitat) task force to examine the environmental implications of the Balkans conflict *(see page 5)*, and the publication of the second Global Environment Outlook, *GEO-2000*, an invaluable tool for governments and NGOs needing clear and definitive environmental information.

The year began positively with the convening of the twentieth UNEP Governing Council at UNEP headquarters in Nairobi, between February 1 and 5, 1999. Ministers and senior officials from over 100 countries gave a clear signal that UNEP is, and must continue to be, the guardian of the global environment.

Finance and reform dominated the week-long meeting. Progress was made on both fronts. On finance, governments recognised the need for UNEP to have adequate, stable and predictable financial resources if it is to meet the environmental challenges of the next century. A decision was taken to broaden the funding base, and the Council authorised the UNEP Executive Director's proposal to prepare an increased budget of $120 million for the next biennium, this at a time when other United Nations organisations are faced with decreasing funds.

The Council also gave broad support to the proposed restructuring of UNEP agreed at the Fifth Special Session of the Governing Council in May 1998, which reflected the renewed role and mandate of UNEP embodied in the 1997 Nairobi Declaration.

UNEP / Lucio Contigiani

The restructuring focuses the organisation on five areas of concentration, which form the core of this report:

- Environmental information, assessment and research, including environmental emergency response capacity and strengthening of early warning and assessment functions.
- Enhanced coordination of environmental conventions and development of policy instruments.
- Fresh water.
- Technology transfer and industry.
- Support to Africa.

The Governing Council also called for the increased regionalisation of UNEP programmes. To implement this decision the Division of Regional Cooperation and Representation was established *(see page 7)*. The new structure means that UNEP policy can be more effectively expressed through programmes implemented within the regions and that regional priorities are reflected to a greater degree in UNEP global policy. The regional offices play an integral part in implementing UNEP work in all its areas of concentration.

Commenting after the Governing Council meeting, Klaus Töpfer, the UNEP Executive Director, said: "This session of the Governing Council has been of crucial importance to the future work of UNEP. I asked for practical and psychological support in our efforts to re-orientate UNEP in response to the new challenges and responsibilities before us. I received a clear, strong, positive answer. UNEP is back on the map."

The Balkans Task Force

One of the potentially most enduring features of war is its impact on the environment. Mass movements of refugees, the bombing of industrial facilities, and the possible use of biological, chemical or nuclear weapons are an unavoidable feature of modern armed conflict. In recognition of this, and in line with the role of UNEP within the United Nations family to provide environmental information, monitoring, assessment and early warning, a joint UNEP/UNCHS (Habitat) Balkans Task Force (BTF) was created in May 1999 to carry out a detailed assessment of the impact of the Kosovo conflict on the environment and human settlements.

When NATO air strikes against the Republic of Yugoslavia began on March 24, 1999, alarming reports began to appear about the environmental damage being caused by the bombing. Images of Pancevo and Novi Sad oil refineries on fire, toxic chemicals leaking into the River Danube, and bomb craters in protected areas competed with those of tens of thousands of refugees fleeing their homes in Kosovo. While the immediate humanitarian consequences of the conflict were clear, less clear were the consequences for the environment; many feared widespread ecological problems in the Federal Republic of Yugoslavia and neighbouring countries.

The Kosovo conflict had wide regional impacts: Albania and the former Yugoslav Republic of Macedonia received huge numbers of refugees from Kosovo although they were unprepared for the scale of the influx. Countries downstream along the Danube, especially Bulgaria and Romania, feared the effects of transboundary pollution from targeted industrial facilities. Fires in oil refineries and oil storage depots sometimes lasted for many days, creating clouds of pollution over wide areas.

In Kosovo, Serbian forces systematically emptied and destroyed many towns and villages. The damage to homes, infrastructure, clean drinking water supply and waste systems was obvious. When the Kosovan Albanians fled, much of the documentation setting out legal ownership of land and property was lost or taken by force, complicating their return. Although addressed largely by other United Nations bodies, environmental problems caused by the stream of refugees also became an issue, with sanitation and drinking water services put under enormous pressure in the overcrowded camps.

It was against this background that the Balkans Task Force was asked to assess and report on the conflict's consequences for the environment and human settlements. After carefully studying all the incoming news and information, the BTF decided to concentrate on five areas:

- The environmental consequences of air strikes on industrial sites (field mission).
- The environmental consequences of the conflict on the River Danube (field mission).
- The consequences of the conflict on biodiversity in protected areas (field mission).
- The consequences of the conflict for human settlements and the environment in Kosovo (field assessment and project development/implementation).
- The possible use of depleted uranium weapons in Kosovo (desk assessment).

In its final report, released in October 1999, the BTF concluded that, contrary to initial alarms, the Kosovo conflict did not cause an environmental catastrophe affecting the Balkans region as a whole. Nevertheless, pollution at some sites is serious and poses a threat to human health.

The BTF was able to identify four environmental 'hot spots'—Pancevo, Kragujevac, Novi Sad and Bor—where immediate action and also further monitoring and analysis will be necessary. At all of these sites, environmental contamination due to the Kosovo conflict was identified, though part of the contamination at some sites clearly predates the Kosovo conflict, and there is evidence of long-term deficiencies in the treatment and storage of hazardous waste.

Commenting on the BTF's report, Klaus Töpfer, Executive Director of both UNEP and UNCHS (Habitat), said: "In a post-conflict situation, such a neutral, objective and scientific assessment of the real situation on the ground is essential. The BTF report not only acts as a much-needed and reliable source of information to the peoples affected, but also provides a management tool to the international community for the overall emergency humanitarian effort. It clearly highlights the important links between environmental concerns and humanitarian assistance."

The BTF's full findings are contained in a 108-page report *The Kosovo Conflict: Consequences for the Environment & Human Settlements*, jointly published by UNEP and UNCHS. The report is available from UNEP, or can be downloaded from the BTF Web site at *http://www.grid.unep.ch:80/btf*.

UNEP in 1999

Biological Diversity, Montreal, Canada • World Oceans Day • 1st Meeting of the 10th Meeting of the Parties to the Montreal Protocol, Geneva, Switzerland • 2nd Session of the Criteria Expert Group on POPs, Vienna, Austria • World Day to Combat Desertification and Drought • Joint Session between UNEP Administered Conventions and the WTO Secretariat, Geneva, Switzerland • Special Session of the United Nations General Assembly to Review the Implementation of the Programme of Action of the International Conference on Population and Development, United Nations HQ, New York • **July:** 5th Meeting of the Mediterranean Commission on Sustainable Development, Rome, Italy • Subregional Expert Meeting on Destruction Tech-nologies/ Capacities for PCBs and Obsolete Pesticides, Moscow, Russia • Rotterdam Convention PIC/INC 6, Rome, Italy • 28th Meeting of the Executive Committee of the Multilateral Fund for the Implementation of the Montreal Protocol, Montreal, Canada • **August:** Ad Hoc Working Group of Legal and Technical Experts to Consider a Protocol on Liability and Compensation for Damage Resulting from the Transboundary Movement of Hazardous Wastes and their Disposal, Geneva, Switzerland • **September:** Global Reporting Initiative Meeting, Paris, France • 3rd Session of the POPS Intergovernmental Negotiating Committee (INC), Geneva, Switzerland • International Day for the Preservation of the Ozone Layer • 16th Annual UNEP Consultative Meeting with Industry and Trade

UNEP / T. Oh

The past year was one of significant activity in all UNEP focal areas. The organisation's six divisions, six regional offices and various collaborating centres all contributed to advances and new initiatives within the organisation's mandate of providing leadership and encouraging partnerships to achieve sustainable development without compromising the environment.

Full details of the organisation's work during 1999 appear in subsequent chapters, but some highlights deserve immediate mention. In the area of environmental information, assessment and early warning, the most notable achievement was the launch of the second Global Environment Outlook report, *GEO-2000*. *GEO-2000*, which will be available in the six United Nations languages, is a comprehensive policy-relevant report on the state of the global environment, and an authoritative assessment of the environmental crisis facing humanity. The report also sets out recommendations for immediate and integrated action. The report generated extensive global media interest, with major press, radio, TV and Internet coverage helping bring environmental concerns to the forefront of world attention. A youth version of *GEO-2000*, entitled *Pachamama: Our Earth - Our Future*, was launched at the Millennium Young People's Congress in October 1999.

Meshing the priority areas of environmental assessment and water, UNEP initiated the Global International Waters Assessment (GIWA). The main objective of GIWA is to develop a comprehensive strategic assessment to identify priorities for remedial and mitigatory actions in international waters. The project, which includes marine and fresh water, will identify not only existing and emerging ecological problems in transboundary waters but also their societal root causes and the barriers to be overcome. GIWA also addresses the assessment needs of other UNEP activities in the field of water, such as the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (GPA) and the Regional Seas Conventions and Action Plans *(see pages 28–33).*

Changes in the global environment do not respect national boundaries. They represent one of the most critical challenges of globalisation. This is why UNEP places such high priority on promoting multilateral environmental conventions.

One example of the validity of this approach is the progress made towards reversing the destruction of the ozone layer. The success of the Montreal Protocol on Substances that Deplete the Ozone Layer *(see page 25)* is now universally acclaimed. When the alarm was raised, UNEP, with its partners, catalysed awareness, marshalled the evidence, suggested options and provided a platform to governments for common action. Technologists and industry provided the solutions, and the world's governments, through their focused implementation of the ozone treaties, made possible the enormous strides of the last ten years. The industrialised countries have almost phased out their consumption of chlorofluorocarbons (CFCs) and world consumption has come down by more than 85 per cent since 1986.

This year saw a landmark in the history of the Montreal Protocol. From 1999 onwards the developing countries will begin to implement their commitments under the Protocol with a freeze on the production and consumption of CFCs. Central to the success of the Protocol is the Multilateral Fund. The Multilateral Fund is a convincing illustration of "common but differentiated responsibilities". It is the basis of a new form of international cooperation. Since 1991, the Fund has spent over $1,000 million on helping reduce the production and use of CFCs and other harmful substances in over 110 developing countries.

The funds are used to support the adoption of more ozone-

friendly technologies for refrigerators, air conditioners and other consumer products and industrial processes. In Beijing, on December 3, 1999, officials from 129 governments agreed on a multi-million dollar further funding package—the fourth replenishment of the Fund—to enable developing countries to maintain the momentum of their efforts to phase out CFCs and other ozone-depleting substances. The agreed funding provides for a total budget of $475.7 million for the three-year period 2000–2002. The real countdown towards a global phase-out has now started.

The Montreal Protocol is just one of many multilateral environmental agreements administered by UNEP whose successful implementation will enhance the lives of the world's people and the environment on which they depend. Other examples, which are dealt with fully in subsequent chapters, include current or still-to-be-negotiated agreements on climate change, regional seas, biological diversity, desertification, persistent organic pollutants and cleaner production.

1999 saw the tenth anniversary of the adoption of the Basel Convention on the Control of the Transboundary Movement of Hazardous Wastes and Their Disposal. Adopted in 1989, the Basel Convention entered into force in 1992. It regulates the movement of the hundreds of millions of tons of hazardous wastes produced each year, and obliges its members—132 countries and the European Union—to dispose of them in an environmentally sound manner. In the Basel Convention's tenth anniversary year its Parties achieved a significant breakthrough when they adopted a protocol addressing who is financially responsible for accidental spills of hazardous waste during import and export.

Persistent organic pollutants (POPs) are the focus of another major UNEP initiative that made progress in 1999. Persistent organic pollutants are toxic chemical substances that persist in the environment and bioaccumulate through the food web. These substances are now being found in regions where they have never been used or produced and pose a risk to human health and the global environment. The international community has called on several occasions for urgent global action to reduce and eliminate releases of these chemicals.

In September 1999, governments convened in Geneva for the third round of talks on a legally binding global treaty to reduce and/or eliminate POPs. One hundred and fifteen countries took

Addressing regional priorities

UNEP programmes are increasingly implemented through its six regional offices located in Africa, Asia and the Pacific, Europe, Latin America, North America and West Asia. These offices fall within the new functional organisational structure, the Division of Regional Cooperation and Representation, which UNEP established in 1998 in response to growing calls for increased regionalisation of its activities.

1999 saw this division establish itself, working out the operational measures needed to fulfil its role, and developing new methods of cooperation with the other divisions of UNEP to ensure that regional priorities get adequate representation in global work programmes and that the global foci are reflected in environmental work at all levels in the regions.

The regional offices are of crucial importance to UNEP, providing the ears and voice for each different region. They reflect regional environmental concerns and developments to headquarters and project UNEP policy priorities and goals to the various regional and subregional groupings. They serve as coordination offices and host outposted staff, especially in the fields of industry, assessment and law, for other divisions. They also play an important role in UNEP activities in relation to conventions and legal instruments concerned with the environment. Regional offices serve as catalysts, coordinators, facilitators and mobilisers of resources. Regional directors represent UNEP in the regions and have the flexibility to adapt global environmental policy to regional priorities and needs.

A major function of UNEP regional offices is liaising with major organisations and other


UNEP

international bodies. This is particularly true in North America, for the US Administration and Washington-based organisations, and in Europe for the European Union and Geneva-based international organisations.

The role of the regional offices has always been to focus on leadership, planning and supporting UNEP programme implementation. The new division reaffirms and strengthens this role. Particular priority in the work programme is given to initiating, maintaining and strengthening partnerships with regional and subregional intergovernmental fora. In some cases, the regional office functions as the secretariat for important regional fora, in others UNEP is a partner.

An important aspect of the new structure is that regional experience is more effectively shared among regional offices. For example, experience with supporting the Forum of Ministers of the Environment in Latin America and the Inter-agency Technical Committees serves as a model for other regions. Similarly, experience in Asia and the Pacific with regional assessment centres serves to assist the replication of such centres elsewhere.

UNEP / Paiboon Pattanasitubol

The Global Environment Facility

The Global Environment Facility (GEF) is a joint partnership between UNEP, the United Nations Development Programme (UNDP) and the World Bank to forge international cooperation and to finance actions that address biodiversity loss, climate change, international waters, and ozone depletion within the framework of sustainable development.

1999 was an important year for UNEP activities within the GEF. The twentieth session of the UNEP Governing Council and, subsequently, the thirteenth session of the GEF adopted the UNEP/GEF Action Plan on Complementarity, a blueprint to ensure that the GEF programme of work builds on UNEP's regular work programme, thus making the two complementary to one another and much stronger. This year also saw the adoption of the initial activities of a UNEP/GEF strategic partnership. The partnership builds on the long experience UNEP has in managing global environmental knowledge, its environmental outreach, particularly where it mobilises the scientific community, and its ability to assess and analyse GEF programmatic gaps.

In 1999, UNEP facilitated the development and submission for GEF funding of projects that focus on environmental assessment, the development and demonstration of tools and methodologies for improved environmental management, and the management of transboundary ecosystems. UNEP projects adopted into the GEF work programme in 1999 attracted GEF financing totalling $9.64 million, including a Special Initiative for Africa on Land and Water. The overall UNEP portfolio of GEF-funded activities comprises 29 full-size projects, 13 medium-sized projects, 67 recipients of project development funds, and 68 enabling activities, with a total GEF allocation of $177.92 million.

A highlight of 1999 was the inauguration of several strategic projects that will help countries predicate actions on a sound scientific footing. In line with the environmental assessment and analysis role of UNEP within the GEF, the Global International Waters Assessment (GIWA) was launched to identify the root causes of the degradation of transboundary waters. A prototype for the Millennium Ecosystem Assessment was also developed along similar lines.

The past year also saw a UNEP proposal for a regionally based assessment of persistent toxic substances adopted into the GEF work programme. Also adopted was the preparatory phase of a global solar and wind resource assessment facility. These assessments will help countries identify priority areas for further intervention.

In carrying out the UNEP responsibility for ensuring the scientific underpinning of GEF activities, the GEF Scientific and Technical Advisory Panel (STAP), for which UNEP provides the secretariat, convened brainstorming sessions on issues where the GEF needs scientific and technical advice regarding its potential interventions. These included workshops with the scientific community to improve the integration of science and technology into GEF operations, and workshops on fresh water resources in sub-Saharan Africa, land degradation, taxonomy, green certifiers and biodiversity conservation in production forests. In addition, STAP undertook to review a selective number of GEF-funded projects under implementation, particularly those focusing on agrobiodiversity and biosafety.

Full details of UNEP work within the Global Environment Facility and of the Action Plan on UNEP-GEF Complementarity are available from the UNEP-GEF Coordination Office, P.O. Box 30552, Nairobi, Kenya; e-mail: gefinfo@unep.org. The GEF Web site is at *http://www.unep.org/gef.*

part in the Geneva session, working with 17 intergovernmental and 72 non-governmental organisations. They built on the foundation for a treaty laid at the First Session in Montreal in 1998 and the Second Session in Nairobi in January 1999. These negotiations respond to the mandate from the UNEP Governing Council to reach agreement on a global treaty on POPs in 2000.

The important role UNEP plays in developing international law to underpin treaties such as that being negotiated on POPs was expressly recognised by the Governing Council. UNEP was active throughout 1999, not only in developing international environmental law, but in helping develop and strengthen national environmental legislation and building capacity in developing countries and countries with economies in transition. Towards this goal UNEP organised or participated in numerous symposia and workshops in Africa, Asia and the Pacific, Europe, and Latin America and the Caribbean, as well as giving other practical support. One example comes from a UNEP/UNDP/Netherlands Joint Project on Environmental Law and Institutions in Africa that helped draft various national environmental laws in Mozambique, Malawi, Burkina Faso and Kenya.

Support for Africa is a major priority for UNEP. Africa faces some of the world's most severe environmental challenges, challenges which will only increase in the face of global phenomena like climate change. Yet, as a region, Africa has the most limited institutional, human and financial resources for dealing with them. As well as directing appropriate support to Africa under its global priorities—for instance through international conventions on biological diversity, desertification, marine resources and fresh water—UNEP also affords Africa special individual attention. An example is the GEF Special Initiative for Africa on Land and Water, which was endorsed by the thirteenth GEF Council in May 1999.

As part of its emphasis on partnerships, UNEP also organised a meeting in September 1999 to strengthen collaborative links with African non-governmental organisations (NGOs). UNEP's support for Africa was reiterated and an invitation was extended to NGOs to help UNEP implement its African initiatives.

UNEP support for Africa is also demonstrated, in both a practical and symbolic sense, by its location. For the past quarter-century both UNEP and UNCHS (Habitat) have been based in the suburbs of Nairobi, Kenya. Addressing Kenya's President Daniel arap Moi at the high-level segment of the Governing Council meeting in February 1999, UNEP Executive Director, Klaus Töpfer, stressed the message that the UNEP location is an asset, not a barrier, to the organisation's work. "Over the last few years, the United Nations presence in Kenya has grown. Today, the extended United Nations family in Kenya is not only represented by its 3,600 personnel but also by more than 81 missions representing their respective countries to UNEP and Habitat. The economic, social and environmental challenges that Kenya is tackling today are common to many countries of the developing and developed world.... I would like to reiterate that we are proud to be headquartered in the developing world."

UNEP / Louth Abou-Zeid

UNEP in 1999

Associations • **October:** Africa Region Special Session on the Clean Development Mechanism, Nairobi, Kenya • Expert Consultation on Coral Bleaching, Manila, Panama • 4th International Business Forum: Sustainable Consumption and Production, Berlin, Germany • International Day for Natural Disaster Reduction • World Food Day • 6th High Level Seminar on Cleaner Production, Montreal, Canada • International Day for the Eradication of Poverty • 5th Session of the Conference of the Parties to the United Nations Framework Convention on Climate Change, Bonn, Germany • **November:** 4th Meeting of the UNEP High-Level Committee of Ministers and Officials, Bonn, Germany • 9th Meeting of the Convention on Migratory Species Scientific Council, Cape Town, South Africa • 3rd Session, Conference of the Parties to the United Nations Convention to Combat Desertification, Recife, Brazil • 4th Global Training in Environmental Law and Policy, Nairobi, Kenya • Global Biodiversity Outlook Advisory Group, Geneva, Switzerland • 29th Meeting of the Executive Committee of the Multilateral Fund for the Implementation of the Montreal Protocol, Beijing, China • 11th Meeting of the Parties to the Montreal Protocol and the 5th Conference of the Parties, Beijing, China • **December:** 5th Meeting of the Expanded Bureau to COP4 of the Basel Convention, Basel, Switzerland • 5th Conference of the Parties to the Basel Convention, Basel, Switzerland • International Biodiversity Day

- Environmental information, assessment and research
- Environmental conventions and policy development
- Trade, industry and technology transfer
- Fresh water
- Support to Africa

Targeting environmental priorities

Environmental assessment and early warning

A solid factual basis is the foundation for any wise decision or agreement on environmental action. This is reflected in the twentieth UNEP Governing Council's decision to endorse environmental information, assessment and research, including environmental emergency response capacity and early warning, as one of the five UNEP priority areas of concentration.

A core mandate for UNEP is to set the strategic direction of the United Nations system in the field of environment. Failure to forecast and prepare for the environmental problems of the twenty-first century will cause grave economic damage and loss of life. Monitoring and assessment are also needed to formulate policies that will reverse global environmental decline at the global and regional level.

One of the primary tools available for understanding the environmental crisis facing mankind, anticipating problems and recommending strategies for coping with them is the Global Environmental Outlook (GEO) series. The second GEO report, *GEO-2000*, was launched in London in September, 1999. As well as the main 400-page overview, available in print and on the Internet, the *GEO-2000* series includes three regional reports focusing on Small Island Developing States, a series of technical alternative policy studies, and *Pachamama*, a youth version of the report aimed at 11 to 14 year-olds.

GEO-2000 is the culmination of two-and-a-half years' work involving 30 specialised collaborating centres and consultations with governments and other groups. Over 850 individuals from more than 100 countries contributed and reviewed drafts. Through this participatory approach, GEO reflects a definitive perspective of the environment globally and regionally. *GEO-2000* highlights the looming environmental threats facing the world and presents, by region, a series of alternative policies that can be implemented on a global, regional and national level, to mitigate and reverse the trends of environmental destruction *(see page 12)*.

Another report published in 1999, *Environmental Conditions, Resources, and Conflicts: An Introductory Overview and Data Collection*, highlights the proposition that international and intranational conflict appears to be increasingly linked to deteriorating environmental conditions and resources. The report provides a concise overview of the elements of environment-related conflict as a basis for a better understanding of an increasingly complex field. An understanding of the principles presented in the report should help prevent or resolve conflicts.

UNEP / Kurt Adams

"Environmental issues are best handled with the participation of all concerned citizens, at the relevant level. At the national level, each individual shall have appropriate access to information concerning the environment that is held by public authorities, including information on hazardous materials and activities in their communities, and the opportunity to participate in decision-making processes. States shall facilitate and encourage public awareness and participation by making information widely available...."

Rio Declaration on Environment, Principle 10.

Environmental information

The ready availability of relevant scientific and technical information for use by governments, NGOs, academia, industry and individuals is crucial to combating environmental deterioration. Helping fulfil this function is the UNEP global environmental information exchange network, INFOTERRA.

The INFOTERRA network is currently undergoing reform to ensure better public access to information, thereby increasing the public's ability to participate in environmental decision-making. The network operates through a system of 177 government-designated national focal points that act as coordinators for national environmental consortiums and serve the needs of national environmental information centres. The primary function of each centre is to provide access to national environmental information collections and distribution services.

INFOTERRA focal points provide a wide range of environmental information products and services including environmental bibliographies, directories of information sources, query-response services, environmentally relevant literature and access to Internet services. The INFOTERRA secretariat at UNEP headquarters supports the national focal points by providing policy guidelines and technical services, and publishing reference tools such as the *EnVoc Multilingual Thesaurus of Environmental Terms*, a directory of information sources, training manuals, source books and promotional materials. A capacity-building programme provides assistance to focal points in developing countries.

By helping raise environmental awareness and develop formal information structures at the national level to enable the public and major groups to engage in environmental decision-making, INFOTERRA's work is central to the promotion of Principle 10 of the Rio Declaration on Environment and Development. The same principle lies behind the UNEP Environmental and Natural Resources Information Networking (ENRIN) programme. ENRIN, which is implemented by outposted regional coordinators, focuses on developing countries in Africa, Asia and the Pacific, Latin America and the Caribbean, and countries with economies in transition in Eastern Europe. ENRIN's role is to enhance the institutional capacities of national agencies and appropriate sub-regional intergovernmental organisations to carry out environmental assessment and reporting, and to create, improve or manage databases.

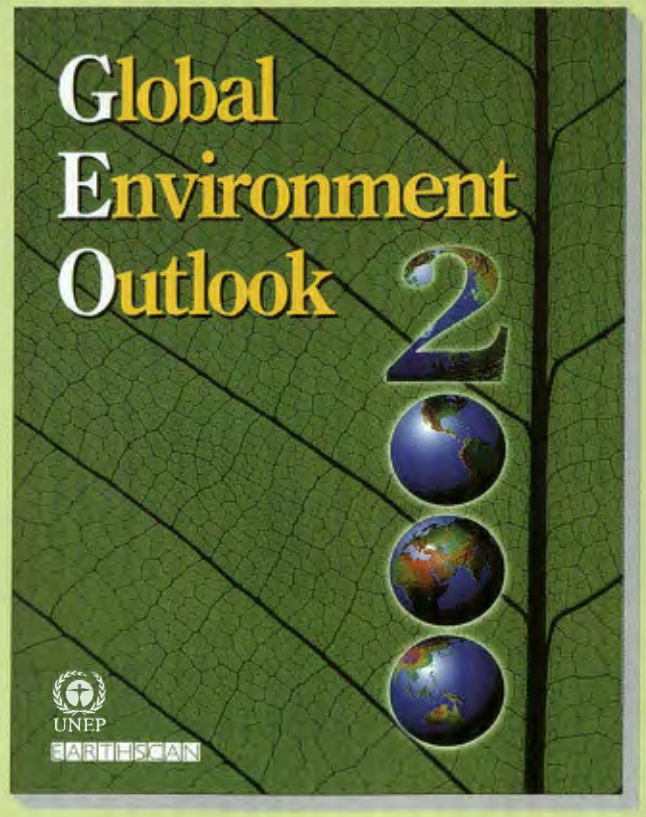
UNEP / Gernigon-Sychalowicz

State of the environment reporting is also behind an ongoing partnership between UNEP, international organisations, the space agencies, funding agencies, international research programmes and the scientific community to develop an Integrated Global Observing Strategy (IGOS). IGOS will plan and coordinate observations of the planetary environment from in space and *in situ*.

Central to the assessment and information function of UNEP is the Global Resource Information Database (GRID). The UNEP-administered network of 15 GRID centres improves access to the spatial and geographic environmental data and information that underpins global assessment. For the GEO process, GRID centres compile and aggregate globally compatible data. In cooperation with UNEP regional assessment activities, GRID centres assist governments to coordinate and prepare national environmental assessments and state of the environment reports. Many of these reports are in the mould of the GEO report and can therefore feed into the global assessment.

The INFOTERRA network can be contacted through the UNEP Web site: *http://www.unep.org/infoterra.*

GEO 2000



UNEP launched the Global Environment Outlook (GEO) Project in 1995. GEO has two components. First, there is a cross-sectoral, participatory global environment assessment process that incorporates regional perceptions and builds consensus on priority issues and actions through dialogue among policy makers and scientists at regional and global levels. Second, there are the GEO outputs. The outputs for *GEO-2000* include the main book plus technical reports, companion regional reports, alternative policy studies, a Web site, a CD-ROM and a publication, *Pachamama*, aimed at young people.

The message of *GEO-2000* is clear: "The continued poverty of the majority of the planet's inhabitants and excessive consumption by the minority are the two major causes of environmental degradation. The present course is unsustainable, and postponing action is no longer an option." According to a survey conducted for GEO by the International Council for Science's Scientific Committee on the Problems of the Environment, the most pressing environmental issues of the next decade will be water shortages and global warming. Desertification and deforestation were also frequently cited concerns.

The statistics are sobering.

- Greenhouse gases have quadrupled since 1950. Motor vehicles—a major contributor of greenhouse gases—have increased from 40 million to 680 million since World War II. Eight of the last eleven years were the hottest on record.
- One in five of the planet's human population—generally the poorest—lack access to safe drinking water. One half have no access to safe sanitation. If current trends continue, two out of every three people on Earth will live in water-stressed conditions by 2025.
- While the human population continues to increase, the amount of available cropland per person is 25 per cent less than it was in 1975. Land degradation is reducing fertility; meanwhile we are adding more and more chemicals to the soil to compensate.
- About 80 per cent of the Earth's forest cover has been cleared, fragmented or degraded. Nearly 40 per cent of remaining forests are imminently threatened.

The list can, and does, go on. But, while one of the strengths of the GEO process is its detailed and unflinching portrayal of the current state of the environment, it goes much further. It illustrates and examines progress that has been made, and, through its extensive collaborations worldwide, makes recommendations for alleviating and reversing the environmental crises anticipated in the report.

A second message to be gleaned from *GEO-2000* is that the global system of environmental management is moving in the right direction, though much too slowly. It also notes that effective policy instruments already exist to take us on the path to sustainability. However, the report also shows that we still lack a comprehensive view of the interactions and impacts of global and regional environmental processes. To break the pattern of environmental decline and to promote sustainability the report makes recommendations for future action focused on four areas:

- Filling knowledge gaps. Information on the state of the environment is riddled with weaknesses, as is our understanding of the effects of environmental policies.
- Tackling the root causes of environmental problems with policies targeting consumption and production drivers, population growth etc.
- Taking an integrated approach to environmental thinking.
- Mobilising action from all levels of society.

GEO-2000's recommendations are a reinforcement of Agenda 21's call for environmental integration. "The environment remains largely outside the mainstream of everyday human consciousness and is still considered an add-on to the fabric of life", the report says. Institutions such as national treasuries, central banks, planning departments and trade bodies frequently ignore sustainability questions in favour of short-term economic options. "Better integration of environmental thinking into the mainstream of decision-making relating to agriculture, trade, investment, research and development, infrastructure and finance is now the best chance for effective action."

GEO-2000 is published by Earthscan Publications Ltd. (e-mail: *earthinfo@earthscan.co.uk)* and distributed by SMI Distribution Services Ltd. on behalf of UNEP. *GEO-2000* is also accessible on *http://www.unep.org/geo2000.*

Polar assessment

UNEP is responsible for pioneering work in polar information and assessment. The Arctic and Antarctic play a significant role in the dynamics of the global environment and act as barometers of global change. Both areas are mainly affected by events outside the polar regions. Polar ice caps, shelves and glaciers are melting as a result of global warming and both regions act as sinks for persistent organic pollutants, heavy metals and radioactivity. Some of the highest levels of cadmium ever recorded in birds have been found in ptarmigan from northern Norway and the Yukon Territory in Canada. UNEP has designated GRID-Arendal, Norway, as a key centre for polar environmental assessment and early warning, with a particular focus on the Arctic.

Human activities in Antarctica are primarily regulated by the multilateral agreements of the Antarctic Treaty System, in particular the Antarctic Treaty itself and its Madrid Protocol on Environmental Protection. In order to keep the international community informed on the activities of the Antarctic Treaty Parties, the United Nations was requested to serve as a neutral channel to provide information on Antarctic activities. To this end, the United Nations Secretary-General regularly reports to the General Assembly on Antarctica, usually every three years. These reports are prepared by UNEP. The November 1999 report concludes that "designated as a natural reserve, devoted to peace and science, Antarctica is the scene of successful international cooperation in research, in particular in connection with the study of global changes", but stresses that there are issues of concern. These issues include unreported, unregulated and illegal fishing for toothfish in the Southern Ocean, difficulties in reaching an agreement on a liability regime for environmental damage, and the risk presented by the growing tourism industry to Antarctic marine and terrestrial environments.

Response to environmental emergencies

UNEP technical experts were busy throughout 1999 responding to environmental emergencies. Some, like the earthquake in Turkey and the NATO bombardment of the Republic of Yugoslavia, were not environmentally caused, though they still had massive impact on the environment and human settlements. Increasingly, though, the world is witnessing more frequent and more severe natural disasters directly applicable to environmental causes, especially global climate change.

In December 1999, two weeks of torrential rain in Venezuela caused the deaths of 50,000 people and made a further 200,000 homeless. Earlier in the year a cyclone killed 10,000 people in Orissa, India, and the largest hurricane in recorded history threatened to wreak havoc on the eastern seaboard of the United States. While the main answers to such phenomena are global, with the onus on the global community to come up with solutions for global warming, for instance, local actions can help mitigate the effect of natural disasters. Over the past year studies carried out by UNEP and UNCHS (Habitat) have shown that the intensity of natural disasters is exacerbated by unsustainable environmental practices, including deforestation and poor management of water resources.

Another factor liable to mitigate the extent of natural disasters is preparedness. UNEP is finalising a new Environmental Observing and Assessment Strategy that emphasises partnerships with many organisations to improve observing and assessment processes so that early warning can be given of imminent environmental problems. The strategy has already attracted significant support from the United Nations Foundation. UNEP is also preparing a comprehensive strategy on environmental emergencies in close consultation with the Office for the Coordination of Humanitarian Affairs, UNDP, the International Decade for Natural Disaster Reduction, UNICEF and leading NGOs such as IUCN and WWF.

UNEP / Ernest Duebendorfer

UNEP / Nigel Dickinson

Flood survivors in the Philippines. Natural disasters appear to be increasing in frequency and severity. They are exacerbated by rural-urban migration and the largely unplanned expansion of urban areas.

The Earth's biological diversity is increasingly under threat. A quarter of the planet's known mammals and 11 per cent of its birds are at risk of extinction. Many of these species are forest-dwellers. UNEP provides assessment and secretariat support to a range of multilateral agreements and conventions designed to slow the rate of forest destruction and species extinction.

UNEP / Luis Pinto

UNEP also received funding from the United Nations Foundation for a project aimed at improving early warning and preparedness for El Niño Southern Oscillation (ENSO) events. ENSO is a regular change in weather conditions resulting in droughts, floods or severe storms that are unseasonal to the location in which they occur. The 1997–8 El Niño was responsible for massive floods in China, Hurricane Mitch, which devastated Honduras, and the prolonged forest fires in Indonesia.

Forest assessment

Millions of hectares of forest are lost each year. For example, since 1950, West Africa's tropical forests have declined by nearly 75 per cent. Thailand lost a third of its forests during the 1980s alone. The impact of these losses on the global environment and on human lives—some 500 million of the world's poorest people live on the edge of tropical forests—is profound. The world's forests absorb carbon dioxide, provide water catchment services, conserve soil, harbour enormous biological diversity and help control international weather patterns, yet they are being exploited far beyond their ability to reproduce.

Over the past two years, many small-scale wildfires have quickly escalated into large-scale, uncontrolled disasters, with enormous environmental and human consequences. For instance, the gaseous and particulate emissions from the 1998 fires in Kalimantan and Sumatra in Indonesia significantly exceeded emissions from the Kuwaiti oil fires of 1991. These facts were part of a 1999 UNEP report *Wildland Fires and the Environment: a Global Synthesis,* which gives an overview of the causes and impacts of widespread forest and other wildfires and provides information on ways to respond to them.

UNEP continues to pay attention to the forest fire situation in Southeast Asia and to provide technical assistance to the countries affected by fires and haze. In the past twelve months, UNEP has provided support to the ASEAN Regional Haze Action Plan. The requested assistance included aerial fire surveillance, high resolution satellite imagery for early warning, Geographical Information Systems databases, video conferencing for the early warning system, and public awareness, education and training under the ASEAN Immediate Action Plan for Prevention and Control of Land and Forest Fires and Haze.

UNEP was also part of a joint initiative with various NGOs and the Government of Costa Rica to convene a global workshop

UNEP

in January 1999 to explore the underlying causes of forest degradation. A comprehensive international consultation process, supported by indigenous peoples, with technical and financial support from UNEP, preceded the workshop. The workshop was part of actions called for by the United Nations Commission for Sustainable Development Intergovernmental Panel on Forests, of which UNEP is the lead coordinating organisation in the implementation of the Proposals for Action on Underlying Causes of Deforestation and Forest Degradation.

Assessing biological diversity

Forests are the world's main repositories of biological diversity. Although moist tropical forests cover only some 8 per cent of the Earth's surface they hold over 90 per cent of the world's estimated 1.7 million described species of flora and fauna. Therefore, addressing deforestation is crucial to protecting the planet's biological diversity. But it is not only in wild ecosystems that biodiversity is threatened. It is now generally agreed that the wide genetic diversity of domestic animals is rapidly disappearing. About 30 per cent of the 5,000 domestic breeds are in danger of extinction; 80 per cent of them are in developing countries. The genetic diversity of our major crop plants is also disappearing. Local plant varieties are being replaced by imported or improved high-yielding varieties and the original genes are either diluted or lost, thus destroying the genetic resource from which the new varieties were developed.

UNEP is working to address the forces that threaten biological diversity, such as international trade in wild species and the increasing use of genetic modification in agriculture. Central to UNEP efforts is biodiversity assessment. Along with IUCN and WWF, UNEP sponsors the World Conservation Monitoring Centre (WCMC) in Cambridge, UK.

WCMC is a world centre of biodiversity information. Recognising the need for an integrated centre that can bring together and evaluate biological resources worldwide and enhance capacities to handle such information at global, regional and national levels, with particular reference to the needs of developing countries, UNEP, along with IUCN and the Government of the United Kingdom, has proposed reconstituting WCMC as a new UNEP world biodiversity and assessment centre.

It is proposed to expand WCMC's role in advice, technical assistance and training to further the biodiversity data gathering and information handling capacities of developing countries and to encourage the centre to negotiate agreements with relevant international conventions such as the Convention on Biological Diversity, the Convention on Trade in Endangered Species, the Convention on Migratory Species, the Ramsar Convention on Wetlands and the World Heritage Convention. Initial activities include work to protect aquatic biodiversity, with a focus on sea grasses, coral reefs and marine mammals.

UNEP / Antonio G. S. Fernandes

Networking for the environment

Mercure

Integral to UNEP's capacity to network efficiently and provide environmental information is the Mercure satellite communications system, for which UNEP has been responsible since April 1998. Mercure provides global environmental telecommunications by linking 16 earth stations around the world to INTELSAT satellites.

Mercure was donated to UNEP by the European Space Agency member states: Austria, Belgium, Norway, Spain, Switzerland and the United Kingdom. Mercure is not just a system for UNEP—most of the stations are found in Environment Ministries (or the equivalent) of developing countries and countries with economies in transition.

Over 5,000 people now depend on Mercure for day-to-day dissemination of environmental information amongst partner locations. The Mercure system carries Internet, World Wide Web and e-mail traffic, and increasing fax traffic, into and from UNEP's Nairobi headquarters.

Mercure now also provides high-speed digital video conferencing between Nairobi and the world. It is already used by meetings of high-level management of UNEP and UNCHS (Habitat), as well as ordinary programme officers, and could in future provide remote interpretation as well. The videoconference system has also been extended to all UNEP regional and outposted offices.

By using off-the-shelf technology and non-proprietary standards UNEP is ensuring that these partners can reach information sources worldwide, not just those of UNEP. This is especially relevant to the functioning of the UNEP environmental Internet, "UNEPnet".

UNEPnet

UNEPnet is a portion of the global Internet operated and managed by UNEP for environmental information exchange and dissemination.

UNEPnet links over 20 locations and provides them with specialised facilities designed to make it easier to publish, locate and retrieve environmental information. This includes information locator systems that link, through the use of common standards, vast holdings of environmental data found in USA, Europe, Japan and elsewhere. The developing country environmental practitioner with access to UNEPnet/Mercure is not one of the world's "information poor".

Many of the operations and management activities of UNEPnet are carried out at the UNEPnet Implementation Centre in Arendal, Norway. This centre was set up as a 5-year co-funded operation by UNEP and the Government of Norway, and is a key example of the type of continuing support from donors and others which UNEPnet and Mercure continue to attract. The governments of Switzerland and the Netherlands are both providing staff for these activities. The European Space Agency continues to fund collaborative projects to demonstrate and enhance the utility of UNEPnet/ Mercure. The German government has donated software that is now being further enhanced through work funded by the European Commission.

UNEP continues to seek partners for extending UNEPnet/Mercure services to new partners: candidates include Uganda, Mongolia, the Southern African region and the small-island states of the Pacific.

Environmental law

The foundation of any successful international, regional or national initiative on environmental protection is consensus, backed up by law. This principle is reflected by the twentieth UNEP Governing Council's emphasis that the development and coordination of environmental policy instruments be one of the five UNEP areas of concentration.

For much of the past two decades, UNEP strategy for developing environmental law has been guided by the Montevideo Programmes for the Development and Periodic Review of Environmental Law. The current Montevideo Programme II contains objectives, strategies and activities for 18 programme areas for the 1990s. In February 1999, the UNEP Governing Council called for preparations for a third Montevideo Programme to guide strategies for the first decade of the new millennium. In January 2000, international experts convened to identify the possible contents of Montevideo III. Their recommendations were that its focus should be on the implementation of existing multilateral environmental agreements while not shutting the door on the selective development of new instruments. A draft programme for Montevideo III will be submitted to the UNEP Governing Council at its twenty-first session scheduled for February 2001.

UNEP / Christian Ziegler

A forest fire in Southeast Asia. UNEP is working with ASEAN member nations to develop a legally binding framework to combat the increasing problem of wildfire-related transboundary haze pollution.

Environmental policy and implementation

UNEP was active throughout 1999 in helping develop international capacity in the field of environmental policy. In November, UNEP hosted the fourth Global Training Programme on Environmental Law and Policy. The three-week programme brought together 50 experts from 50 developing and industrialised countries and those with economies in transition. The focus of the programme was to familiarise participants with legal and institutional developments in environmental law at the national, regional and global level, and to promote greater interest in and commitment to using environmental law to translate sustainable development policies into actions.

Environmental crime was the focus of a workshop in Geneva in July aimed at identifying stricter measures to combat the flourishing illegal trade in endangered species of flora and fauna, ozone-depleting substances and hazardous wastes. The need for greater emphasis on enforcing multilateral environmental agreements and detecting and prosecuting violators is illustrated by the fact that, despite a ban on the production of ozone-depleting substances and controls on their importation by developed countries, there is an active black market. Black markets also exist for numerous wildlife products, and the illegal disposal of hazardous wastes appears to be increasing.

Transboundary air pollution is high on the environmental agenda. However, only in Europe has that concern been translated into international action with the 1979 Convention on Long-Range Transboundary Air Pollution. So it was a major step forward when UNEP was asked to help the Association of Southeast Asian Nations (ASEAN) to establish a legally binding agreement on transboundary haze pollution. After the extreme pollution of 1998, forest fires again caused haze in the region in 1999; conflagrations were reported in Sumatra, Kalimantan and some parts of Malaysia. Success with an ASEAN agreement could lead to a framework for a wider international legal mechanism to combat transboundary air pollution in the Asia-Pacific region.

Also in Southeast Asia, UNEP, in partnership with UNDP, the Supreme Court of the Philippines and the Hanns Seidel Foundation, organised a symposium for Southeast Asian justices on The Law on Sustainable Development. The symposium concluded with the Manila Resolution, which called upon the region's governments to sensitise their judiciaries on their role in sustainable development.

Greenhouse gases and climate change

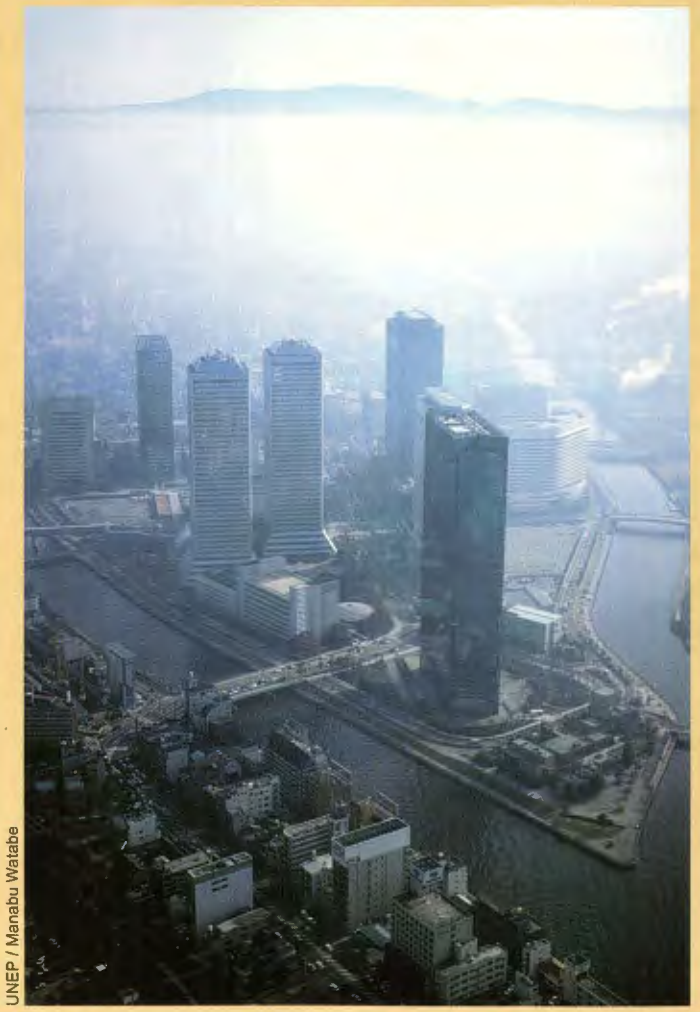
Climate change will be the top environment issue of the twenty-first century, according to a survey of some of the world's top scientists conducted by the International Council for Science for *GEO-2000*. Driving climate change is the steady increase in emissions of greenhouse gases such as carbon dioxide, methane and nitrous oxide. Carbon dioxide is responsible for over 60 per cent of the enhanced greenhouse effect, which is responsible for climate change. This gas occurs naturally in the atmosphere, but burning coal, oil and natural gas is releasing the carbon stored in these fossil fuels at an unprecedented rate in human history.

Over the past decade, carbon dioxide emissions have increased by 1.3 per cent a year—nearly 300 million tonnes. Annual global emissions are now over 24,000 million tonnes. An exacerbating factor is accelerating forest destruction. Annual forest losses in developing countries amount to over 13 million hectares.

The 1992 United Nations Framework Convention on Climate Change (UNFCCC) recognises that developed countries are responsible for the largest share of historical and current emissions and that these countries should take the lead in combating climate change and its adverse impacts. In 1997, the third session of the Conference of the Parties (COP 3) to the UNFCCC adopted the Kyoto Protocol on Climate Change.

The Protocol contains emissions targets for developed countries for the post-2000 period, whereby they commit themselves to collectively reducing emissions of six key greenhouse gases by at least 5 per cent by 2008–2012. Because many industrialised countries did not succeed in meeting their earlier non-binding aim of returning emissions to 1990 levels by the year 2000, and since emissions levels would continue to increase without the Kyoto Protocol, actual emissions reductions will represent a 30 per cent cut from 'business as usual' projected levels.

The Kyoto Protocol will enter into force 90 days after it has been ratified by at least 55 Parties to the UNFCCC, including developed countries representing at least 55 per cent of the total 1990 carbon dioxide emissions from this group. To realise this goal, governments met in November 1999 at COP 5 of the UNFCCC to set an aggressive timetable to achieve full ratification by 2002.



UNEP / Manabu Watabe

Speaking after COP 5, in Bonn, Germany, Klaus Töpfer, the UNEP Executive Director, praised the political commitment shown by the 60 ministers present, and said he believed ratification of the Kyoto Protocol by 2002 was still achievable. "As we saw when the 1992 Rio Earth Summit was set as the deadline for adopting the Climate Change Convention, deadline pressure is often essential for reaching difficult political agreements."

Reducing emissions of greenhouse gases to meet the targets of the Kyoto Protocol on Climate Change means using new and clean renewable energy and energy-efficient technologies. Energy is a major issue in addressing climate change. UNEP is working to:

- Increase awareness that current patterns of energy use have many, and often serious, environmental impacts.
- Develop straightforward, rigorous and scientifically-sound tools for analysing climate change mitigation, energy sector reform, industrial energy efficiency, and the environmental implications of transport choices.
- Improve the analytical and policy skills of public and private decision makers, particularly in developing countries, to establish renewable energy projects and industrial energy efficiency programmes.
- Develop training materials with partners who are committed to using them in the field.
- Assist developing countries and countries with economies in transition to plan and implement environmentally-sustainable energy and transport policies, practices and investments consistent with reduced greenhouse gas emissions.

The UNFCCC Web site *http://www.unfccc.de/* contains the latest developments and full background on the Kyoto Protocol.

UNEP / Jose Armand Maxim

UNEP provides the secretariat for the Convention on Biological Diversity. A central concern for the CBD's Parties is addressing the potential risks—especially to developing nations—posed by recent advances in biotechnology.

UNEP work on promoting collaboration between environmental treaties is contained in *Synergies*, a periodic newsletter published by the UNEP Information Unit for Conventions, International Environment House, 11-13 chemin des Anémones, 1219 Châtelaine, Switzerland. e-mail: *iuc@unep.ch.* Web: *http://www.unep.ch/conventions/*

Environmental synergies

Since the 1992 Rio Summit, the international playing field for environmental activities has grown increasingly crowded. New multilateral environmental agreements have proliferated, and the environment has entered the agenda of United Nations agencies dealing with development and social issues. However, the development of conventions and action plans has been incremental rather than strategic and there has been no overarching blueprint for the evolution of international environmental law and institutions for the twenty-first century.

UNEP is placing increased emphasis on facilitating collaboration and identifying synergies between conventions. Its efforts are based on the following five priorities:

- Promoting information exchange among secretariats.
- Strengthening collaboration among the conventions' scientific and technical bodies.
- Revitalising UNEP support to the Regional Seas conventions and action plans.
- Making international trade and environment regimes more compatible.
- Streamlining national reporting to the environmental conventions.

During 1999, UNEP played an active role in promoting collaboration between multilateral environmental conventions. It organised the second Global Meeting of Regional Seas Conventions and Action Plans, in the Hague, the Netherlands, and co-sponsored an International Conference on Synergies and Coordination between Multilateral Environmental Agreements, in Tokyo. The conference resulted in a series of recommendations on how to promote interlinkages among multilateral environmental agreements.

Work also began, in partnership with the World Bank, WHO and NASA, on an interlinkages report to reinforce *Protecting Our Planet: Securing Our Future*, which was launched on June 15 in London, UK, with a view to bringing to world attention the links between global environmental issues and human needs.

Protecting biodiversity

Biodiversity protection covers a wide range of issues and treaties. One of the more controversial areas is the problem of genetically modified organisms. The past year saw heated debate worldwide about the benefits and dangers of the recent advances in biotechnology. Governments met twice in 1999 to try to finalise a legally binding agreement on reducing potential risks from the movement of living modified organisms (LMOs) under the Convention on Biological Diversity (CBD), for which UNEP provides the secretariat. The talks reflected public concern about LMOs. LMOs include various food crops that have been genetically modified for greater productivity or nutritional value, or for resistance to pests or diseases. While many countries with biotechnology industries have domestic legislation, there are no binding international agreements covering the international movement of LMOs or their accidental release.

Following the suspension of the First Session of the Extraordinary Conference of the Parties to the CBD held in February in Cartagena, Colombia, when officials were unable to finalise the text of a Biosafety Protocol, the Parties resumed informal talks in Vienna in September. The aim of the Vienna talks was to produce a draft protocol satisfactory to all at the resumed Conference of the Parties scheduled for early 2000. Negotiations centred on the proposed scope of the treaty's regulatory powers; assigning liability for LMOs that enter the environment and cause damage; minimising the potential socio-economic impact of LMOs; and the Protocol's relationship to other international agreements, particularly those under the World Trade Organisation.

Dealing with hazardous wastes

Two significant events marked the end of the tenth anniversary year of the Basel Convention on the Control of the Transboundary Movement of Hazardous Wastes and Their Disposal. At the fifth Conference of Parties to the Convention, held in December 1999, officials from the 125 governments who are party to the Convention adopted a Protocol on Liability and Compensation for Damage Resulting from the Transboundary Movement of Hazardous Wastes. They also issued an official declaration on the environmentally sound management of hazardous wastes, giving priority to cleaner production and capacity building in developing countries.

The Protocol provides a comprehensive regime for liability and adequate and prompt compensation for damage resulting from the transboundary movement of wastes, including incidents caused by illegal traffic. The Protocol talks began in 1993 in response to the concerns of developing countries about their lack of funds and technologies for dealing with unwanted hazardous waste dumps or spills.

The Protocol provides, for the first time, a mechanism for identifying who is responsible during each phase of a transboundary movement, from generation to final disposal. Delegates also finalised the operation and funding of a Multilateral Fund to pay for clean-up operations until a liable party is identified, and an Emergency Fund for emergency action immediately after an incident.

At the same meeting, ministers put cleaner production at the top of the global environmental agenda. They called for closer cooperation with both traditional and new partners, especially industry, to enhance the practical implementation of the Basel Convention. UNEP works closely with industry on cleaner production methods, and has shown that these methods are both feasible and profitable.

Waste disposal experts, industrialists, environmentalists and governments increasingly agree that the answer to waste is to produce as little as possible in the first place, by promoting cleaner production. Cleaner production generates less waste, reuses and recycles more of what it does produce, and minimises the use of raw materials. There is a growing consensus that industrial societies should improve the productivity of raw materials by a factor of 4 to 10.

Developed countries produce vast amounts of waste—five tonnes a year of solid waste for every European, even more for each citizen of the United States of America. Waste production is rising by 10 per cent a year, and so is public concern: 17 in every 20 European Union citizens are concerned about industrial waste. They worry about leaking waste tips, pollution from incineration plants, and contaminated land.

No one knows how much of this waste is hazardous; records are incomplete and national definitions of it vary. The European Environment Agency reports that, in the early 1990s, Western Europe produced 42 million tonnes of it, Russia some 20 million tonnes, and Eastern Europe some 10 million tonnes. What is certain is that, if not properly managed, it can pose a grave threat to health and the environment. Minimising waste at source means both economic and environmental benefits.

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For more information on hazardous waste, visit the Basel Convention's Web site: *http://www.basel.int.*

The work of the UNEP Legal, Economic and Other Instruments branch is fully detailed in the *Biannual Bulletin of Environmental Law*, available from UNEP's official distributor: SMI (Distribution Services) Ltd., P.O. Box 119, Stevenage, Hertfordshire SG1 4TP, United Kingdom. e-mail: *anthony@smibooks.com.*

UNEP / Robert Stanger

Endangered wildlife

Biological diversity is also central to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), for which UNEP also provides the secretariat. Around the world, many species of plants and animals have become endangered due to habitat destruction, pollution, trade and other forces. CITES was adopted in 1973 to help ensure the survival of species threatened by international trade.

Annual international trade in animals, plants and their products exceeds $20 billion. This includes 40,000 primates, several million animal pelts, several million birds, 10 million reptile skins, 500 million tropical fish, nearly 10 million orchids and 8 million cacti. CITES regulations provide standards for regulating international trade in threatened species or banning all international trade in species threatened with extinction.

Up to a quarter of international trade in wild flora and fauna is illegal. Interpol estimates that illegal trade in endangered species is the second largest criminal activity worldwide after narcotics. Two high-profile species affected by trade are elephants and tigers. Tigers were the subject of a September meeting of the CITES Standing Committee. From a population of over 100,000 in the nineteenth century, the world's wild tiger population has plummeted to under 7,000. The species' long-term survival is now at stake. The Standing Committee received a technical report recommending that techniques be developed to determine the presence of tiger parts in various products and that the sale of tiger parts in Japan be prohibited. It also recommended that enforcement activities for tackling organised smuggling routes be undertaken, and that scientific studies of the actual effectiveness of tiger parts in traditional medicines be conducted in order to aid education and awareness campaigns.

Trade in elephant ivory was stopped in 1989, but, after representations from some southern African states, a limited sale of stockpiled ivory was endorsed at the 1997 CITES meeting in Harare, Zimbabwe, subject to certain safeguards. This year the CITES Standing Committee agreed that their preconditions had been met and allowed Botswana, Namibia and Zimbabwe to ship a combined total of approximately 50 tonnes of ivory to Japan, with the proceeds going to conservation and community development projects. The impact of this decision will be one of several discussion points at the eleventh meeting of the Conference of Parties to CITES, which will be held at UNEP headquarters in April 2000.

Migratory species are the subject of another treaty aimed at conserving biological diversity. Because they cross international borders and depend on more than one habitat during their annual life cycle, migratory species are among the world's most vulnerable animals. Many are close to extinction. The Bonn Convention on the Conservation of Migratory Species of Wild Animals, which has 60 member states, offers vital protection to some of these species. The Parties to the Bonn Convention met in November 1999 to review the Convention's performance over the past three years, to adopt a five-year strategic plan, and to consider proposals for stronger international action and increased protection for several migratory birds, dolphins, antelopes and sturgeons.

UNEP provides the secretariat for the Convention on Migratory Species. Migratory animals are among the world's most vulnerable species.

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Sustainable development

UNEP provides considerable input to the United Nations Commission on Sustainable Development (CSD). The CSD, whose task is to follow up on the work of the 1992 Rio Earth Summit, met in April 1999 in New York. UNEP contributions, which are dealt with more fully elsewhere in this report, include work on sustainable tourism *(page 22)*; water issues, including the Global International Waters Assessment *(page 31)*, the Regional Seas Programme, small island developing states; and sustainable production and consumption patterns, including cleaner production *(page 26)*.

Sustainable development also lies at the core of desertification issues. The Convention to Combat Desertification (CCD) is the first international treaty to address the issue of poverty and environmental degradation in dryland rural areas. At a meeting of the Conference of Parties to the CCD in November 1999, the UNEP Executive Director noted that development objectives cannot be dissociated from environmental considerations; they are at the heart of the concept of sustainable development. "No long-term strategy of poverty eradication can succeed in the face of environmental forces that promote persistent erosion of the physical resources on which poor people depend," he said. "At the same time, no programme for protecting the environment can succeed without alleviating the day-to-day pressure of poverty." To highlight the connection between dryland protection and sustainable development, UNEP awarded its annual Saving the Drylands certificate to seven projects in Latin America and Africa that have demonstrated outstanding achievement in protecting the environment and improving the livelihoods of local communities.

Human well-being and environmental protection were also the driving force behind a Memorandum of Understanding between UNEP and the United Nations Population Fund signed in August 1999. The pact aims at strengthening cooperation between the two programmes in areas fundamental to sustainable development. With the global population now at 6 billion, and with increasing stress on the planet's carrying capacity from unsustainable consumption patterns, rural-urban migration and rapid urbanisation, it is incumbent upon the two principal United Nations programmes in these fields to collaborate and reinforce each other's activities. The areas of cooperation covered by the agreement cover technical guidance and research, advocacy, public awareness, education and training, and strengthened coordination within the various United Nations inter-agency mechanisms.

UNEP also signed a Memorandum of Understanding with the World Health Organisation (WHO) to pool the two organisations' strengths to combat the increasing threat of environmentally related diseases. The agreement cements long-standing cooperation between UNEP and WHO through a series of joint efforts in the field of monitoring and assessment of air, water and food contamination by physical, chemical and biological agents, environmentally sound management of chemicals, and environmental and health impacts of global environmental change.

UNEP / Vu Anh Tuan

The world's population now stands at 6 billion. Human population increase is a major cause of environmental stress. UNEP is working with other United Nations organisations to promote sustainable development.

Industry, technology and trade

One of the clearest messages of the 1999 UNEP *GEO-2000* report is that a continuation of current global consumption patterns will lead to accelerated degradation of the Earth's resource base. A major UNEP activity is to encourage countries to integrate environmental considerations into their development planning, macroeconomic policies, trade and financial services. UNEP also recognises the need to work closely with the private sector to instil the values of sustainable development.

At the World Economic Forum, held at Davos, Switzerland, in January 1999, the United Nations Secretary-General, Kofi Annan, called on business and industry to implement certain universally recognised principles: human rights, labour rights, and the Rio Declaration on Environment and Development. In support of this, UNEP contributed to the preparation of the United Nations business Web site, published a review of environmental disclosure in the oil industry, and developed the Global Reporting Initiative (GRI).

The GRI is a global set of guidelines for corporate sustainability reporting. The guidelines were jointly developed by a multi-stakeholder alliance of organisations over the past year. The GRI Steering Committee includes, among others, UNEP, the Coalition for Environmentally Responsible Economies (CERES), the World Business Council for Sustainable Development, General Motors, ITT Flygt, the Council on Economic Priorities and the World Resources Institute. The GRI guidelines aim to be a tool that is flexible enough to appeal to industry, but also rigorous enough to satisfy other stakeholders, including environmental groups.

One of the world's largest industries is tourism. With more than 260 million employees and annual capital project investments of more than $800 billion, the tourism industry accounts for 10.7 per cent of world gross domestic product (GDP). While it can contribute to social and economic development, tourism can also have serious negative environmental impacts. Resource over-consumption and pollution destroy the environment on which the tourism industry depends. UNEP has been working with its partners, such as the World Tourism Organisation and UNESCO, to ensure that environmental considerations are fully integrated into the wider economic and social aspects of tourism development. At the seventh session of the United Nations Commission on Sustainable Development, UNEP, along with the World Tourism Organisation and a group of tour operators including British Airways Tours and Touristik Union International, announced the development of a Tour Operators' Initiative for Sustainable Tourism to be launched in 2000. To date, 34 companies have signed a letter expressing their intent to become involved.

The Tour Operators Initiative for Sustainable Tourism is just one of several initiatives and cooperative programmes established by UNEP in collaboration with the private sector. Other examples include the International Cleaner Production Declaration, the Mineral Resources Forum, the Offshore Oil and Gas Environment Forum, the Financial Institutions Initiative and the Insurance Industry Initiative.

The financial and insurance sectors are becoming increasingly aware of the effects of the environment—especially climate change—on business. Due to UNEP-sponsored initiatives, these so-called 'clean industries' are also becoming aware of the positive influence they can have as they incorporate the principles of cleaner production and sustainable development into their investment strategies. The theme of 1999's meeting of the UNEP Insurance Industry Initiative, held in Oslo in June, was 'Natural Capital at Risk'. Over 120 financial services executives (insurers, investment companies, banks, brokers and pension funds) from Africa, Asia, North America and Europe heard how they can play an important environmental role by guiding their financial flows towards more environmentally friendly investment initiatives.

With private investment five times as much as overseas development assistance, the private sector has enormous capacity to influence the outcome of environmental issues. UNEP is working with private sector organisations in the tourism and finance industries to promote sustainable development. Further information is available from UNEP DTIE *(see page 46)* **or** ***http://www.uneptie.org/home.html.***

UNEP / Wang Jian Min

Persistent organic pollutants

Persistent organic pollutants (POPs) pose a serious risk to public health and the environment. They persist for long periods of time, travelling long distances from their source. They bioaccumulate in living species, becoming increasingly concentrated in fatty tissue as they move up the food chain. These toxic contaminants are passed on to the next generation through breast milk. They are also found with increasing frequency in a variety of food products.

The past two years saw significant progress in drafting a global treaty to reduce and/or eliminate releases of POPs into the environment. Negotiators from 103 countries met in January 1999 for the second of five anticipated sessions aimed at reaching a global agreement on POPs. The UNEP Governing Council mandated in 1997 that an agreement be reached by the year 2000 on a treaty to reduce and/or eliminate 12 specific POPs and to establish scientific criteria and processes to identify additional pollutants for international action.

After an expert group meeting held in Vienna in June, a third round of meetings was held in Geneva in September. Negotiators from 115 countries reached agreement on proposals favouring the elimination of 10 intentionally produced POPs. At the same time they recognised that DDT, a crucial tool for controlling vector-borne diseases such as malaria, be partially exempted while efforts are made to pursue alternative strategies that reduce reliance on DDT but fully protect public health—a win-win situation. The next round of talks is scheduled for March 20–25, 2000, in Bonn.

The twelve POPs on the initial list for action under the treaty under negotiation are aldrin, chlordane, DDT, dieldrin, dioxin, endrin, furans, heptachlor, hexachlorobenzene, mirex, PCBs, and toxaphene. They fall into three categories: pesticides, industrial chemicals, and unintended by-products of combustion and industrial processes.

To enable countries to gain better access to data on POPs, UNEP issued an *Inventory of Information Sources on Chemicals — Persistent Organic Pollutants*. The Inventory is a detailed bibliographic tool covering sources of information on POPs from international organisations and 33 countries. Topics covered include: risk assessment; source, exposure and environmental fate; toxicology and health; waste management; management and safe use of pesticides; and international environmental conventions and programmes. UNEP also published an *Inventory of Worldwide PCB Destruction Capacity*. Polychlorinated biphenyls (PCBs) are now out of production worldwide, but between 1929 and 1989 world production, excluding the Soviet Union, totalled 1.5 million tonnes. PCBs for many years found widespread application as coolants, sealants, and fluids in electrical transformers. Their health effects include cancer and damage to the central nervous system.

PCBs are highly toxic chemicals that are generally destroyed in special high-temperature incinerators. Insufficient heat can release dioxins and furans into the atmosphere. According to the report, the principal problem with dealing with PCBs is not so much the disposal capacity as the challenges involved in identifying waste inventories in some countries and financing their destruction.

In July 1999, UNEP organised two expert group meetings to discuss solutions to the public health risks of PCB management in the Former Soviet Union. Russia and other Newly Independent States recognise that they face major hurdles in overcoming the legacy of inadequate management of toxic substances. Chemicals were often poorly labelled and inadequately disposed of. Information on their location is frequently lacking.

Official documents and other information on POPs are available from UNEP Chemicals *(see page 46)* or via the Internet at *http://www.chem.unep.ch/pops.*

UNEP / Norbert Rosing

Annual production of farmed prawns and shrimp is now over 1 million tonnes. Originally seen as a way of reducing pressure on natural fisheries, shrimp aquaculture is now known to be responsible for environmental problems that includes damage to wild populations, aquatic pollution and the destruction of valuable wetland and mangrove habitats. UNEP is working to put the environment at the centre of the international trade agenda.

UNEP

Trade and the environment

The evolving global trading regime offers many potential benefits to the nations of the world. But there are risks, including the potential for negative environmental and social impacts. Against the background of rapid growth in trade, these risks are an increasing concern among trade and environment policy-makers.

Achieving effective, legally binding agreements to safeguard the environment remains a major challenge, particularly with respect to creating environmentally sensitive international trade regimes. UNEP, in partnership with the United Nations Conference on Trade and Development (UNCTAD), is analysing the social and environmental impact of the economic trends of globalisation. It is focusing in particular on clarifying potential areas of conflict and convergence between the global trade and environment agendas. It is also assessing the value of using economic instruments to help implement environmental agreements.

At the third World Trade Organisation (WTO) Ministerial Meeting in Seattle, in December 1999, UNEP called for a more coherent and integrated approach to trade and environmental policy-making. Significant progress was made in this direction when the Secretariats of the United Nations and WTO exchanged letters recognising the importance of cooperation and collaboration between the two organisations on areas of mutual interest. The agreed cooperation covers technical cooperation, research initiatives and capacity building for developing countries and countries with economies in transition.

The UNEP goal is to highlight the links between trade, the environment and sustainable development, and to encourage the development of policies which integrate sustainable development and consumption considerations with trade policies. Towards that end, UNEP released six reports at the WTO meeting that demonstrate how countries can address trade-related environmental degradation. The country-level reports include new action-oriented research on trade-related environmental problems in the forestry, mining, fisheries, manufacturing and water sectors of six countries: Bangladesh, Chile, India, the Philippines, Romania and Uganda. Each report concludes by recommending a set of practical measures that promise to effectively halt trade-related environmental degradation, and in turn, ensure that the country's trade remains robust yet sustainable over the long-term.

UNEP work on sustainable consumption also includes work with youth, the advertising industry and other businesses that could benefit from the increasing awareness of consumers about the world that lies behind the product they buy. An initiative on Youth and Sustainable Consumption has been launched and extensive links forged with partner organisations in the lead-up to the Youth Summit in 2000. A research project is being carried out to identify major trends in young people's perception of their consumption patterns. A meeting in Berlin in October 1999, sponsored by UNEP and the Carl Duisberg Gesellschaft, identified information and training needs.

UNEP / Kathryn Kolb

Stratospheric ozone protection

There can be no doubt that international action to protect the ozone layer has been one of the world's environment success stories. Through the Montreal Protocol on Substances that Deplete the Ozone Layer, industrialised countries have virtually phased out their entire chlorofluorocarbon (CFC) consumption. Consumption worldwide has been reduced by more than 80 per cent since the Protocol was first signed in 1987. Once actions stipulated by the Montreal Protocol are fully implemented, scientists estimate that the ozone layer may recover to pre-1980 levels by 2050.

UNEP continues to play major and diversified roles in ensuring this success. As the Secretariat of the Vienna Convention and Montreal Protocol, UNEP is responsible for the political promotion of the treaties, data gathering, and coordinating the Protocol's assessment processes. As an Implementing Agency of the Multilateral Fund, UNEP provides information and training related to ozone-friendly technologies and policies and networking to support developing country compliance. As Treasurer of the Fund, UNEP is responsible for the financial contributions made by Parties.

In spite of the progress made, significant challenges lie ahead for UNEP and the world community. While atmospheric chlorine concentrations are declining, other ozone depleting substances (ODS) pose a major threat, especially methyl bromide and hydrochlorofluorocarbons (HCFCs). At the end of 1999, scientists cautioned that the Antarctic ozone hole is as big as ever, covering 22 million square kilometres—an expanse more than twice the size of China. Ozone depletion in the Arctic is also a worry.

Over the next decade, progress made by the developed nations in phasing out CFCs will be matched by the developing nations. By July 2000 they will cut CFC and halon emissions to 1995–7 levels, then cut back further to 50 per cent by 2005 with the goal of a full phase-out by 2010.

At a crucial meeting in Beijing, in December 1999, the Parties to the Protocol agreed to a replenishment of the Multilateral Fund *(see page 7)* for its third triennium. The Fund provides technical and financial assistance to help developing countries meet their commitments under the Protocol. To date, the Fund has approved activities worth more than $1 billion to support the adoption of new technologies and practices that reduce ODS consumption and production.

Large and small countries alike continue to benefit from the Multilateral Fund. For example, this year the world's two largest developing country CFC producers and consumers, China and India, were granted funding of $150 million and $82 million respectively to phase out CFC production. Smaller countries with low volume ODS consumption also receive assistance, much of it provided through the UNEP OzonAction programme. This assistance includes support to prepare and implement country programmes, institutional strengthening and refrigerant management plans in nearly 70 small developing countries. The recently published OzonAction *Handbook on Data Reporting under the Montreal Protocol* has proven useful for their timely reporting of data.

At the Beijing meeting, new controls were adopted on HCFC production. While less destructive than CFCs, HCFCs still contribute to ozone depletion. Under the Protocol, HCFC production will be phased out in developed countries by 2020, and in developing countries by 2040.

UNEP is also addressing the problem of methyl bromide. Methyl bromide is approximately 60 times more destructive to ozone as chlorine from CFCs. It is used for pest control and as a fumigant for crops. Recognising its threat, the Parties agreed in 1997 that industrialised countries should phase out this substance by 2005 and developing countries should freeze consumption by 2002, with a full phase-out scheduled for 2015.

UNEP / Pia Cosmeli

UNEP, through the OzonAction Programme, provides clearing-house services to help developing countries take action on the methyl bromide issue. For example, the Programme has recently developed a suite of publications, videos and case studies to build local capacity to phase out methyl bromide. One of these, the *Inventory of Technical and Institutional Resources for Promoting Methyl Bromide Alternatives*, helps countries implement training and policy development initiatives required to phase out methyl bromide.

For more information, contact the Ozone Secretariat *(http://unep.org/ozone)* or the DTIE OzonAction Programme *(http://uneptie.org/ozonaction.html) (addresses on page 46)*.

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Cleaner production

A major component of sustainable development is the concept of cleaner production. In 1998, UNEP launched the International Declaration on Cleaner Production to spread awareness of the cleaner production strategy and encourage its wide adoption. To date, the Declaration has been endorsed by over 1,800 signatories, including individual businesses, international business associations and national governments. During the seventh session of the Commission on Sustainable Development, in New York, USA, in April 1999, environment ministers and other global environment leaders signed the Declaration. It now has over 40 government signatories.

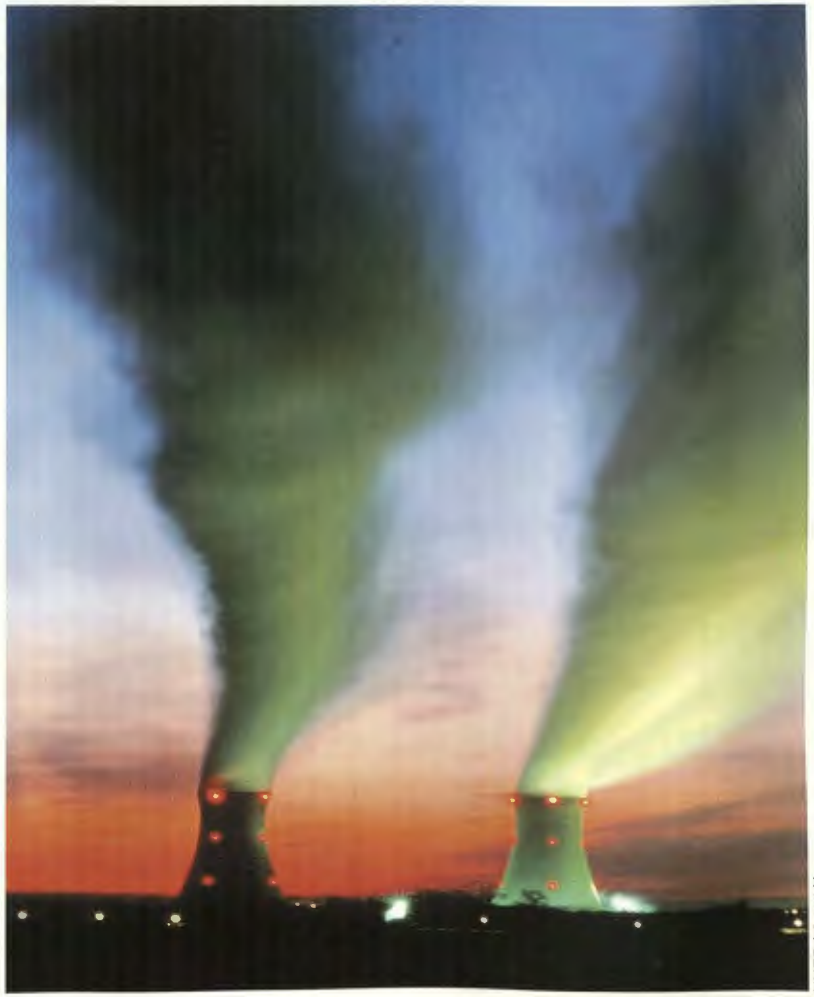
In June 1999, Norway added its support to the Declaration. Norway is also funding a three-year project on strategies and mechanisms for promoting cleaner production investments in developing countries. The project was launched at a workshop in Harare, Zimbabwe, in October 1999.

For a long time, industry has been blamed for polluting the environment because of production practices stemming from the use of obsolete machinery and technology, yet companies often cannot afford to invest in more efficient and environmentally friendly technology. The Declaration on Cleaner Production aims to encourage new and additional finance and investment for preventative technology options and to promote environmentally sound technology cooperation and transfer between countries.

Technology Transfer

The transfer of environmentally sound technologies (ESTs) is a concept that cuts right across the environment agenda. UNEP promotes the transfer of ESTs in numerous ways, for instance by giving information on ESTs for fresh water and urban environmental management. Activities in 1999 included issuing Version 2 of the information exchange database maESTro, which contains data on ESTs, the institutions involved with them, and other information systems providing EST information. UNEP also produced two source books on ESTs for air quality management and waste management in small island developing states, and launched a survey of indigenous technologies.

Technology transfer is also central to two major multilateral environmental agreements affecting the atmosphere: the Montreal Protocol on Substances that Deplete the Ozone Layer *(see page 25)* and the Kyoto Protocol on Climate Change *(see page 17)*. At a workshop held in Thailand in March 1999, government officials and business representatives from 14 countries from the Asia-Pacific region met with technical and policy experts from seven international organisations engaged in North-South technology cooperation to discuss the lessons learned in technology transfer under the Montreal Protocol's Multilateral Fund. The participants included the co-chairs of the leading assessment bodies from the two climate protection treaties—the Montreal Protocol's Technology and Assessment Panel and the Kyoto Protocol's Intergovernmental Panel on Climate Change (IPCC).



UNEP / Janet Haas

"The world has for the first time experienced the technology cooperation under the financial mechanism of the Montreal Protocol. This hands-on experience of the private sector and governments in Asia and the Pacific will be useful to the Parties of the Climate Change Convention where such mechanisms are still evolving," said Professor Ogunlade Davidson, co-chair of the IPCC.

The Clean Development Mechanism (CDM) of the Kyoto Protocol comes into operation in 2000. The CDM is designed to encourage North-South cooperation to mitigate climate change.

Chemical safety

Chemical production and use are components of almost every sector of the global economy. There are over 100,000 chemicals currently in use in the world. While many are benign, a significant number present risks to human health and the environment. UNEP's chemical safety agenda concentrates on two main issues. First, UNEP is working on activities aimed at reducing or eliminating the release of Persistent Organic Pollutants (POPs) into the environment. Negotiations are under way to reach agreement on an international legally binding instrument on POPs by the year 2000 *(see page 23).*

UNEP is also working to address the issue of unwanted trade in hazardous chemicals and pesticides. In 1998, the Rotterdam Convention on the Prior Informed Consent Procedure (PIC) for Certain Hazardous Chemicals and Pesticides in International Trade came into being.

The Rotterdam Convention—a new treaty on trade in hazardous chemicals based on the existing PIC procedure that has been in operation for almost 10 years—was adopted on September 10, 1998, by representatives of 95 states and the European Community. By the September 1999 deadline, 73 signatories had come on board. The Convention will enter into force once 50 countries have ratified it, but it is already being implemented on a voluntary basis. UNEP and the United Nations Food and Agriculture Organisation (FAO) provided the secretariat during the negotiating process and are also providing the secretariat for the Convention.

The Rotterdam Convention will protect the environment and millions of farmers, workers and consumers from the misuse and accidental release of toxic substances, particularly in developing countries. The Convention already includes 27 hazardous chemicals and pesticides and provides that such chemicals shall not be exported without the explicit agreement of the importing country. A mechanism for including further chemicals and pesticides under the Convention ensures that it will continue to address such problem chemicals. By promoting the safe use of chemicals at the national level, the Rotterdam Convention will reduce unwanted imports of harmful chemicals and pesticides. Many substances that are banned or severely restricted in industrialised countries are still marketed and used in developing countries. To enable the implementation of the Convention, it also provides for technical assistance to developing countries to help them develop their infrastructure and capacity for managing chemicals and pesticides.

As part of its drive to bring about greater coherence and efficiency in international activities on chemicals, UNEP also released a report in 1999 surveying the roles and responsibilities of chemicals-related legal instruments and international organisations. *International Activities Related to Chemicals* covers 16 international agreements and instruments and 24 organisations. It includes information on the mandates involved, major provisions or activities, decision-making bodies, related agreements and activities, administration, and contact information. The report is a reformatted excerpt from the presentation made on international chemical management activities to the twentieth session of the UNEP Governing Council. Copies of the document, which will be updated annually, are available free of charge from UNEP Chemicals *(see page 46)* and on the UNEP Chemicals homepage *http://www.chem.unep.ch.*

UNEP / Wenren Yang

UNEP is working to create and strengthen multilateral agreements that will protect agricultural workers and consumers from the misuse and accidental release of hazardous chemicals and pesticides.

Promoting cleaner production and the transfer of environmentally sound technologies are UNEP priorities. For further information see *http://www.unepie.org/home.html.* and *http://www.unep.org.*

Defining a new water strategy

The supply and quality of fresh water will be a critical issue in the twenty-first century. This realisation prompted the twentieth session of the UNEP Governing Council to include the issue of fresh water as one of the five UNEP areas of concentration. The provision of an adequate supply of safe, clean water is regarded as a critical precondition for sustaining human life and for achieving sustainable development. The diminishing availability of usable water in the face of exponentially rising demand creates the potential for disputes and even conflict, both within and among states, over water resources.

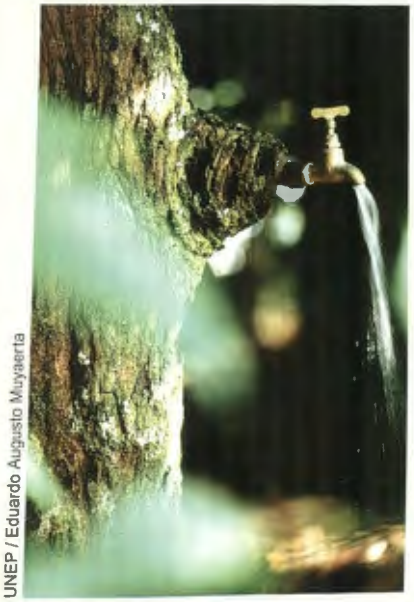
In recognition of the complexity of water issues, and the linkages between fresh water basins and coastal and marine environments, UNEP water policy has undergone a critical review. Instead of its traditional sectoral approach to environmental issues, UNEP water policy sets goals that cut across sectoral and administrative boundaries.

The new UNEP water policy focuses on three key areas—assessment, management and coordination. It will:

- Fill information and knowledge gaps on critical water-related issues through a more comprehensive assessment.
- Advocate appropriate integrated policy measures in tackling the root causes of major water concerns.
- Mobilise action for greater international and United Nations system-wide cooperation, and promote public/private sector dialogue in dealing with water issues.

UNEP assessment activities will identify priority water issues, analyse their underlying causes and recommend policy measures to address them. Its management activities will then promote the development of comprehensive policy frameworks and provide general guidance on ways of achieving sustainable water use for human and ecosystem needs.

Coordination is achieved at several levels. To assist UNEP to identify emerging water issues and to provide independent policy advice on a continuous basis, the Executive Director established a High Level Advisory Board for water-related issues. Within UNEP, the Division of Policy Development and Law coordinates collaboration among divisions on identified water-related policy issues. Outside UNEP, the organisation provides coordination at the intergovernmental level and between United Nations agencies. It will also forge partnerships at regional and global levels.



UNEP / Eduardo Augusto Muyaerta

Initial actions in the new UNEP water strategy include:

- Initiating an assessment of the value of UNEP involvement in different global initiatives and meetings in the water field.
- Securing an agreement on the role of the Global International Waters Assessment with respect to the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (GPA).
- Adopting modalities to ensure appropriate coordination between the various Regional Seas Programmes and the GPA, GIWA and the Law of the Sea Secretariat.
- Initiating an assessment of the UNEP programme on integrated water basin management.
- Adopting steps to address United Nations system coordination issues with respect to water.

Protecting the marine environment

The new UNEP water policy is partly in response to the outcome of recent sessions of the United Nations Commission on Sustainable Development that dealt in 1998 with fresh water and, in 1999, with ocean management issues. UNEP provides leadership within the United Nations system with respect to ocean management in keeping with its role as Chair of the Oceans and Coastal Areas Subcommittee of the Administrative Committee of Coordination (ACC).

Managing the coastal and marine environment is central to UNEP water strategy. The main mechanism for concentrating UNEP management efforts is the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (GPA), of which UNEP is the secretariat. The GPA was established in 1995 to strengthen regional and national efforts to tackle what is perhaps the most important threat to the marine environment: the flow of chemicals, human wastes and other pollutants into the sea via the air, rivers and coastal activities.

Approximately 80 per cent of marine pollution originates from land-based activities. Of the world's 6 billion people, approximately 40 per cent live within 150 kilometres of the coast; 60 per cent of cities with a population over 2.5 million are coastal. The health and well-being of coastal populations depend on the health and well-being of coastal systems, which include near-shore waters, estuaries and wetlands, and associated watersheds and drainage basins. Human pressure is negatively affecting these habitats through pollution and physical alteration.

The core GPA policy objective is to maintain and improve the life-support and production capacities of the marine environment by preventing, reducing and controlling its degradation by land-based activities. GPA objectives are national, regional and global:

- At the national level, the GPA aims to develop comprehensive, continuing and adaptive programmes of action within the framework of integrated coastal management, harmonised with river basin management and land-use plans.
- At the regional level, the GPA will strengthen and, where necessary, create new regional cooperative arrangements and joint actions to support effective action, strategies and programmes at the national and local level.
- Internationally, the GPA aims to strengthen cooperation and institutional mechanisms and, where appropriate, establish new arrangements to support states and regional groups in undertaking action to address the impacts of land-based activities on the marine environment.

In August 1999, a UNEP/GPA coordinating office was established in The Hague, the Netherlands. The office is responsible for compiling regular overviews of the contributions of governments, international organisations, NGOs and the private sector in implementing the GPA. Regional nodes will be developed in 2000–2001.

Achieving the objectives of the GPA is the responsibility of governments. UNEP's main role within the GPA is to:

- Promote and facilitate the implementation of the GPA at the national, subregional and regional level through revitalising the Regional Seas Programme.
- Catalyse the implementation of the GPA at the international level by United Nations organisations, development banks and the Global Environment Facility (GEF).
- Review progress in the implementation of the GPA.
- Promote the exchange of experience between regions, particularly through the establishment and operation of a GPA clearing-house mechanism.
- Consider the need for international rules and recommended practices and procedures to further the objectives of the GPA.

An immediate priority for the GPA is addressing sewage pollution. A Strategic Action Plan on Sewage has been developed in consultation with WHO and UNCHS (Habitat), the culmination of which will be a Global Conference on Building Partnership for Sewage Management, to be held in 2001.

Small island developing states

The health of the marine environment is just one of many interlinked environmental issues confronting small island developing states (SIDS). Their economies depend heavily on the productivity of the sea and, increasingly, on marine-oriented tourism.

In September 1999, the United Nations General Assembly devoted a special session to the Sustainable Development of Small Island States. Concurrent with the General Assembly meeting, UNEP released three companion reports to *GEO-2000* dealing specifically with the three major SIDS regions of the world: the Caribbean, the Western Indian Ocean and the Pacific Ocean. It also produced a special SIDS edition of the UNEP magazine *Our Planet*.

The economic and environmental issues facing small island developing states are a microcosm of those facing all nations, with the added factor that SIDS are often more vulnerable because of their size and particular environmental circumstances. For instance, climate change poses a severe threat through the increase in scale and frequency of extreme weather, through the damage sea warming does to corals and hence to coastal biodiversity, and, for low-lying islands, through the danger of inundation by rising sea levels.

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Over half the world's coral reefs are potentially threatened by human activities, with up to 80 per cent at risk in the most populated areas. UNEP puts a high priority on identifying and mitigating land-based sources of pollution that are degrading the marine environment.

Everbody lives downstream. UNEP recognises that water issues are complex and interlinked. The UNEP-GEF Global International Waters Assessment (GIWA) is designed to address transboundary water problems by identifying their root causes and recommending potential solutions.

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Small island developing states also face problems of poverty and urbanisation caused by increasing human populations that depend on a limited land area and a fragile resource base. Many islands are suffering from deforestation and from a shortage of water, while their small size and remoteness present problems of waste disposal and pollution. Their resource base is often put under further pressure by tourism, which is fast becoming the most important industry for many SIDS.

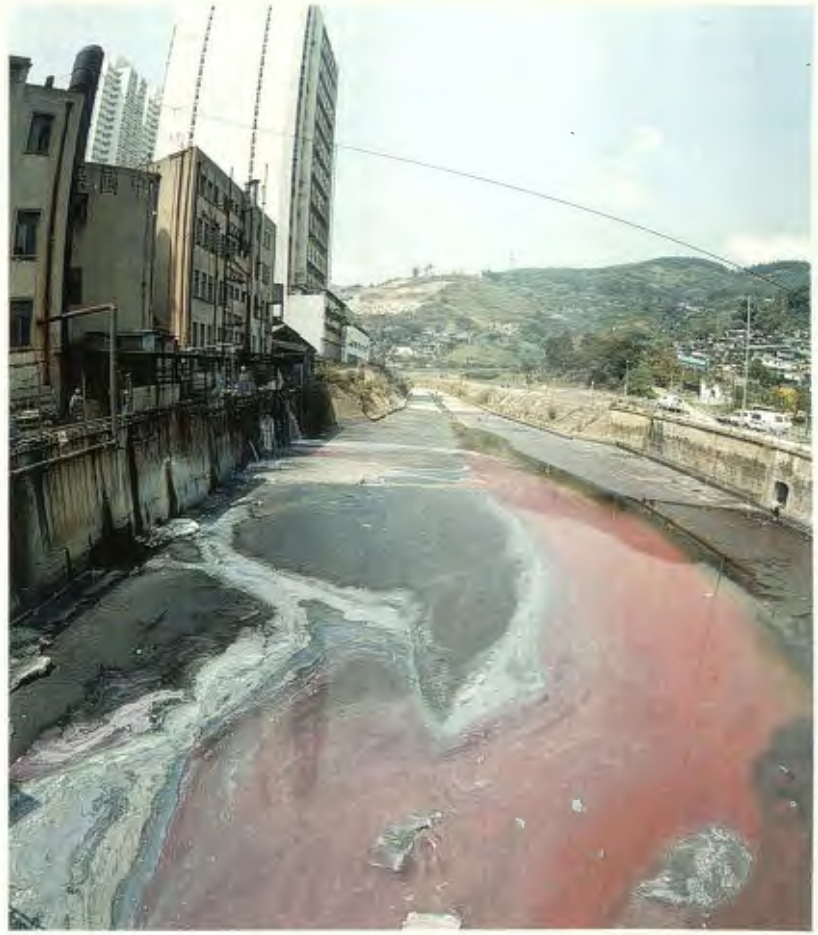
The recommendations contained in the three GEO reports—*Caribbean Environment Outlook, Pacific Islands Environment Outlook,* and *Western Indian Ocean Environment Outlook*—emphasise the importance of addressing the root causes of environmental degradation such as population growth and unsustainable consumption patterns, and bringing environmental management into the mainstream of the social, economic and institutional life of small island developing states. The reports also highlight the growing problems of climate change and sea level rise, which require action by the global community.

Everybody lives downstream

Each year, on March 22, the United Nations system observes the World Day for Water. On this day all United Nations agencies working on fresh water issues highlight the activities within their own programmes. In 1999, UNEP was the lead agency for the United Nations system. To coincide with the World Day for Water, UNEP and the World Conservation Monitoring Centre issued a new report *Freshwater Biodiversity: a preliminary global assessment.* The report identifies 23 hotspots of fresh water biodiversity, including the African Great Lakes, Madagascar, Tasmania, the Mississippi basin and Lake Titicaca.

Fresh water ecosystems have come under severe pressure in the past 25 years—even more than the much-publicised plight of the world's forests. *Freshwater Biodiversity* catalogues the scale of the problem for the first time and indicates where to start taking action. Action for fresh waters means taking a watershed approach, tackling river basins as a whole, particularly where they cross international boundaries. Thirty priority river basins that support high biodiversity but are vulnerable to future pressures are listed in the report. Among them are the Nile, the Volta, the Irrawaddy and the Mekong.

The motto for the 1999 World Day for Water was "Everybody lives downstream". The meaning is clear: problems in one part of



UNEP / Siu Woon Ying

a watershed, or even in another country, can affect people far away. With the world human population steadily rising, the planet's finite fresh water supply is stretched to the limit. Currently, 20 per cent of the world's population face water shortages. That figure will rise to 30 per cent by 2025, affecting 50 countries. Water shortage has many causes, including inefficient use, degradation of available water by pollution and the unsustainable use of water in underground aquifers.

As well as releasing *Freshwater Biodiversity*, UNEP collaborated in producing a number of mass media initiatives to highlight the state of the world's water resources. An eight-minute news feature release, produced in cooperation with the United Nations

Assessing the world's water resources

On October 15, 1999, UNEP inaugurated the Global International Waters Assessment (GIWA) in Kalmar, Sweden. GIWA is a four-year jointly funded programme designed to assess key issues and problems facing the aquatic environment. Funding secured to date for GIWA amounts to $13.2 million. The programme will receive 50 per cent of its budget from the Global Environment Facility (GEF), a financial mechanism implemented by UNEP, UNDP and the World Bank *(see page 8)*. The other half of GIWA's budget will come from the governments of Finland, Sweden and the United States, the Municipality and University of Kalmar, and UNEP.

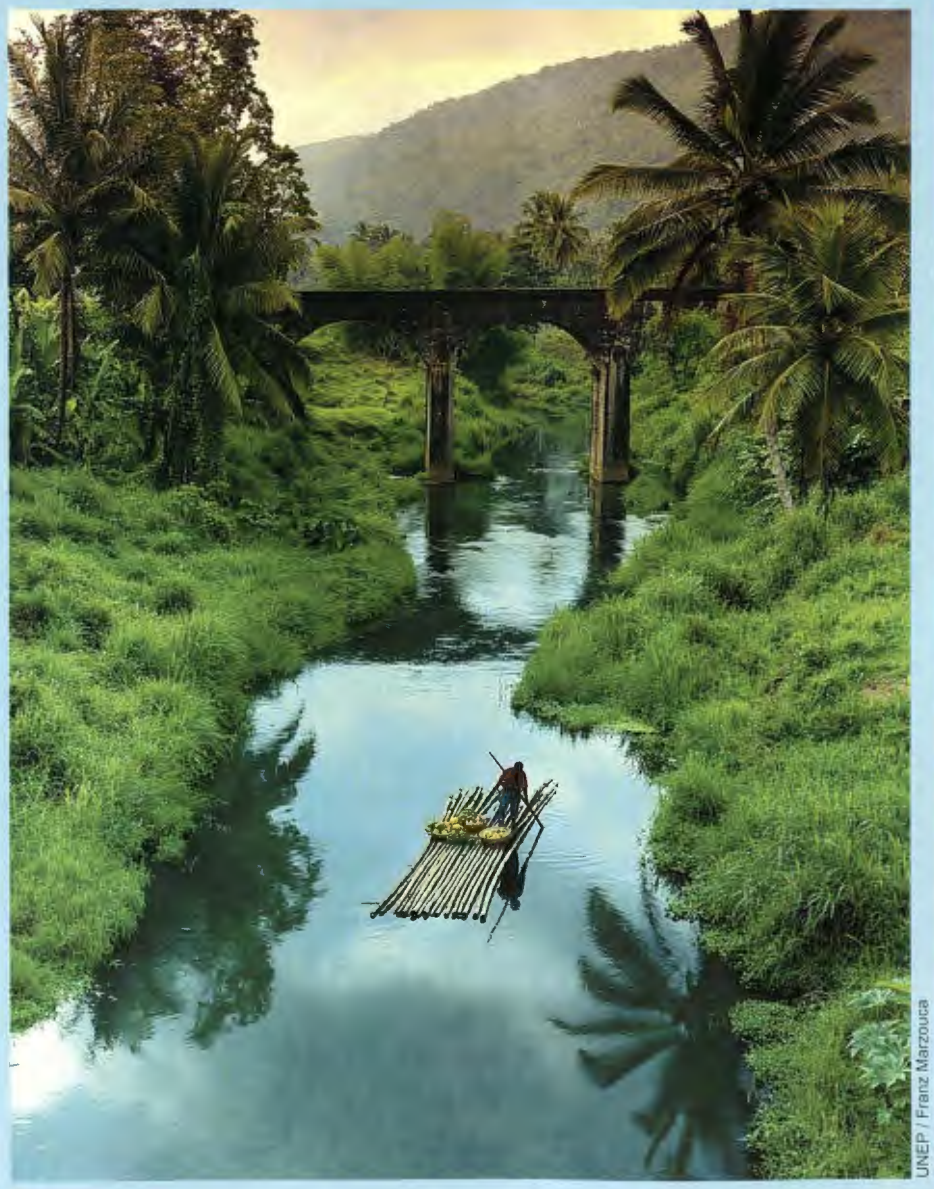
GIWA's focus is on the problems of shared, transboundary waters. It will analyse current problems, including their root causes, and develop scenarios for the future condition of the world's water resources. Policy options will be analysed with a view to providing sound scientific advice for decision-makers and managers concerned with water resources.

The programme is global insofar as it will direct its assessment at 66 water subregions worldwide. It is international because it focuses on marine or fresh water resources shared by two or more countries. Five priority areas have been identified for scrutiny: fresh water shortages; pollution; habitat and community modification; unsustainable exploitation of fisheries and other living resources; and global change. GIWA's assessment will take a holistic approach, addressing the political, economic and social, as well as environmental, factors that affect water resources.

Considering the fact that marine, fresh water and groundwater issues are already being addressed by several international, regional, national and local bodies, why does the world need GIWA? One answer is that, unlike issues such as climate change, biodiversity and ozone, there is no single global convention or assessment process for water. This presents problems for prioritising projects for funding. Currently, financial support for addressing problems of international waters is very limited. Another reason is that while many areas have been identified where immediate action to protect the aquatic environment is necessary, even overdue, actions often focus on the symptoms rather than the root cause. They also often fail to address the international nature of the problem. Water problems are often transboundary, with water resources shared between two or more countries. The boundaries of the area in which a water-related problem occurs are not necessarily the same as the boundaries of the activity causing the problem.

GIWA's work will lead in 2003 to a comprehensive, integrated, strategic global assessment of international waters. Ultimately, this report will be the basis for future GEF decisions regarding the funding of water projects within the GEF International Waters focal area.

GIWA's Web site can be found at *http://www.giwa.net*. A brochure is available from GIWA, P.O. Box 905, SE- 291 29, Kalmar, Sweden.

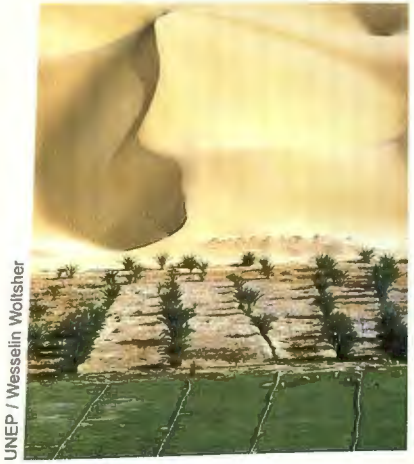


UNEP / Franz Marzouca

Nearly half of the world's 6 billion people live in cities. A priority issue for the twenty-first century will be the adequate supply of safe, clean water. UNEP water policy is designed to fill information and knowledge gaps on water-related issues, advocate appropriate integrated policy measures, and mobilise action by the international community.

UNEP / Tarlok Chawala

University, highlighted the problems of disease caused by inadequate sewer systems in fast-growing cities. A documentary *Everybody Lives Downstream*, produced by the editorially independent Television Trust for the Environment, looked at human-water interdependence in river basins, from their source to the sea. It was broadcast on BBC World Television, reaching 135 million homes in 111 countries. Another documentary *Still Waters* focused on the importance of the world's wetland areas. Marshes, bogs, lakes and mangroves are key components of river basin management. The film demonstrated that while we continue to drain and build on wetlands, countries are beginning to appreciate the economic value of maintaining these waterlogged areas.



UNEP / Wesselin Woltsher

Managing the world's fresh water

The consequences of increasing global water scarcity will largely be felt in arid and semi-arid areas, most notably in West Asia and North Africa. Water scarcity will also become acute in the rapidly growing coastal regions and in the megacities of the developing world. Many of these cities already are, or will soon be, unable to provide safe, clean water and adequate sanitation facilities for their citizens.

The problem will be magnified by rapid urban growth. By the year 2000, 23 cities—18 of them in the developing world—will have populations exceeding 10 million. On a global scale, half of the world's 6 billion people will live in urban areas. Some of the world's largest cities, including Beijing, Buenos Aires, Dhaka, Lima and Mexico City, depend heavily on groundwater for their water supply, but it is unlikely that dependence on aquifers, which take many years to recharge, will be sustainable. Groundwater from aquifers beneath or close to Mexico City, for example, provides it with more than 3.2 billion litres per day, but already water shortages occur in many parts of the capital.

To enhance the capacity of urban managers and decision-makers in managing water resources, UNEP organised an International Symposium on Efficient Water Use in Urban Areas: Innovative Ways of Finding Water for Cities, in June 1999, in Japan. Participants included 150 delegates from 45 countries, mostly managers and decision/policy-makers in either national or local government, senior managers of aid agencies, water supply authorities, urban-planning departments, international agencies and NGOs with an interest in efficient water use.

UNEP is also collaborating with UNCHS (Habitat) on Managing Water for African Cities, a project involving seven cities in western, eastern and southern Africa. The project aims at promoting efficient water use, mitigating environmental impact, and facilitating information exchange and developing a public information campaign.

One option for managing water resources that generates much debate is the construction of large dams. Worldwide there are over 40,000 large dams over 15 metres high. Dams can enhance development and water security by supporting irrigation, water supply, flood control and hydropower. Conversely, they can cause the loss of plant, animal and aquatic diversity and have major social impacts—an estimated 4 million people are displaced globally by dam projects. Additionally, proposals for dam construction on rivers that cross international boundaries can be the source of disputes, and ultimately conflict.

In 1998, the World Commission on Dams (WCD) was established at the behest of pro- and anti-dam interests to try to break the stalemate that has developed between the two groups. UNEP provides support to WCD and has launched a joint initiative that has received United Nations Foundation funding of $2.6 million. A series of regional consultations is being carried out to try to harmonise issues involved in the construction, operation and decommissioning of dams, taking into consideration both their benefits and negative environmental impacts. Consultations for the Africa/Middle East regions were held in December 1999, in Cairo. Participants included governments, public utilities, private companies, NGOs and academics.

A regional seas renaissance

One of the greatest UNEP achievements over the past 25 years has been its Regional Seas Programme, first launched in 1974. Since then, 13 regional conventions and action plans have been established under UNEP auspices: the Black Sea, Caribbean, East Africa, East Asia, Kuwait, Mediterranean, Northwest Pacific, Red Sea and Gulf of Aden, South Asia, Southeast Pacific, South Pacific, Southwest Atlantic, and West and Central Africa. Four similar agreements amongst developed countries are also in place.

These regional agreements have been extraordinarily effective in engaging governments in protecting the environment. Unlike global environmental conventions, these regional conventions are comprehensive, covering issues ranging from chemical wastes and coastal development to the conservation of marine mammals and ecosystems. Their limited geographical focus enables them to channel the energies of a wide range of interest groups into solving what are, after all, a series of interlinked problems.

With attention turning to global conventions in recent years, many people are unaware of the effective regional instruments already in place. Some regional seas conventions are extremely active and visible. Others struggle with funding problems and the difficulty of putting environmental issues at the top of their governments' agenda.

All the regional seas secretariats and coordinating units need greater support from governments, from each other, and from UNEP. In 1998, the UNEP Governing Council called for increased investment by UNEP in these regional activities. UNEP responded by calling the secretariats together to discuss common concerns, to promote horizontal linkages, and to forge stronger links with global conventions and agencies. In July 1999 UNEP organised the second Global Meeting of Regional Seas Conventions and Action Plans. The meeting reached several conclusions:

- The Regional Seas agreements need to be closely linked to the newly established Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (GPA). The two areas can be mutually supportive. The GPA's goals can be largely realised through regional seas programmes, while the GPA can help promote greater support for activities and coordination at the regional level.
- Regional seas priorities must be firmly integrated into the new Global International Water Assessment *(see page 31)*
- Collaboration between regional seas conventions and action plans and global conventions—for instance the conventions on biodiversity and climate change—should be strengthened.
- A mechanism should be established for consultation between regional seas agreements, the United Nations Division for Ocean Affairs and the Law of the Sea, and other competent organisations. There are many benefits to ensuring a uniform and consistent approach to common concerns such as trade, marine protected areas and land-based sources of pollution.
- There should be a new process for promoting horizontal cooperation among regional seas conventions and action plans.

Based on the enthusiasm for greater interaction and collaboration expressed at the meeting, UNEP has undertaken to organise a third meeting in October 2000 at the International Atomic Energy Agency Marine Environment Laboratory in Monaco. In the meantime, UNEP continues to strengthen its efforts to revitalise its Regional Seas Programme.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Support to Africa

The strategy behind the restructuring of UNEP was to enable the organisation to focus on the cross-sectoral nature of environmental management in the era of globalisation. Even an apparently sectoral focus like water cuts across a whole realm of environmental, social and economic issues, a fact that is illustrated for instance by the scope of the newly inaugurated Global International Waters Assessment programme. The exception to the strategy is the UNEP Governing Council's desire to see the environmental needs of the African continent at the forefront of the UNEP agenda.

The environmental issues facing Africa are, of course, largely the same as those facing the rest of the world. This is reflected in the role African governments and NGOs play in all the major environmental agreements and initiatives already mentioned in this report, such as those governing the transboundary movement of hazardous wastes, climate change, biodiversity conservation and so on. Nevertheless, Africa also has specific needs, and it is these needs that the UNEP Governing Council sought to address by making the African continent one of the five UNEP priority areas.

The contrasting faces of Africa. Africa is the only continent where poverty is expected to rise in the twenty-first century. UNEP has designated support for Africa as a priority area.

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As was pointed out in this report's overview, not only does Africa as a whole face some of the world's most severe environmental challenges, as a region it has the most limited institutional, human and financial resources for dealing with them. The challenges are immense. It is perhaps in Africa that the need for truly sustainable development is most acutely felt. The overriding priority is to alleviate the poverty of the majority of Africa's 660 million inhabitants. Their poverty is a major cause of environmental degradation. Africa faces problems of increased food security due to rapid population growth, its arable lands are being degraded, and its available water resources are often mismanaged and inequitably distributed. Its cities are growing faster than anywhere in the world. The environmental impacts of rapid urbanisation include the degradation of coastal and marine resources and unacceptable levels of air pollution.

Capacity building

In light of Africa's environmental needs, the major thrust of UNEP work in support of Africa is strengthening Africa's human, managerial and institutional capacity—at regional, subregional and national levels—to address its environmental challenges. During 1999, UNEP provided support to various African governments seeking to strengthen the framework and implementation of their environmental policies. Highlights include:

- Sending a needs assessment mission to Liberia in response to its government's request for assistance in developing national environmental legislation.
- Helping Mauritania draft implementing regulations and sectoral environment statutes following the finalisation of its draft Environment Bill.
- Supporting follow-up activities subsequent to the adoption of Niger's adoption of a UNEP-assisted Framework Environmental Law.
- Assisting Nigeria to harmonise its environmental legislation at federal and state levels and enhance the capacity of its lawyers in using and applying environmental legislation.

Much of the UNEP assistance to African countries was sponsored by the UNEP/UNDP/Dutch Joint Project on Environmental Law and Institutions in Africa. Fruits of the project in 1999 included the adoption by Kenya of an Environmental Management and Coordination Bill, the drafting

of several environmental bills in Mozambique, Malawi and Burkina Faso—many of which have become law—and the harmonisation of laws and regulations in Kenya, Uganda and Tanzania. The project also sponsored workshops on judicial intervention and litigation in environmental causes in Kenya, Malawi and Uganda. Burkina Faso and Kenya conducted seminars for parliamentarians and senior policy makers on environmental law, while in São Tome and Principe senior policy makers and technical experts looked at the concept and practice of environmental impact assessment. Except in São Tome and Principe, all the workshops and symposia were conducted by Joint Project-trained nationals from the respective countries, reflecting the project's effectiveness in capacity building.

Forging a common African position

At the regional and international level UNEP provides technical and financial support to the African Ministerial Conference on the Environment (AMCEN). AMCEN was established in 1985 to strengthen cooperation between African governments on economic, technical and scientific activities to halt the degradation of Africa's environment and satisfy the food and energy needs of the continent's people.

AMCEN's role includes:

- Providing continent-wide leadership by promoting awareness and consensus on global and regional environmental issues, especially those relating to international conventions on biodiversity, desertification and climate change.
- Developing common positions to guide African representatives in negotiations for legally binding international environmental agreements.
- Promoting African participation in international dialogue on global issues of crucial importance to Africa.
- Reviewing and monitoring environmental programmes at the regional, subregional and national levels.
- Promoting the ratification by African countries of multilateral environmental agreements relevant to the region.
- Building African capacity in the field of environmental management.

UNEP worked in 1999 to ensure full African participation in multilateral environmental agreements and to enhance negotiating skills. Meetings were held to forge a common African position on the issues of biosafety, forest protection,

Creating new partnerships

UNEP / Ilse Voss-Lengruk

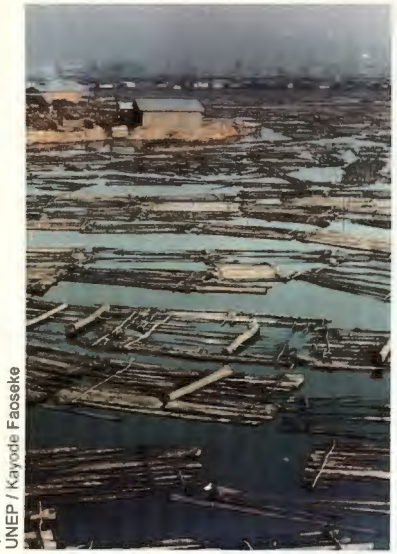
Much UNEP work involves supporting and advising national policy makers and legislators to help them sustainably manage the planet's environment. But the world is also coming to realise that governments are not the only players on the environmental stage. The role played by the private sector and by civil society the world over in shaping policy and setting trends is becoming increasingly influential.

Africa is no exception. In line with its objective of creating broad partnerships, UNEP invited more than 50 delegates representing various African non-governmental organisations (NGOs) to UNEP headquarters in September for a workshop aimed at strengthening collaborative links with UNEP and to prepare for the Seoul International Conference of NGOs.

In his opening speech, the UNEP Deputy Executive Director, Shafqat Kakakhel, declared: "Civil society's sources of inspiration are diverse. They may be spiritual, religious, moral or even political. But there is one common thread running through all these civil societies: there is a sense of personal responsibility and reliance on one's own initiative."

At the workshop UNEP renewed its commitment to strengthening partnerships with major groups, including the scientific community, civil society, NGOs and the private sector, and to involve them in policy development and advocacy to improve environmental management and to promote sustainable development. UNEP support for Africa was reiterated and an invitation was extended to NGOs to assist UNEP in implementing its African initiatives.

On the meeting's second day an interactive capacity building session on the theme 'Women, Sustainable Development and Governance' was held. This permitted a lively exchange of views on the key role of women in ecosystem management and control of environmental degradation.



UNEP / Kayode Faoseke

Africa is rapidly losing its forest resources. UNEP is helping build the capacity of African governments to participate in and influence international negotiations on world trade where decisons are made that can affect the African environment.

environmental impact assessment and desertification. Within the framework of the AMCEN biodiversity network, meetings were held to prepare for and subsequently review the work of the sixth meeting of the Open-ended Ad Hoc Working Group on Biosafety, held in Cartagena, Colombia, in February 1999. The meetings discussed the articles of a draft biosafety protocol important to the African region. African participation in the biosafety talks is essential because of Africa's rich biological resources and the region's limited capacity to provide for safety in biotechnology.

In September 1999, the AMCEN secretariat organised a conference to prepare for the third Conference of Parties to the Convention to Combat Desertification (CCD) held in November 1999 in Recife, Brazil. The conference considered national reports on the implementation of the CCD, progress made in formulating subregional and regional action programmes, and the links between biodiversity and dryland degradation, desertification and sustainable development, land degradation and socio-cultural issues, and the role of NGOs in implementing the CCD.

UNEP, through the AMCEN secretariat, also drew the attention of governments to the ongoing negotiations of the Intergovernmental Forum of Forests (IFF), established in 1997 under the framework of the Commission on Sustainable Development. The IFF's goal is to promote the implementation of the actions proposed by the Intergovernmental Panel on Forests and to review, monitor and report on progress in the management, conservation and sustainable development of all types of forests. In the last few decades, Africa has lost 60 per cent of its dry and moist forests and savanna and mangrove habitats. With UNEP support, the AMCEN secretariat organised an expert meeting within the framework of the AMCEN Committee on Forests and Woodlands to facilitate the understanding of key issues relevant to the African region in the IFF process. The meeting adopted common positions on key issues, particularly on international arrangements and mechanisms to promote forest conservation.

UNEP / Juan Pablo Ortiz

Land and water in Africa

Because of its fragility—both environmental and socio-economic—Africa is particularly vulnerable to natural disasters, especially those associated with drought and desertification. To address these issues, UNEP and the International Secretariat of the Decade for Natural Disaster Reduction convened a meeting to assess achievements in the field of natural disaster reduction in the 1990s and to identify priorities for action in the coming decade. The meeting, sponsored by the Organisation of African Unity (OAU) and the Economic Commission for Africa, focused on the socio-economic, scientific, technical and development aspects of disaster reduction, a field that is becoming an essential element of government policy in most countries of the continent.

African nations face a complex web of problems that include increasing rural poverty and urbanisation and crippling debt-servicing burdens that hamper internal investment in environmental management. With such a large proportion of the continent vulnerable to the forces of desertification—especially in this era of global climate change—the issues of land degradation and the management of shared water bodies are especially important to Africa. In recognition of this, UNEP launched the GEF Special Initiative for Africa on Land and Water at the meeting of GEF Heads of Agencies, in Washington DC, USA, in March 1999. The GEF initiative's first goal is to identify Africa's priority needs pertaining to land degradation and water. The initiative was discussed at the OAU Summit in July, during which UNEP and the GEF were invited to attend yearly meetings of the regional co-ordination mechanism on desertification in Africa as observers.

UNEP also published a report titled *Early Warning of Selected Emerging Environmental Issues in Africa: Change and Correlation from a Geographic Perspective*. The report focuses on the connections between population dynamics, political areas, land cover

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distribution and transboundary water resources. The report's regional case studies place people at the heart of the environmental protection process and identify emerging environmental issues by examining problems over large areas and assessing their cumulative impact on natural resources.

In May 1999, UNEP, in cooperation with the World Bank and the government of Kenya, organised the Africa Water Resources Management Policy Conference. Awareness of the need for wise management and sustainable use of Africa's water resources is increasing across Africa, and water policy reform is gaining momentum across the continent. The ministers and government officials who met to discuss water reforms recognised the need for adequate strategies to deal with the prevailing problems of water scarcity and equitable distribution, water pollution, watershed degradation, the invasion of exotic species and the issues of transboundary water resource management. The conference established an African Water Resources Management Forum to facilitate the exchange of knowledge among African water resources management professionals and practitioners.

Water experts and policy makers also met at UNEP headquarters in October to discuss the sustainable management of Africa's fresh water resources. Participants addressed the scientific aspects of the assessment of water resources and their vulnerability and the driving forces behind land use changes. These questions relate to the problems of water availability, the vulnerability of natural and socio-economic systems, changes in land use, and the science base for developing policies for sustainable water resource use. Emphasis was placed on the need for integrated studies of the interactions between land use and climate, especially in the scientific context of integrated and complex systems. Participants also emphasised the importance to Africa of adequate clean water, the availability of water for all and the protection of groundwater sources. Another conference, in November in Mauritius, addressed coastal and marine resources by looking at ways of revitalising the Nairobi Convention on the Protection, Management and Development of the Coastal and Marine Environment.

Protecting Africa's biodiversity

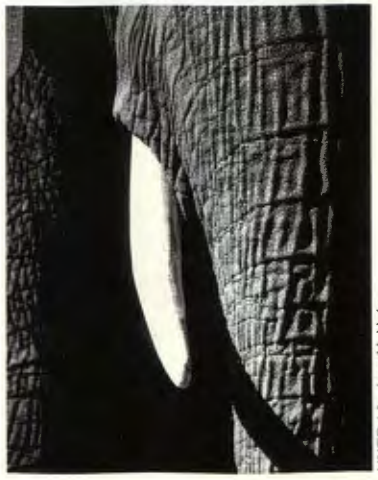
Despite its well-identified environmental problems, Africa remains one of the world's richest repositories of biological diversity. This diversity represents a valuable global resource and an important source of income for many African countries. Unfortunately, the wealth represented by Africa's wild flora and fauna is also recognised by international wildlife smugglers. Their plunder of African ivory, for instance, was held largely responsible for the dramatic decline in elephant populations across the continent in the 1970s and 1980s.

The problem of illegal trade in wild species is addressed at a global level by CITES *(see page 20)*. To combat the problem at a regional level, six African nations joined together in 1994 to combat wildlife smuggling. The UNEP-supported Lusaka Agreement on Cooperative Enforcement Operations Directed at Illegal Trade in Wild Fauna and Flora, whose parties are Congo, Kenya, Lesotho, Tanzania, Uganda and Zambia, came into force in 1996.

This year, the Parties to the Lusaka Agreement met in March in Kenya where they formally empowered an international task force to fight wildlife crime in Africa. The task force is based at the headquarters of the Kenya Wildlife Service in offices donated by the Kenyan government. It is composed of seconded law enforcement officers from each Party, and will be represented in each country by national bureaux. In its first six months of existence, the task force conducted three successful cross border operations that resulted in the confiscation of several tons of elephant ivory and firearms and the arrest of several poachers.

In Africa, an estimated 500 million hectares of land have been affected by soil degradation since 1950, including as much as 65 per cent of agricultural land. In 1999 UNEP and the GEF launched the Special Initiative for Africa on Land and Water. Its goal is to identify and address Africa's priority needs pertaining to land degradation and water.

The illegal trade in elephant ivory continues to threaten the species' survival in parts of Africa. With UNEP support, six African nations have joined to combat wildlife smuggling under the Lusaka Agreement.



UNEP / Andrea M. Heine

UNEP / Xu Yi Min

Communicating the environmental message

Communicating with the world is a central UNEP function. Although UNEP works directly with the world's top decision-makers, there is another constituency of decision-makers—the consumers of the world—whose actions will prove decisive in the quest for sustainable development. Thus it is that creating public awareness, communicating environmental policy messages and promoting and highlighting UNEP activities lie at the organisation's heart.

On June 5 every year, people all over the planet celebrate World Environment Day. The theme of 1999's World Environment Day was "Our Earth, Our Future—Just Save It!" World Environment Day was established by the United Nations General Assembly in 1972 to mark the opening of the Stockholm Conference on the Human Environment. Another resolution adopted by the General Assembly the same day led to the creation of UNEP.

From 1972 onwards a different venue has been chosen each year as the focus for the celebration of World Environment Day. The venue in 1999 was Tokyo, Japan. World Environment Day is, however, a global people's event, with governments, communities and individuals organising countless activities to highlight and improve the environment. These activities range from local community initiatives to government pledges and action on environmental planning and management.

As part of the World Environment Day celebrations, Japan hosted a World Conference on Global Commons. The conference was organised by the Japanese NGO Global Environment Action, a 1999 Global 500 award winner, in conjunction with the United Nations Department for Economic and Social Affairs. The aim of the conference was to review current environmental problems and challenges, and to exchange opinions on the preservation of the environment as a 'global commons'. The message to the world from the conference is that the environment is common to us all and that the responsibility for its conservation must be shared.

Environmental prizes

Each year World Day Environment Day sees the presentation of the Global 500 awards, which are given to individuals and organisations in recognition of their contribution to the protection of the environment. This year 17 winners from 12 countries received Global 500 awards *(see page 39)*.

Other environmental prizes awarded in 1999 include the newly inaugurated WILD awards and the prestigious Sasakawa Environment Prize. The 1999 UNEP Sasakawa Environment Prize went to Nobel Laureate Professor Mario J. Molina for his outstanding contributions in the field of atmospheric chemistry. The $200,000 prize was awarded in recognition of Professor Molina's pioneering investigations on the chemistry of the ozone layer that have led to a better scientific understanding of the effect of human activities on the atmosphere. Commenting at the prize-giving at the United Nations headquarters in New York in November, Klaus Töpfer, the UNEP Executive Director, said: "Professor Molina's leadership greatly contributed to making the UNEP-brokered Montreal Protocol on Substances that Deplete the Ozone Layer a reality. The speed with which countries ratified this precedent-setting international agreement was due in great part to the role he played in communicating to policy-makers, the media and ultimately the general public, the implications of his research."

The WILD awards, presented for the first time in 1999, were presented to four companies and their advertising firms at a

Working for their environment — the Global 500

Seventeen individuals and organisations received the prestigious UNEP Global 500 award in 1999 for their contributions to environmental protection. At the award ceremony, UNEP Executive Director Klaus Töpfer said: "UNEP is proud to recognise the environmental achievements of this year's winners. They have taken the path that most of us hesitate to take for want of time or caring. These often silent heroes have demonstrated in the most concrete way that we have the knowledge, the power and the technology to solve many of our environmental problems. More importantly, they have set an example many of us should follow."

The 1999 Global 500 award winners were:

- **Bebe Arcifa Khan-Ajodha**, a teacher from Trinidad and Tobago, who succeeded in making environmental education a national priority.
- The 102-million-strong **All-China Women's Federation** for their country-wide afforestation efforts.
- **Vilmar Berna**, an environmental journalist from Brazil who transforms his words into action.
- **Kenneth Chamberlain**, a CEO for the United Kingdom who helped put tourism on the path to sustainability.
- **Global Environmental Action**, a Japanese NGO that has succeeded in mobilising key players in the environment field.
- **Sampson Osew Larbi**, a rural farmer from Ghana who has helped protect his country's environment.
- **Captain Krishnan Nair**, an Indian entrepreneur who has made significant contributions to the greening of the hotel industry.
- **Makoto Numata**, an environmentalist from Japan who has made a lifetime commitment to saving the Earth's resources.
- **The Pennsylvania Senior Environmental Corps**, a group of older people from the United States who are using skills acquired through a lifetime's experience to protect the environment.
- **The Russian Federation of Indigenous Peoples of the North**, a unique coalition of indigenous peoples who are making their environmental concerns heard.
- **Verna Simpson**, a businesswoman from Australia who gave up a successful career to promote the environmental cause.
- **Masayuki Tanaka**, a university professor from Japan whose research has had a significant impact on the science of climate change.
- **The Toyota Motor Corporation**, an automotive industry giant that has put the environment at the top of its corporate agenda.

The list of winners also includes four Global 500 laureates in the youth category who have demonstrated that you are never too young to make a difference:

- **Enviroworks**, a group of Canadian high school students that has initiated a unique waste disposal programme using discarded construction materials.
- **Junior Eco-Club**, young people from Japan who are doing their part to achieve a more sustainable world.
- **Kurt Parekh**, a 13-year-old illusionist from India who uses magic to pass on the environmental message.
- **The Water Partnership Project**, a collaboration between two schools in South Africa that is setting an example for an entire nation.

For more details on this year's Global 500 award winners visit the UNEP Web site *http://www.unep.org* or contact UNEP Communications and Public Information.

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UNEP-hosted luncheon at the United Nations headquarters in October. The awards, established by UNEP and the WILD Foundation, are designed to enhance corporate consciousness, promote the responsible use of wildlife and wilderness in advertising and encourage corporate philanthropy in support of conservation. The inaugural recipients were Mutual of Omaha and its advertising agency Bozell Worldwide, Nedbank South Africa with agencies Ogilvy and Mather and The Hardy Boys, Canon USA, Inc., and Georgia Power and advertising firm Pollak, Levitt & Nel. As part of the event, Jason Raize, 'Simba' in the original Broadway version of Disney's *The Lion King*, was designated a UNEP Goodwill Ambassador. Jason was honoured for his commitment and dedication to furthering the cause of the environment through the use of his creative talents to inspire respect for our natural heritage and to promote the conservation and sustainable use of the Earth's resources.

UNEP believes that young people have an important role to play in efforts to attain sustainable consumption.

UNEP / Dwayne Ferwande

UNEP and youth

Youth represent the future, so it is fitting that they feature strongly in UNEP work. As part of the *GEO-2000* process, UNEP organised a special youth publication entitled *Pachamama: Our Earth - Our Future*. *Pachamama* is the product of young editors, designers and hundreds of young contributors worldwide. Project partners included UNEP, Peace Child International, UNESCO and UNICEF. The 96-page book contains information, case studies, games and topics for classroom discussion of major environmental issues ranging from atmospheric and fresh water problems to urbanisation and the protection of polar areas. The book's editors warn their readers that if they behave as recklessly as their parents "the good ship Planet Earth will crash sometime in the not-too-distant future."

UNEP also organised several conferences and events for young people during 1999. At the end of January, UNEP hosted the biannual environmental youth retreat 'Green Fire' in Nairobi. Fifty youth group leaders from all over the world met to share their environmental activities and work plans and to discuss pressing environmental problems such as climate change, waste and pollution. Then, in March, the UNEP Youth Advisory Council met with major stakeholders during the Commission for Sustainable Development meeting for a brainstorming session.

July saw a follow-up to 1998's International Children's Conference on the Environment when UNEP hosted over 100

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Kenyan delegates aged between 10 and 13 for a National Children's Conference on Communications and the Environment. Discussions centred on poor communications as a major cause of environmental pollution; creating environmental awareness for conserving wildlife; and the media and the environment. A presentation on the outcome of the conference will be given by a Kenyan delegate to the Millennium International Children's Conference scheduled for May 2000 in Eastbourne, England.

In December the UNEP Global Youth and Sustainable Development Campaign was launched. UNEP believes that youth have an important role to play in efforts to attain sustainable consumption patterns. Young people make up a distinct consumer category; a large portion of family consumption is directly or indirectly influenced by the young. Furthermore, young people are more open to change. The campaign was launched in 20 countries between December 1999 and January 2000. The campaign will be implemented through national, regional, and global youth networks and organisations. They will investigate the role of youth in promoting sustainable consumption, engage young people in a global process of consultation, identify best practices on consumption and set up actions to promote the concept of sustainable production and consumption among young people.

Another medium for promoting the environmental message is sport. Continuing its efforts on greening sports events, UNEP

worked with the International Olympic Committee (IOC) to develop an Agenda 21 for sport and the environment. The IOC has made environmental conservation the third pillar of Olympism along with sport and culture. The Olympic movement has addressed ecological methods in the planning of recent and future Olympic Games and recognises the urgent need for people to preserve and respect the environment in which they live. The Agenda was endorsed at the Third World Conference on Sport and Environment, in Rio de Janeiro, Brazil, in August 1999. A working group to review the implementation of the Agenda has been set up by the IOC and UNEP to work out the modalities of implementation.

Environmental words and images

As well as providing media back-up for the kinds of activities detailed above, UNEP produces the magazine *Our Planet*. Each issue of *Our Planet* concentrates on a specific environmental area and contains commentaries and analyses by the world's leading experts in their various fields. In 1999, *Our Planet* focused on sustainable tourism, small island developing states and, to commemorate the tenth anniversary of the Basel Convention, wastes and chemicals. *Our Planet* is available both in print form, where it has an estimated readership of over 65,000 per issue, and on the Internet, where it receives over 150,000 visits a month.

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This year also marked the launch of the third UNEP international photographic competition. Entitled 'Focus on Your World' the goal of the Canon-sponsored environmental photo competition is to raise global awareness at the dawn of the new millennium. The last competition, which coincided with the United Nations' fiftieth anniversary celebrations, attracted over 44,000 entries from 153 countries. Exhibitions of the winning photographs have toured on all continents and continue to be exhibited in major cities around the world.

UNEP and its various divisions and regional offices also produce an enormous amount of books and documentation. These are made widely available both in print and, increasingly, on the Internet. In August, UNEP launched a new Web bookshop. Located on the World Wide Web at *http://www.earthprint.com*, the bookshop allows customers to order copies of UNEP publications and covers topics such as environmental law, climate, industry and environment, and biodiversity. The new UNEP Internet book shop complements the existing UNEP home page *http://www.unep.org* and its publications catalogue *Environment in Print*. It increases global accessibility to UNEP publications by providing a comprehensive central catalogue with better customer service and fast delivery. UNEP publications were also promoted during 1999 at several exhibitions and book fairs including Harare, Nairobi and Frankfurt.

Environmental TV

While many regard the Internet as the communications tool of the future, television is still one of the world's most powerful mass communication tools. In January 2000, with support from UNEP, the acclaimed environmental TV series *Earth Report* returns to BBC World, which transmits direct to 180 countries. The programmes are produced by the editorially independent Television Trust for the Environment (TVE). UNEP co-founded TVE 15 years ago to reach mass audiences through television. With its focus on issues that lie at the heart of the UNEP global agenda, the new weekly *Earth Report* series is a critical part of UNEP communications. TVE has been able to commit to producing 52 programmes in the *Earth Report* series in 2000 because of financial donations, with no-editorial-strings-attached assistance, from UNEP and the World Wide Fund for Nature. Other backers for the new series include the European Commission and the Global Environment Facility.

Fifteen years ago, UNEP co-founded the editorially independent Television Trust for the Environment. Some current TVE *Earth Report* bulletins:

Half the Man Your Father Was **examines evidence that pollution is causing falling sperm counts.**

For Hake's Sake **trails the fishing fleet that is devouring the last of the Patagonian Toothfish.**

Danube Blues **looks at the ecological impact of NATO bombing on Yugoslavia.**

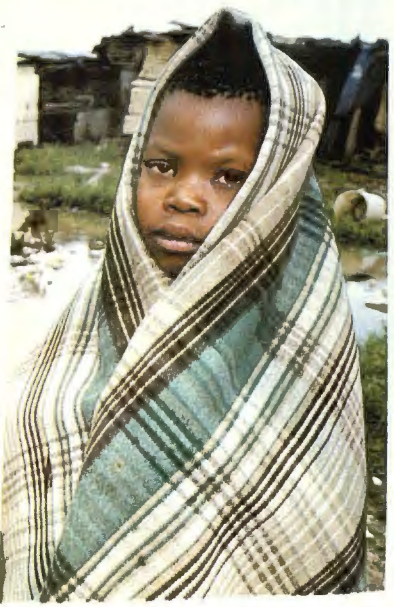
Area 'C' **takes a look at how the conflict over water could upset the Middle East peace process.**

A Steppe Forward **is a portrait of a concerted effort to preserve the grasslands and way of life of Mongolia's nomads.**

Poisonous Snakes and Ladders **follows the toxic dumping trade and charts international efforts to stop it.**

Facing the challenges of the twenty-first century

Average global per capita income has now passed $5,000 a year, but more than 1.3 billion people live on less than $1 a day. UNEP is working with other United Nations organisations to alleviate poverty within the framework of sustainable development.



UNEP / Shadley Lombard

In October 1999 the world's human population passed the 6 billion mark. Every day that number grows. What does this represent for our environment? The answer, in one word, is pressure. Every person on this planet is a consumer of natural resources, resources that we increasingly realise are finite. Each of these 6 billion people is also a producer of waste products. Sewage from our cities pollutes rivers and seas. Emissions from the world's 680 million motor vehicles are contributing to massive air pollution and climate change.

Statistics are cold. As we look at the pressing issues facing humanity at the start of the twenty-first century it is important to remember that each and every one of the people with whom we share the planet is an individual with rights, hopes and expectations. Unfortunately, more and more of those individuals are doomed to lives where their rights are denied and their hopes are dashed. Of the 6 billion people on Earth, over 1 billion are homeless or live without adequate shelter. Many more live in conditions of poverty that the majority of readers of this report could neither imagine nor tolerate. The poverty of these people is a direct threat to the environment.

Not so long ago environmental concern was regarded as a fringe movement. Environmental campaigns against nuclear power, the green revolution or industrial fisheries appeared to governments, agriculture and industry as an impediment to progress. Only recently has society brought environmental concern into the mainstream development debate.

Often that commitment is only skin deep. In the developed world, too many people and governments voice support for environmental concerns but continue to increase their consumption of the world's natural resources. In the developing world, people look to the rich countries and ask why they should be denied the luxurious lifestyles enjoyed in North America and Europe. And then there is a third world. This third world is not confined to places like drought stricken countries in Africa, it is a world visible in any corner of the globe. It is a world of poverty and desperation, where people do not have the luxury to think about the environment.

The question the world must address is how to reconcile the conflicting needs of a growing human population crying out for development and the needs of a global environment in crisis. And there is no doubt that there is a crisis that will effect every single person on this planet—as well as all the other species of fauna and flora on Earth—unless we take swift and effective measures now.

The UNEP state of the environment report, *GEO-2000*, sets out very clearly the challenges we face. Let us briefly look at them. At the top of the list comes climate change. The impacts of global warming will affect every person and every ecosystem on Earth and exacerbate many of the other environmental problems that lie in our future.

One example is water scarcity. Many parts of the world face severe water shortages. About 20 per cent of the planet's people lack access to safe drinking water; 50 per cent lack adequate sanitation. The increasing water demands of agriculture, in particular, threaten to drain underground aquifers and render productive lands infertile through salinisation. Many analysts anticipate that water issues will be a major cause of international and intranational conflict in the coming century.

Climate change is also contributing to the increasing frequency of natural disasters. However, the scale of their impact is due in large part to another factor affecting the environment:

urbanisation. Of the world's 6 billion people, half live in cities. Too often, urban growth is unplanned and unmanaged. The result is that when disaster strikes in the form of floods, storms or earthquakes, death tolls, which would have been in the hundreds ten years ago, are now in the tens of thousands. The rapid growth of cities also presents problems in the form of massive pollution of air, fresh water and the marine environment.

Other challenges abound: the destruction of the ozone layer, the rapid disappearance of biodiversity, continued deforestation across the globe, and the overexploitation and degradation of marine resources. These and other challenges—and the work being done to address them—feature throughout this report. But, underlying every environmental issue just listed are two factors that are the keys to understanding and remedying the global environmental crisis: poverty and consumption. While a significant proportion of the world's population struggles with poverty, the affluent minority uses an ever-greater share of the world's resources. These two issues are driving the forces of environmental degradation.

What, then, is the role of UNEP as we enter the twenty-first century? UNEP's mandate is not to eradicate poverty. However, through its growing partnerships with national governments, international and national NGOs, the private sector and United Nations organisations, it can ensure its voice is heard wherever environmental factors influence—negatively or positively—the issues of poverty. By arguing for sustainable development and giving concrete examples and assistance towards achieving that goal, it can contribute to a better standard of living for the world's poor.

Addressing consumption is as hard a task as addressing poverty. As *GEO-2000* shows, a continuation of current consumption trends will lead to an accelerated degradation of the Earth's resource base. Disseminating that message and providing the tools to remedy the problem is central to the UNEP programme of work. It is increasingly clear that in many cases the tools already exist to tackle the issues of unsustainable consumption. These tools include technologies for cleaner production, mechanisms for transferring environmentally sound technologies to areas where they are unknown or too expensive, and altered taxation systems that take into account the full life-cycle of a given product or activity and cost it accordingly.

UNEP is in an excellent position to influence the course of our development over the coming decades. First, it has the resources and the partnerships to compile and disseminate the scientific information that has to be the basis of all sustainable development decisions. Second, it has the cross-sectoral partnerships to turn that information into action. Third, because UNEP is the officially designated voice for the environment within and beyond the United Nations system, it is able to effectively promote the interlinkages between the environment and sustainable development at the highest levels. Finally, UNEP is at the forefront of a growing global movement. People the world over are becoming increasingly aware of the importance of taking the environment into account. That, ultimately, is UNEP's strength. It knows its voice is being heard.

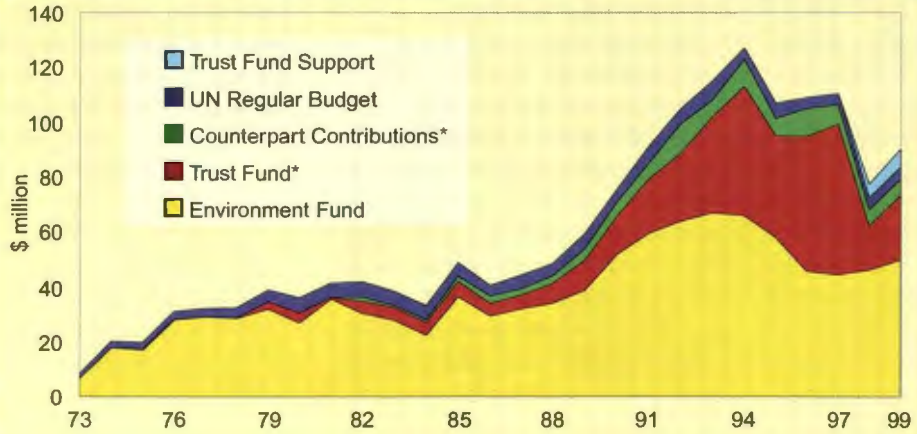
The past few years have seen UNEP undergo a major process of self-analysis and restructuring. That process is now complete. With its focused environmental priorities and its network of regional partners, UNEP is ready to guide the world towards the goals of sustainable development and the improved well-being of all the occupants of this planet.

UNEP / Yuji Hachiro

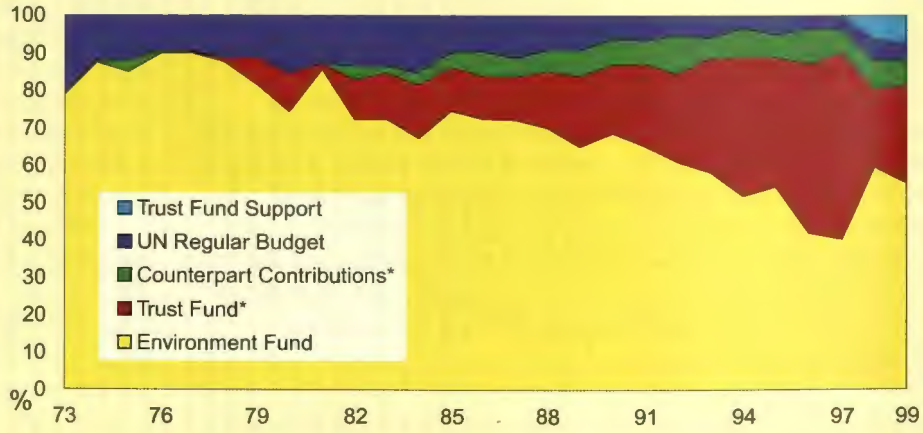
Transport accounts for a quarter of world energy use. Motor vehicles account for 80 per cent of all transport-related energy, making them a major contributor to greenhouse gas emissions. UNEP is working to promote clean technology, a reduction in unsustainable consumption patterns and a move away from today's 'throwaway society'.

UNEP funding

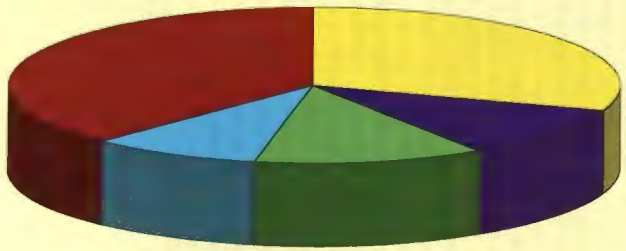
Sources of funds in US$ 1973–1999



Sources of funds 1973–1999 as a percentage



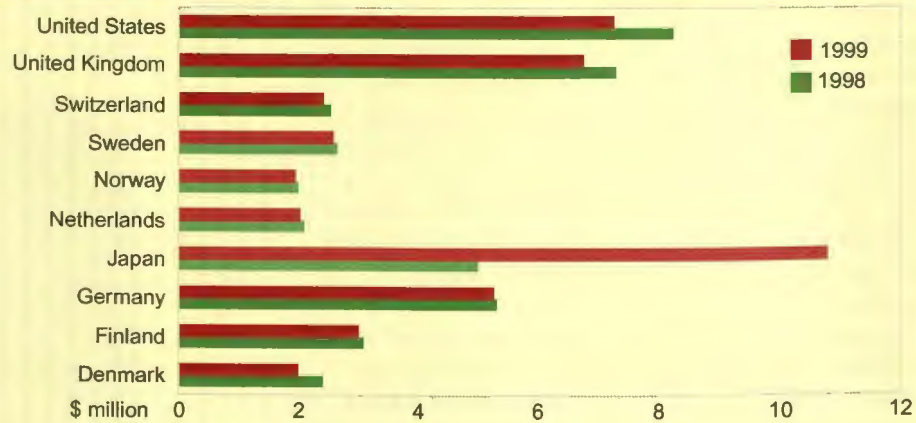
Environment Fund activities — programme of work 1998–1999



- Sustainable management and use of natural resources $18.7m
- Sustainable production and consumption $6.5m
- A better environment for human health and well-being $7.6m
- Globalisation and the environment $5.8m
- Global and regional servicing and support $23.4m

Total programme expenditure $62m

Donor pledges over $1 million 1998–1999



* Source: Financial reports and accounts 1973-1998. Trust fund figures for 1993-1997 include all the trust funds administered by UNEP, whereas the figures for 1998-1999 include only the trust funds directly supporting the UNEP Programme of Work. In both cases, the trust fund contributions do not include the Multilateral Fund under the Montreal Protocol. 1999 figures are projections. Cash receipts to the Multilateral Fund for which UNEP acts as a treasurer: 1998: $139,016,769; 1999: $145,967,607.

UNEP personnel

Professional Posts in UNEP by Source of Financing

	(As at 30.09.99)		(As at 31.12.99)	
	Approved*	Occupied*	Approved*	Occupied*
Environment Fund				
(a) MASC	34	29	34	30
(b) Projects	110	94	110	95
Sub-total	144	123	144	125
Regular Budget	22	20	22	19
Trust Fund Projects				
Conventions	83	67	83	71
GEF Trust Fund	19	18	21	21
Others	22	17	22	20
Sub-total	124	102	126	112
JPO Agreements (Trust Funds)	24	24	23	23
Professional Officers financed by Governments	8	8	8	8
Special Account for Support to Trust Funds (SASTF)	13	11	13	9
Activities financed from counterpart contributions	1	1	1	1
Grand Total	**336**	**289**	**337**	**297**

*Figures do not include 17 professional posts, 8 financed from MASC and 9 from OTL for staff from the former PSS and FPMB who have been assigned to BFMS in UNON effective 1 July 1998.

General Service Posts in UNEP by Source of Financing

	(As at 30.09.99)		(As at 31.12.99)	
	Approved*	Occupied*	Approved*	Occupied*
Environment Fund				
(a) MASC	51	50	51	49
(b) Projects	129	124	129	128
Sub-total	180	174	180	177
Regular Budget	17	17	17	17
Trust Fund Projects				
Conventions	81	72	81	68
GEF Trust Fund	13	12	13	13
Others	21	21	23	23
Sub-total	115	105	117	104
Special Account for Support to Trust Funds (SASTF)	21	14	21	15
Activities financed from counterpart contributions	4	2	4	2
Grand Total	**337**	**312**	**339**	**315**

* Figures do not include 26 GS posts, 16 financed from MASC and 10 from OTL for staff from the former PSS and FPMB who have been assigned to BFMS in UNON effective 1 July 1998.

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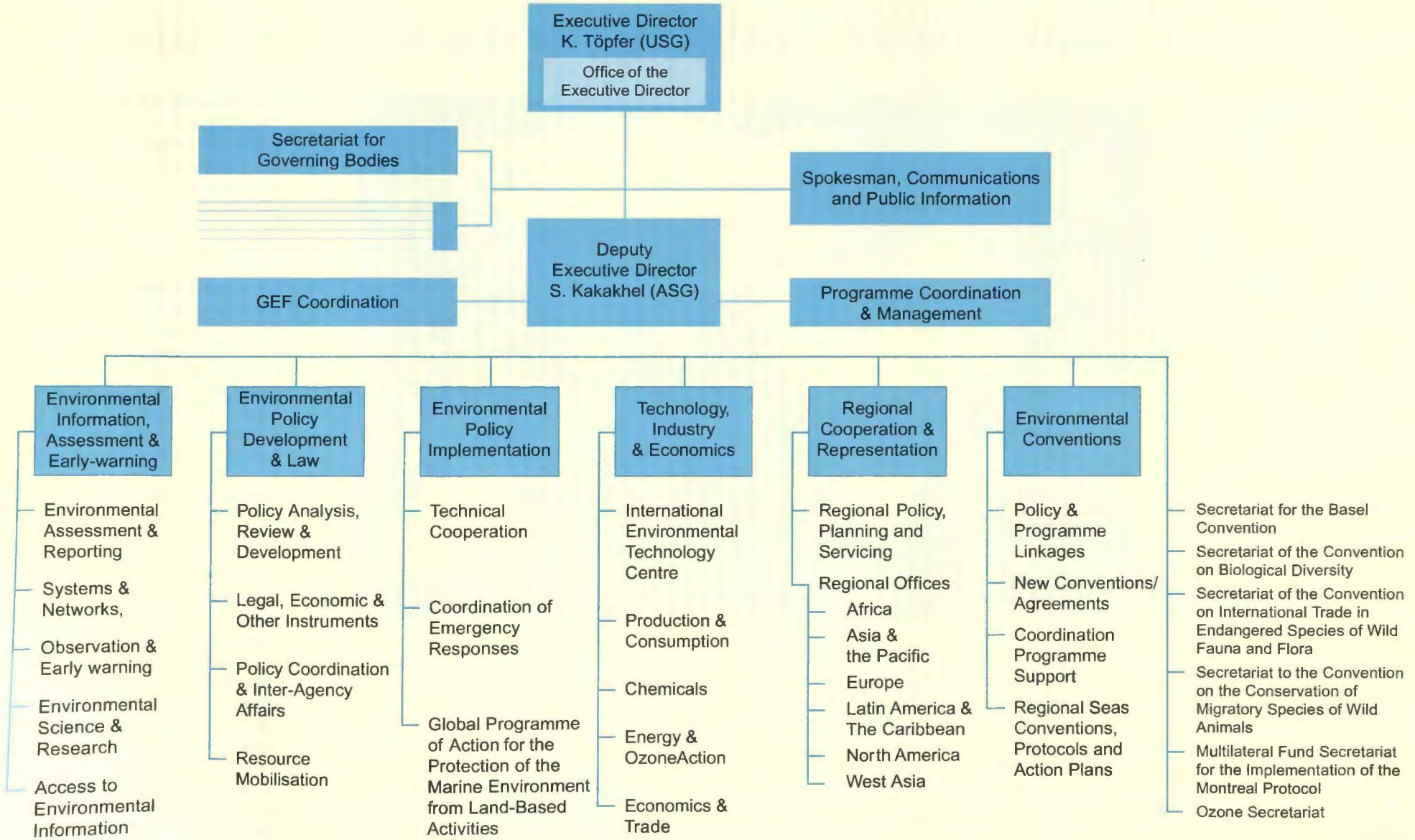
UNEP functional structure



The Nairobi Declaration and UNEP mission statement

The Nairobi Declaration was agreed by ministers of the environment and heads of delegation attending the nineteenth session of the Governing Council held during January–February, 1997. The declaration defining the future role and mandate of UNEP was endorsed by the special session of the United Nations General Assembly held in New York in June, 1997. The Heads of Delegation declared:

"1. That the United Nations Environment Programme has been and should continue to be the principal United Nations body in the field of the environment and that we, the ministers of the environment and heads of delegation attending the nineteenth session of the Governing Council, are determined to play a stronger role in the implementation of the goals and objectives of the United Nations Environment Programme;

2. That the role of the United Nations Environment Programme is to be the leading global environmental authority that sets the global environmental agenda, that promotes the coherent implementation of the environmental dimension of sustainable development within the United Nations system and that serves as an authoritative advocate for the global environment;

3. That to this end, we reaffirm the continuing relevance of the mandate of the United Nations Environment Programme deriving from General Assembly resolution 2997 (XXVII) of 15 December 1972 and further elaborated by Agenda 21. The core elements of the focused mandate of the revitalised United Nations Environment Programme should be the following:

The mission of the United Nations Environment Programme is to provide leadership and encourage partnership in caring for the environment by inspiring, informing, and enabling nations and peoples to improve their quality of life without compromising that of future generations.

a) To analyse the state of the global environment and assess global and regional environmental trends, provide policy advice, early warning information on environmental threats, and to catalyse and promote international cooperation and action, based on the best scientific and technical capabilities available;

b) To further the development of its international environmental law aiming at sustainable development, including the development of coherent interlinkages among existing international environmental conventions;

c) To advance the implementation of agreed international norms and policies, to monitor and foster compliance with environmental principles and international agreements and stimulate cooperative action to respond to emerging environmental challenges;

d) To strengthen its role in the coordination of environmental activities in the United Nations system in the field of the environment, as well as its role as an Implementing Agency of the Global Environment Facility, based on its comparative advantage and scientific and technical expertise;

e) To promote greater awareness and facilitate effective cooperation among all sectors of society and actors involved in the implementation of the international environmental agenda, and to serve as an effective link between the scientific community and policy makers at the national and international levels;

f) To provide policy and advisory services in key areas of institution-building to Governments and other relevant institutions..."

For the full Declaration see http://www.unep.org

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