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Transboundary Movements of Hazardous Wastes at the Interface of Environment and Trade

By Katharina Kummer



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United Nations Environment Programme

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Foreword

The 1992 "Earth Summit" found common ground upon which human development can be put on an environmentally sustainable footing. In 1993, completion of negotiations for the Uruguay Round set the course for a further liberalisation of international trade. One of the most pressing and complex challenges facing our generation is the search for a workable synthesis of the two, of economic relations and environmental realities.

We must embark upon this course, not because it is easy, but because it is necessary. Our planet's ecological vital-signs continue to warn us of an accelerating rate of degradation - depletion of the ozone layer that shields us from harmful solar radiation, erosion of productive soils needed to grow food, contamination of freshwater with hazardous wastes, depletion of fish stocks, the massive loss of biodiversity, the threat of climate change and global warming.

An important challenge identified at the Earth Summit is ensuring that trade and environment are "mutually supportive". It is hoped that this series, providing analysis on selected environmental issues of relevance to the environment - trade debate, will contribute to the search for solutions now under way.

Elizabeth Dowdeswell
Executive Director

The Author

This paper was prepared for the United Nations Environment Programme by KATHARINA KUMMER. As a former consultant to the UNEP Secretariat in Nairobi, the author was involved in the elaboration of the 1989 Basel Convention and the follow-up to its adoption. In 1994, she was awarded a PhD in international law at the University of London. Her thesis, entitled *International Management of Hazardous Wastes: The Basel Convention and Related Legal Rules*, will shortly be published by Oxford University Press.

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This paper does not represent the views of UNEP, the Basel Convention Secretariat or the Parties to the Convention, or of any person or organization named above. Any errors remain the sole responsibility of the author.

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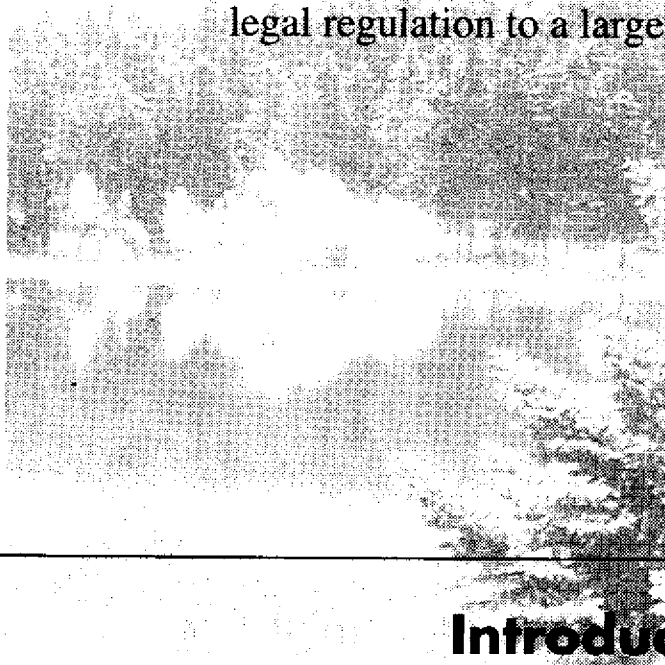
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The Basel Convention is the first global environmental treaty addressing the international transfer of hazardous wastes, an issue which had previously escaped legal regulation to a large extent.



Introduction

IN 1989, ENVIRONMENTAL CONCERNS LED TO THE ADOPTION OF the *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal* under the auspices of UNEP. The Basel Convention is the first global environmental treaty addressing the international transfer of hazardous wastes, an issue which had previously escaped legal regulation to a large extent. The key environmental aims of the

Basel Convention are to reduce the generation of hazardous wastes, to encourage their disposal as close as possible to the source of generation, and to ensure that all hazardous wastes are managed in an environmentally sound manner. One of the primary concerns is to safeguard the environment in countries with less developed technical and regulatory infrastructures against the uncontrolled influx of hazardous wastes originating in industrialized nations.

The Basel Convention is continually reviewed and developed further by its Contracting Parties, in accordance with emerging needs and changing priorities. A significant development is a 1994 decision of the Conference of the Parties to enhance the protection afforded to less industrialized countries by prohibiting transboundary movements of hazardous wastes from OECD to non-OECD countries. In addition to the Basel Convention, a number of regional agreements on hazardous wastes have been adopted in recent years to address specific regional needs, contributing to an emerging global regulatory system for the management of hazardous wastes.

These efforts can be viewed as building upon broader objectives of sustainable development - including sustainable practices related to waste management - formally agreed by the international community at the UN Conference on Environment and Development (UNCED) in 1992. *Agenda 21*, the action agenda adopted by UNCED, endorses practices of direct relevance to the main goals of the Basel Convention, including the promotion of cleaner production and the so-called "cradle-to-grave monitoring" of hazardous wastes.

Beyond its environmental merits, the emerging global regulatory system for the management of hazardous wastes also has potential repercussions for other areas of international cooperation. As a result of the increasing attention given to environmental problems within the framework of global and

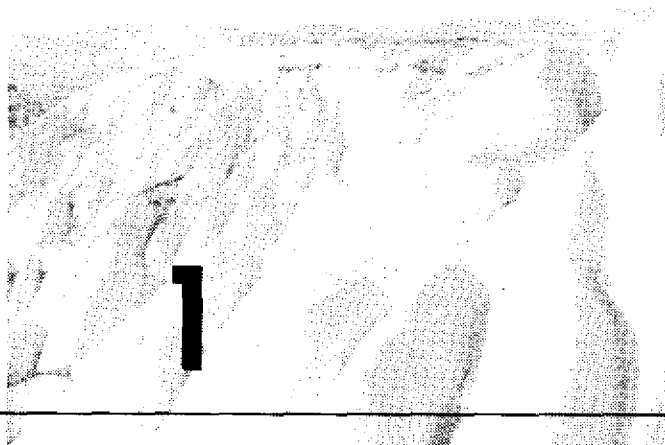
regional free trade agreements, issues with potential implications for both environmental protection and trade liberalization have begun to appear on international agendas. The prohibition of hazardous waste traffic between OECD and non-OECD countries for recycling as well as disposal may have some impact not only on the protection of human health and the environment, but also on industrial activity in both groups of countries. In the discussion of ways and means to ensure the best possible management of hazardous wastes while protecting the environment in developing and transitional economies, the North-South dimension of the problem was often at issue, as was the relationship between industrialized and non-industrialized nations. The successful building of an international legal regime for the management of hazardous waste, which we have witnessed in recent years, thus raises a number of interesting questions.

During the negotiation process on the Basel Convention and in the years following its adoption, the often disastrous effects of uncontrolled disposal of hazardous wastes from industrialized nations in developing countries were at the center of international attention. This issue is of major concern not only to governments, international organizations, and the NGO community, but also within the academic world: a majority of the publications on international transfer of hazardous wastes deal with the protection of developing countries against illicit dumping of hazardous wastes. This universal interest was instrumental in the adoption of international measures for the protection of developing countries against these practices.

This paper is not intended primarily as an addition to the already substantial literature on the situation of developing countries targeted for illicit hazardous waste disposal. While giving due consideration to this serious and important problem, it attempts to address some of the questions raised above. In

Chapter 1, it outlines some of the facts about the international hazardous waste trade. The second chapter describes the Basel Convention and the other components of the global legal regime addressing the transboundary movement of toxic waste. Chapter 3 addresses some of the issues that are of concern in the context of sustainable industrial activity in all countries: What substances are covered by the relevant international legal instruments? What are the likely implications of the trade prohibition between OECD and non-OECD countries? In what way will the hazardous waste regime contribute to the promotion of cleaner production, especially in developing countries? The last chapter then looks at some aspects of the reconciliation of environmental and trade objectives in the regulation of the international hazardous waste trade.

According to one estimate, the total volume of organic chemicals produced globally has gone up from seven million metric tons in 1950 to over 250 million tons in 1985.



International Transfer of Hazardous Wastes: Some Facts¹

THE AMOUNT OF HAZARDOUS WASTES GENERATED WORLD-WIDE is constantly increasing, particularly in the industrialized nations. World production of chemicals has multiplied in the past decades; according to one estimate, the total volume of organic chemicals produced globally has gone up from seven million metric tons in 1950 to over 250 million tons in 1985². The amount of hazardous wastes is believed to have increased accordingly.

Faced with the problem of disposal, more and more holders of hazardous wastes have, in recent years, chosen to export them from the country of generation, either for further treatment or final disposal in another country, or for dumping or incineration at sea.

It is very difficult to estimate the amounts of hazardous wastes involved. In many countries, systematic monitoring of hazardous waste management and collection of relevant data does not exist. Where it is in place, the methods used are far from uniform. National definitions of "wastes" and "hazardous wastes" vary widely, and states accordingly monitor different types of wastes in different ways and to a different extent³. Estimating the volume of hazardous wastes subject to transboundary movement is even more difficult: a large number of exports take place without the knowledge or beyond the control of state authorities, which means that the actual quantities probably exceed official estimates by far⁴.

Given these difficulties, available figures are far from exact and must be considered with caution. They can only give a rough indication of the scope of the problem. Estimates of the global volume of hazardous wastes generated annually range from 300 to 500 million tons⁵. According to OECD estimates, the OECD member states generated around 300 million tons of hazardous wastes per year in the late 1980s⁶, of which the United States produced between 260 and 275 million tons⁷ and the member states of the European Union (previously the European Community) between 20 and 35 million tons⁸. Eastern European states produced around 19 million tons, while the share of the rest of the world amounted to about 16 million tons⁹. The share of the United States appears particularly high because in that country large quantities of dilute waste waters are managed as hazardous wastes. In Europe, these are managed under water protection regulations and do not appear in the

hazardous waste statistics.

Of the wastes generated in the OECD countries, approximately ten per cent are shipped across international frontiers¹⁰. The vast majority of these border crossings take place within the OECD area. A cargo of hazardous wastes is believed to cross a border within the OECD every five minutes¹¹. Within Europe, approximately 2.2 million tons of hazardous wastes are estimated to make a total of 100'000 border crossings per year¹². The number of hazardous waste movements within North America has been estimated at 6,000 annually¹³. However, several hundred thousand tons of hazardous wastes are believed to be moved between OECD and non-OECD states every year¹⁴.

According to reports submitted to the International Maritime Organization (IMO), between six and 17 million tons of industrial wastes were dumped at sea by industrialized states between 1980 and 1985. This amount is, however, reported to be decreasing as dumping has been banned under several international agreements in the late 1980s¹⁵. Between 1980 and 1988, an estimated annual average of 100'000 tons of wastes, particularly organic materials in liquid form, were incinerated at sea¹⁶.

Although the reasons for exporting hazardous wastes from the country of generation are diverse¹⁷, they can be grouped into three categories.

First, export of hazardous wastes takes place along the so-called "path of least resistance". Waste generators in many industrialized states are faced with an increasing scarcity of disposal facilities, growing public opposition to the establishment and operation of such facilities based on the so-called NIMBY (Not In My Back Yard) syndrome, a tightening of environmental rules and standards, and escalating disposal costs as a result of these developments. For a long time, dumping or incineration at sea provided an easier and less costly

alternative, but this option has been severely restricted under the applicable treaties in recent years. The typical target country may offer disposal options at prices that are often a mere fraction of the disposal costs in the country of origin: according to a study carried out in the late 1980s, the average disposal costs for one ton of hazardous wastes in Africa was between US \$2.50 and US \$50, with equivalent costs in industrialized nations ranging from US \$100 to US \$2,000¹⁸. This discrepancy in costs provides a powerful incentive for hazardous waste exports. It is the result of lower environmental standards, less public opposition due to lack of information, less stringent - or non-existent - laws and regulations, and a lack of control over compliance in the target countries.

The international transfer of hazardous wastes carried out for the above reasons frequently takes place in contravention of such legal rules as do exist¹⁹. Unscrupulous waste traders stand to make gigantic profits. Uninformed individuals or corrupt government officials in the importing states are induced, by substantive financial offers²⁰, to accept hazardous waste shipments. Prior to the increase in public awareness in the 1980s, some least developed countries had been known to accept foreign hazardous wastes in exchange for hard currency in amounts that exceeded their GNP, despite the risks to human health and the environment.

The most substantive proportion of hazardous waste traffic between industrialized states, on the one hand, and developing countries or those with transitional economies, on the other, takes place along those lines. According to Greenpeace estimates, almost 5.2 million tons of hazardous wastes were exported from industrialized states to Eastern European and developing countries between 1986 and 1990, many of them illegally. Like other estimates, this figure must be considered with caution. It is believed to represent only the tip of the iceberg²¹. Numerous

developing countries have either received hazardous waste shipments or were proposed as importing states since the 1980s²². Waste transfers sometimes take place for the same reasons even among the industrialized countries of the EU and the OECD where there is a discrepancy in legal and technical standards and disposal costs²³.

It is this situation, in which the economic, technical and regulatory imbalance between the generating and importing states is exploited for financial reasons, that poses the gravest threat to the environment and to human health: a major concern is that the importing country usually does not have adequate facilities to treat and dispose of the wastes safely, nor the technical, legal and institutional capacity to monitor the transactions. Highly toxic wastes may thus be treated without due precaution, sometimes simply deposited on an unused stretch of land from where they leak into the soil and contaminate the groundwater.

Accordingly, these incidents of waste transfer have received by far the most attention on the political front. A number of well-publicized cases such as that of the "Philadelphia fly ash" deposited on Kassa Island (Guinea), the illegal deposit of Italian hazardous wastes in the port of Koko (Nigeria), and the epic voyage of the vessel "Khian Sea" provoked an international outcry against these practices, and led to global public awareness of the issue in the late 1980s²⁴. Numerous academic writers highlighted the issue of developing countries targeted for illegal hazardous waste imports, and outlined ways to address this problem²⁵. Beside the public scandals involving illegal traffic, more orthodox reasons for moving toxic waste across national frontiers have gone largely unnoticed.

A second, more ecologically sound reason for exporting hazardous wastes takes place on a regional scale. Wastes can be moved among neighbouring countries if this provides the

soundest solution from an environmental viewpoint. This can be the case where superior technology for treatment or disposal is available in another state, where the nearest facility appropriate for a specific type of waste is located across an international frontier, where several countries have established a joint disposal facility because the small quantities generated by each of them do not justify the operation of a separate facility in each state, or where a multinational enterprise operates a subsidiary specialized in waste treatment in a country other than the country of generation.

At the moment, this type of regional hazardous waste transfer takes place mainly among neighbouring industrialized states with comparable technical and environmental standards (e.g. within the European Union or the OECD), but it may soon represent a feasible option for less industrialized countries as their economies develop and the quantities of hazardous waste they generate increase. Regional hazardous waste management schemes set up by developing countries, or countries with economies in transition, would entail a certain number of transboundary waste movements between the countries concerned.

A third - and quantitatively important - reason for international waste transfer is based on the potential value as secondary raw materials of certain hazardous wastes. Hazardous wastes having economic value (e.g. heavy metals) are treated as a tradeable commodity and are exported in order to be subjected to operations leading to recycling or resource recovery in the country of destination. There is an established international market for certain types of recyclable hazardous wastes. International trade in hazardous wastes destined for recycling or recovery is substantial: of the hazardous wastes moved between OECD member states in 1990, about 50 per cent on average were subjected to recycling or recovery operations in

the state of destination²⁶. According to OECD estimates, around 95 per cent of the hazardous wastes that were legally exported from the OECD area to non-OECD countries between 1989 and 1991 were destined for recycling or recovery. Most of these wastes were metals or metal compounds subjected to resource recovery²⁷. The problems created by the export of hazardous wastes for recycling, particularly to less industrialized countries, will be examined in Section 3§.2. below.

In general, the problem of hazardous wastes is still largely a problem of the industrialized world, which currently generates over 90 per cent of all hazardous wastes. This state of affairs is, however, changing. While it is unlikely that the least developed countries will soon produce significant amounts of hazardous wastes, even the small quantities they do generate constitute a danger to the environment and to human health if not properly managed and disposed of. The quantities are generally on the increase²⁸. In least developed countries, heterogeneous quantities of hazardous wastes are produced by small-scale industries. These are difficult to monitor, and appropriate treatment is usually not available²⁹.

More significantly, however, a group of states commonly considered as 'developing' are rapidly industrializing. According to October 1993 economic forecasts of the International Monetary Fund (IMF), newly industrialized economies which experience economic growth in excess of 5 per cent per annum include Korea, Hong Kong, Singapore, Indonesia, Malaysia, Thailand, Chile, Mexico, Argentina, Egypt, and several others³⁰. Some of these countries are beginning to experience problems with the management and disposal of hazardous wastes on a larger scale³¹. In a number of countries of South and South-East Asia, for example, massive industrial development as a result of trade liberalization has led to a corresponding increase in pollution, including the generation

of large amounts of hazardous wastes. According to one estimate, industrial growth in Thailand has led to the generation of 1.9 million tons of hazardous waste in 1990, and a four-fold increase of this figure is expected by the year 2001³². In a number of countries, development of technical and regulatory infrastructures necessary for proper management and disposal of the wastes has not kept pace with industrialization. As a result, proper facilities for receiving wastes are often unavailable³³. In this sense, the situation is in some respects more difficult than in OECD countries, where a certain - albeit sometimes imperfect - infrastructure usually exists. It is crucial that this problem be addressed if serious damage to the environment in these countries is to be prevented. Accordingly, many Asian countries have in recent years adopted and implemented legislation regulating the management of domestically generated hazardous wastes, as well as imposing import restrictions³⁴. A short-term solution may even lie in exporting certain types of hazardous wastes to industrialized states for treatment and disposal. According to OECD statistics, some OECD countries do in fact import hazardous wastes from outside the OECD for recycling or disposal.

This brief overview may give an indication of the complexity of the problems confronting any attempt to regulate the international trade in hazardous wastes. The difficulty is not only in the elusiveness of the waste trade, but also in the diversity of situations that must be taken into account.

Public outrage and governmental concern almost immediately placed the issue of illicit dumping of hazardous wastes at the top of the environmental agenda, and numerous international bodies initiated work to deal with the problem.

2

International Legal Regulation of the Transfer of Hazardous Wastes

ALERTED BY NON-GOVERNMENTAL ORGANIZATIONS AND BY THE media, the international community in the mid-1980s awoke to the urgent need of controlling and restricting the trade in hazardous wastes through international legal regulation. The focus of attention was - and still is - on the illicit dumping of hazardous wastes from the industrialized world in developing countries for financial gain. Public outrage and governmental

concern almost immediately placed the issue at the top of the environmental agenda, and numerous international bodies initiated work to deal with the problem. At the global level, a first tangible result of these efforts was the adoption of the Basel Convention in 1989.

2.1. The Basel Convention

The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal was elaborated under the auspices of UNEP by a working group of government experts pursuant to a 1987 decision of the Governing Council of UNEP³⁵. The experts used a number of previous legal texts as a basis, including UNEP's 1987 Cairo Guidelines on the Environmentally Sound Management of Hazardous Wastes, as well as a draft OECD Convention on hazardous wastes transfer, and a 1984 Council Directive of the (then) European Community. Contentious and difficult, the negotiations were nevertheless concluded within 18 months. The Convention was adopted in March 1989 by the 116 states represented in a Ministerial conference in Basel, and entered into force three years later, in May 1992. Sixty-eight states from all regions of the world and the European Union are currently parties to the Basel Convention³⁶. The Geneva-based Convention Secretariat, operating within the framework of UNEP, has supported and coordinated efforts of the parties to implement the Convention since its inception on an interim basis in 1990. The Conference of the Parties, which is the governing body of the Convention, has thus far met twice (in 1992 and 1994) to review work done and decide on further action. The next meetings are planned for 1995 and 1997, respectively.

The objective of the Basel Convention is to protect human health and the environment against the ill-effects of hazardous wastes. Accordingly, it aims to reduce the generation of

hazardous wastes and their transboundary movement to a minimum, to ensure environmentally sound management of hazardous wastes the generation of which cannot be avoided, and to subject any transboundary movements that are not in principle prohibited to a control system. Thus it addresses both the need to protect countries, especially developing countries, against illicit hazardous waste imports, and the need to strengthen the capacity of all states to adequately manage the hazardous wastes that they themselves generate.

**(a) Definition of “Wastes” and “Hazardous Wastes”
(Articles 1 and 2, and Annexes I-IV)**

The Basel Convention defines “wastes” as substances or objects of which the holder intends to, or is required to, dispose³⁷. Under the Convention, “disposal” comprises operations leading to final disposal (such as landfill, incineration on land or at sea, release into continental waterbodies, release into the ocean including sea-bed insertion) as well as those leading to recycling, resource recovery, reclamation, direct re-use or alternative uses. The relevant operations are listed in two technical annexes to the Convention (Annexes IV A and IV B)³⁸. The provisions of the Basel Convention apply equally to wastes destined for disposal and those destined for recycling or recovery.

A waste is considered “hazardous” if it belongs to any category contained in Annex I, unless it does not have any of the hazardous characteristics listed in Annex III³⁹. States can define additional wastes as “hazardous wastes” by national legislation. Once a party state has informed the Secretariat of such national definitions, the relevant wastes must be treated as hazardous wastes by other parties when dealing with the state in question (Articles 3 and 6 para. 5). Household wastes as well as residues from their incineration, defined as “other wastes”, are also covered by the scope of the Basel Convention (Annex

II). The requirements of the Convention apply equally to “hazardous wastes” and to “other wastes”. The definition and classification of hazardous wastes under the Basel Convention, and problems related to its application, will be examined in more detail in Section 4.1. below.

Certain types of wastes or operations are expressly excluded from the scope of the Basel Convention (Article 1 paras. 3 and 4). The Convention does not apply to radioactive wastes that are covered by pertinent international control systems (namely those developed by the IAEA), or to wastes that result from normal operations of a ship and are therefore subject to IMO rules. Some problems relating to these exclusion clauses will be addressed in Section 4.1. below.

The Basel Convention only applies to wastes that are subject to “transboundary movement”, i.e. transactions involving at least two countries. The export of hazardous waste from a coastal state for subsequent dumping at sea does not come under the Basel Convention, but under the 1972 London Convention on ocean dumping, and related regional agreements.

(b) Restriction and Prohibition of Transboundary Movements of Hazardous Wastes (Articles 4 and 11, Decision II/12 of the Conference of the Parties)

Even in its original form, the Basel Convention prohibited its parties from carrying out or authorizing transboundary movements of hazardous wastes under certain circumstances. This is consistent with the Convention’s aim to minimize waste traffic in order to protect human health and the environment, especially in developing countries. This aim was reinforced by the March 1994 Decision of the Conference of the Parties which prohibits exports of hazardous wastes from OECD to non-OECD countries for disposal with immediate effect, and for recycling

by December 1997.

The Basel Convention generally allows transboundary movements of hazardous wastes only if the state of export does not have the appropriate facilities for treating the wastes in an environmentally sound and efficient manner, or alternatively, if they are required as raw materials for recycling or recovery industries in the state of import. In addition, it is prohibited in the following cases:

- To states that are neither parties to the Basel Convention nor to an agreement establishing equivalent environmental standards;
- To Antarctica;
- If the prospective state of destination has prohibited such imports, or belongs to a regional organization whose members have prohibited such imports by national legislation;
- If there is “reason to believe” that environmentally sound management or disposal options are not available in the prospective state of destination.

In addition, Decision II/12 of the second meeting of the Conference of the Parties prohibits exports of hazardous wastes

- From OECD member states to non-OECD members for the purpose of final disposal;
- As of 31 December 1997: from OECD members to non-OECD members for the purpose of recycling or resource recovery.

This means that permissible transboundary movements of hazardous wastes within the framework of the Basel Convention are restricted to certain cases where the Convention does not

prohibit them. After the adoption of the 1994 Decision, hazardous waste transfer is basically allowed only among OECD members on the one hand, and among non-OECD members on the other, provided that the states involved have not banned hazardous waste traffic, that they are Basel parties or parties to an agreement that is compatible with the Basel Convention, and that the wastes can be treated in an environmentally sound manner in the state of destination.

(c) The Prior Informed Consent Procedure (Articles 6 and 7, Annex VA)

In cases where transboundary movement of hazardous wastes is not prohibited in principle, the Basel Convention provides for a monitoring procedure based on the principle of Prior Informed Consent (PIC). The cornerstone of this procedure is that a transboundary movement of hazardous wastes may only take place after the states of import and transit have given their express written consent to the state of export, based on detailed information provided to them by that state. The scope of application of the PIC procedure is evidently becoming narrower after the adoption of the ban on hazardous waste traffic between OECD and non-OECD countries.

Each party state must designate a national authority responsible for administering the PIC procedure. The authority of the state of export must inform the authorities of the prospective states of import and transit of every intended movement of hazardous wastes (or require the waste exporter to do so). The information to be provided is specified in Annex V A of the Convention, and the Secretariat has prepared a notification form that can be used for this purpose⁴⁰. The competent authorities of the import and transit states must respond to the notifier in writing, consenting to the movement,

denying permission, or requesting further information. The competent authority of the state of export may not allow the movement to proceed unless and until it has received the written consent of all competent authorities involved.

(d) Illegal Traffic and Duty to Re-import (Articles 8 and 9)

Any transboundary hazardous waste transaction taking place in contravention of the provisions of the Convention, including the PIC procedure and the export prohibitions, is considered "illegal traffic". The state responsible for the illegality has to ensure the proper disposal of the wastes, if necessary by re-importation into the state of origin.

If a transaction takes place in accordance with relevant provisions, but disposal cannot be carried out as foreseen, the state of export has an obligation to ensure re-importation of the wastes if alternative arrangements cannot be made for their environmentally sound disposal.

(e) Liability and Compensation

The important issue of liability and compensation for damage caused by hazardous wastes subject to transboundary movement is to be addressed in a protocol to the Basel Convention. A Working Group set up after the adoption of the Convention is in the process of elaborating a draft protocol, regularly submitting reports to the Conference of the Parties. The protocol is hoped to be ready for consideration and possible adoption by the Conference of the Parties at its third meeting in 1995. The Group is also considering the establishment of a fund to provide emergency response, and to provide compensation where this is not available from another source.

(f) General Obligations Related to Hazardous Waste Management (Article 4)

In addition to restricting the transboundary movement of hazardous wastes, the Basel Convention gives general guidance on the management of such wastes independently of the place of disposal. Under the provisions of the Convention, states are required to:

- Reduce the generation of hazardous wastes to a minimum;
- Reduce their transboundary movement to a minimum, i.e. ensure that hazardous wastes are disposed as close as possible to the source of generation (principle of proximity);
- Ensure environmentally sound management of hazardous wastes;
- Ensure that equal requirements are applied to hazardous wastes exported as to those disposed of domestically (principle of non-discrimination);
- Cooperate in promoting new low-waste technologies with a view to eliminating, as far as practicable, the generation of hazardous wastes;
- Promote technical cooperation and exchange of information, especially to developing countries.

(g) Technical Requirements Related to “Environmentally Sound Management” of Hazardous Wastes (Article 4 para. 7)

Apart from generally requiring environmentally sound management of hazardous wastes, the Convention in a few cases obliges states to adopt specific measures related to the management of hazardous wastes. These measures include:

- The establishment of a national authorization or licensing

system for persons involved in the transport or disposal of hazardous wastes;

- The requirement of a movement document to accompany any hazardous wastes subject to transboundary movement from the point of generation to the point of disposal (cradle-to-grave monitoring);
- The establishment of national requirements for packaging, labelling and transport, in accordance with recognized international rules and standards in this field.

In addition, the Technical Guidelines elaborated by the Basel Convention's Technical Working Group are designed to give guidance to parties on technical matters related to the environmentally sound management of hazardous wastes. The Technical Working Group has prepared two sets of Technical Guidelines. The first set covers four priority waste streams (wastes from the production and use of organic solvents (Y6 in Annex I of the Convention), waste oils from petroleum origins and sources (Y8), wastes comprising or containing PCBs, PCTs and PBBs (Y10), and wastes collected from households (Y46)). The second set addresses one recycling and two disposal operations (specially engineered landfill (D5 in Annex IV), incineration on land (D10), and used oil re-refining (R9)). Additional Technical Guidelines are under preparation by the Working Group. The sets of guidelines form a part of the Framework Document on the Preparation of Technical Guidelines, which also provides guidance on their preparation. The main purpose of the Technical Guidelines is to provide governments and organizations with elements, criteria and principles which, applied together, constitute environmentally sound management of hazardous wastes. The Framework Document and the sets of Guidelines have been adopted by the Conference of the Parties⁴¹.

(h) International Cooperation and Exchange of Information (Articles 10, 13, and 16)

The provisions on international cooperation and exchange of information address the need to strengthen the technical and institutional capacities of developing countries in particular, in the area of hazardous waste management. With the ban on exports from OECD to non-OECD countries in place, future work will concentrate mainly on building the capacities of states to deal with their own wastes, to enforce the import ban on hazardous waste traffic, and to prevent illegal traffic.

The Basel Convention requires its parties to cooperate in their efforts related to the environmentally sound management of hazardous wastes (Article 10). Developing countries are to be given assistance in meeting their obligations under the Convention. Cooperation should extend to the following areas:

- Harmonization of technical standards and practices;
- Monitoring of the effects of hazardous waste management on human health and the environment;
- Development of low-waste technologies and environmentally sound waste management systems;
- Transfer of technology;
- Development of technical guidelines and codes of practice.

The Secretariat supports and coordinates these efforts. In some instances, it initiates the necessary activities, or actively provides assistance (Article 16). In order to strengthen the capacities of developing countries in particular, the Secretariat has initiated the preparation of the Technical Guidelines on environmentally sound management of hazardous wastes, model national legislation on the management and transboundary movement of hazardous waste, and a manual on the

implementation of the Basel Convention. These three elements are designed to give every country a minimum standard for the management of hazardous wastes.

Article 14 calls for the establishment of regional centres for training and technology in waste management and related issues, again with the aim of enhancing less industrialized countries' capabilities in this field. Several countries have indicated their willingness to host such centres, and the options are being investigated.

Parties to the Basel Convention must also exchange information on their waste-related activities, and on accidents involving hazardous wastes, through the channel of the Secretariat. All parties must regularly submit reports on substantive issues to the Conference of the Parties (Article 13).

(i) Decisions of the Second Meeting of the Conference of the Parties⁴²

At its second meeting in March 1994, the Conference of the Parties adopted 27 decisions, constituting the work programme for the implementation of the Convention in 1994 and 1995. Most of these decisions are related to legal, institutional and technical matters, and allocate various tasks to the Secretariat, the Ad Hoc Committee on Implementation, and the previously established Working Groups. The relevant issues include: continuation of the work on the protocol on liability and compensation and the establishment of an emergency fund; the prevention of illegal traffic; further development of the Technical Guidelines and the recommendations on recycling initiated by the first meeting of the Conference; further work on the notification and movement documents; transmission of information; model national legislation on hazardous waste management; and co-operation with other international organizations.

Most of the discussion at the March 1994 Conference, however, centred on the issue of a total ban on transboundary movements of hazardous wastes from OECD to non-OECD countries. In the case of hazardous wastes destined for final disposal, this had in principle been agreed by the first meeting of the Conference of the Parties in December 1992⁴³. The debate focused on whether the ban should be extended to wastes destined for recycling or recovery. After prolonged discussion, the Conference adopted the above mentioned decision to ban immediately the export of hazardous waste destined for final disposal, and to phase out the export of hazardous wastes destined for recycling by 31 December 1997. Non-OECD countries which continue to allow the import of hazardous wastes for recycling from OECD states until that date must inform the Secretariat accordingly. The relevant statement must specify the categories and quantities of hazardous wastes accepted, the recycling processes to be used, and disposal options for residues derived from the recycling process.

Technically speaking, the decision concerning the ban (as any other Conference decision) does not constitute a formal amendment to the Basel Convention. It can therefore be considered "soft law", i.e. a legal rule that is not formally binding. The legal value and status of "soft law" and related rules has been debated for many years, but no consensus has as yet emerged⁴⁴. Independently of the legal status, however, the decision has great political significance, as it represents a consensus of the states involved in the hazardous waste debate: politically, it would be very difficult for any state party to the Basel Convention to justify a contravention of the ban on the grounds that the decision is not legally binding.

2.2. The Basel Convention in the Broader Context of International Environmental Law

(a) The Basel Convention and Agenda 21

Chapter 20 of *Agenda 21* adopted by UNCED in 1992 is devoted to the environmentally sound management of hazardous wastes. It defines the overall objective of any activities related to hazardous wastes as preventing the generation of hazardous wastes as far as possible, or at least minimizing it, and managing the wastes in such a way that they do not cause damage to health and the environment. This objective is set within the context of integrated life-cycle management, and constitutes a part of the cleaner production approach supported by *Agenda 21*.

Four programme areas are set out in Chapter 20: (1) promoting the prevention and minimization of hazardous wastes, (2) promoting and strengthening institutional capacities, (3) promoting and strengthening international cooperation in the management of hazardous wastes, and (4) preventing illegal traffic in hazardous wastes. These areas of activity correspond very closely to the aims set out in the Basel Convention.

Agenda 21 repeatedly refers to the Basel Convention, calling for action to implement and strengthen the Convention. The Convention Secretariat has been involved in the implementation of some of the aspects of Chapter 20, and will continue to work in this area⁴⁵.

(b) The Basel Convention and Multilateral Agreements on Pollution Control

During the negotiations leading to the adoption of the Basel Convention, countries recognized that a number of pertinent issues were already regulated by existing international legal agreements. This meant that, whereas duplication was not

necessary, the relevant instruments should be taken into account by the new Convention: conflicts and overlaps should be avoided. The Basel Convention addresses this problem in a number of different ways. In the area of packaging, labelling and transport of hazardous wastes, for instance, the Convention regulates only the basic principles, and refers to “accepted international practices and standards” in the field (Article 4 para. 7(b)). A substantive body of rules establishing such standards has been elaborated by specialist agencies, including the UN Committee of Experts on the Transport of Dangerous Goods (UNCTDG)⁴⁶ and the competent committees of the IMO.⁴⁷ Much work has already been done on adjusting the relevant rules to take account of the Basel Convention.

In particularly important fields of possible conflict, the Basel Conference referred the issue to the appropriate international bodies. These areas include the transport of hazardous wastes by sea, the protection of marine and coastal areas against pollution by discharge or disposal of hazardous substances, and the management of radioactive wastes.⁴⁹

One of the most important areas in this context is dumping of wastes at sea, which is governed by the London Convention of 1972. Continuous consultations between the Secretariats of the Basel and London Conventions have helped to clarify the areas where harmonization is needed. Accordingly, the parties to the London Convention have adopted a number of resolutions that are aimed at harmonizing the two Conventions. It is likely that some of the relevant provisions will be formally incorporated into the London Convention in the course of the upcoming revision of that Convention. Another important area is transport of wastes by sea, governed by the MARPOL Convention and the pertinent IMO Codes of Conduct mentioned above. In this field also, work was undertaken to ensure that the transport rules extend to the transport of hazardous wastes.⁵⁰

2.3. Regional Multilateral Agreements on Hazardous Waste Management

Some aspects of international management of hazardous wastes can be addressed more easily at the regional than at the global level. Regional regulation is particularly useful where a group of neighbouring states with similar situations and interests want to adopt a common approach to a given problem. In the case of hazardous waste management, there are two obvious situations where a regional agreement seems appropriate. First, a group of developing countries intending to prohibit the import of hazardous wastes from outside their region can adopt an agreement by which they not only agree on a common import ban but also establish mechanisms of cooperation to enforce it. Second, a group of states with close political and economic ties and similar levels of economic and technical development may establish a regional management system for the hazardous wastes that they themselves generate.

Regional agreements addressing one or both of these needs have already been concluded, and additional ones are currently being negotiated. The Basel Convention is designed in such a way that it can serve as an “umbrella” to regional agreements: it sets global standards to which such agreements should adhere as a minimum, while at the same time complementing and supporting the aims of the regional agreements.

Apart from specific regional “hazardous waste agreements”, there are agreements addressing wider environmental concerns that devote a single provision to the hazardous waste issue, often containing a programmatic statement rather than detailed rules. This is true, for example, of the 1986 Noumea Convention on environmental protection in the South Pacific Region. Another example is the 1991 Abuja Treaty establishing the African Economic Community, which calls for a ban on the import of hazardous wastes into Africa.

The existing and emerging regional agreements reflect a shift in international political opinion: while the world community in the 1980s agreed merely that the international traffic in hazardous wastes must be restricted and controlled, the last few years have seen an emerging consensus on the need to ban completely such traffic from developed to developing countries. This has now been explicitly endorsed in the 1994 Decision of the Conference of the Parties to the Basel Convention, as already noted.

(a) The Bamako Convention

One of the significant regional agreements on hazardous wastes is the Bamako Convention, negotiated under the auspices of the Organization of African Unity (OAU) in response to a general dissatisfaction of African states with the Basel Convention.⁵¹ Adopted in 1991, the Bamako Convention is open for accession to all African member states of the OAU. It has not yet entered into force.

The Convention covers radioactive as well as hazardous wastes, and its definition of hazardous wastes is broader than that of the Basel Convention. The Bamako Convention adopts a two-level approach to traffic in hazardous and radioactive wastes: on the one hand, their import into Africa from non-contracting parties, for whatever reason, is prohibited; so is their dumping in African waters. On the other hand, the transfer of hazardous and radioactive wastes between OAU states, which are parties to the Convention, is subject to a regime virtually the same as that of the Basel Convention. Relevant provisions include general obligations for waste management, a PIC procedure, the prohibition of illegal traffic, and provisions on inter-African cooperation.

(b) The Central American Regional Agreement on the Transboundary movement of Hazardous Wastes

Concluded in December 1992 between Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua and Panama, this agreement adopts an approach similar to that of the Bamako Convention: it obliges its parties to prohibit the import of hazardous wastes from states not parties to the agreement into the Central American Region. Likewise, the dumping of hazardous wastes in the marine areas of the region is prohibited. Parties are required to adopt the necessary measures to prevent and punish contraventions of these prohibitions. Unlike the Bamako Convention, the Central American Agreement does not address the issue of transboundary movements of hazardous wastes among the parties themselves. It does prohibit parties from exporting hazardous wastes to third countries which have banned such imports, as does the Basel Convention. - - - -

(c) Article 39 of the Lomé IV Convention

The Fourth Convention of Lomé, concluded in 1989 between the European Union and the 69 African, Caribbean and Pacific (ACP) states, generally addresses issues of economic cooperation and aid between the two groups of states. It entered into force in 1991. Within the framework of the environmental provisions, Article 39 deals with the issue of hazardous wastes. It obliges the members of the European Union to ban direct or indirect exports of hazardous wastes to the ACP states, and the latter to prohibit direct or indirect imports from the EU or from any other state. An exception is made if an ACP state has sent hazardous wastes for processing to an EU state: in this case, the processed wastes may be returned to the ACP state of origin.

(d) The Hazardous Waste Management System of the OECD

The OECD, whose member states collectively produce nearly all the hazardous wastes generated globally, played a pioneering role in the development of rules for the management of hazardous wastes.⁵² Its Waste Management Policy Group has been active since 1974, creating the basis for the relevant work of the Council. Many of the OECD's policy recommendations and technical guidelines were subsequently taken over by other legal instruments.

The OECD Council adopted a number of decisions and recommendations dealing with the control of transboundary movements of hazardous wastes, and in a 1988 Decision established the International Waste Identification Code (IWIC) for the classification of hazardous wastes and of recovery and disposal operations. The IWIC can be used as a way to designate waste subject to transboundary movement in the PIC procedure under the Basel Convention.⁵³ In 1985, the Council initiated the elaboration of a draft convention on transfrontier movements of hazardous wastes, which - although it was never finalized - served as one of the main bases of the Basel Convention.⁵⁴

Having participated in the negotiations and adoption of the Basel Convention, many OECD member states subsequently felt that its approach to hazardous wastes destined for recycling was unnecessarily restrictive towards the trade in recyclable materials. In 1992, the OECD Council adopted a Decision on transfrontier movements of wastes destined for recovery operations within the OECD, which subjects different types of recyclable wastes to different levels of control.⁵⁵ Wastes considered comparatively harmless are included in a "green list", and are subject only to controls "normally applied in commercial transactions". An "amber list" of wastes is subject to more extensive control, while wastes figuring on a "red list" are subject

to a control system virtually equivalent to that of the Basel Convention. Like the relevant EU legislation, this system encompasses hazardous as well as non-hazardous wastes. It applies to waste traffic within the OECD only, not addressing the issue of exports from the OECD. Since the majority of the OECD member states are now parties to the Basel Convention, they are bound by the 1994 Decision prohibiting the export of hazardous wastes to non-OECD countries.

(e) The Hazardous Waste Legislation of the European Union

The European Union, a regional integration organization comprising some of the world's most highly industrialized countries, began to address the issue of hazardous wastes as early as the 1970s. In 1991, the two main Directives dealing with the issue were amended in accordance with newly evolving policies and priorities.⁵⁶ A Regulation on transboundary waste movement within the EU, and between the EU and third states, sets out a highly sophisticated and detailed regime.⁵⁷ Adopted in 1993 after a two-year negotiating process, the Regulation provided the legal basis for adherence of the EU and most of its members to the Basel Convention in February 1994, and implements the Lomé IV provision discussed above. Additional Directives with a relevance for waste management are under preparation.

The EU's legal rules cover not only hazardous wastes, but also a broad range of wastes not defined as hazardous. While the two Directives on wastes and hazardous wastes, respectively, lay down the fundamental principles of waste management and provide a framework for the management of wastes and the operation of disposal facilities within the EU, the 1993 Regulation sets out detailed rules for practically every conceivable case of transfrontier waste movement, both within

the EU and with third states, distinguishing between wastes subject to recycling and those subject to final disposal. The Regulation adopts the OECD's three-tier system. "Green list" wastes are exempt from most of the rules, whereas "amber list" wastes can be subject to either the rules on recycling or disposal, and "red list" wastes must always be moved following the rules on final disposal. Waste movements within the EU are subject to an authorization system in which the competent authorities of all states concerned participate. This system is based on PIC in the case of wastes destined for disposal, and tacit (as opposed to explicit) consent in the case of recyclable wastes. Member states may also prohibit the import of wastes both from other EU states and from third states, as long as this is not incompatible with the Treaty of Rome.

The Regulation prohibits the export of wastes from the EU for disposal except to member states of the European Free Trade Association (EFTA) which are parties to the Basel Convention. Any permissible exports are subject to a PIC procedure. Waste exports from the EU for the purpose of recycling or recovery are prohibited except to OECD member states, parties to the Basel Convention or to parties to an agreement that is compatible with the Basel Convention. As the EU and a large majority of its members are now parties to the Basel Convention, they have to respect the export ban to non-OECD states, which is also in conformity with the spirit of Article 39 of the Lomé IV Convention. For those wastes that are defined as hazardous, export from the EU to non-OECD states will thus no longer be permissible after 31 December 1997.

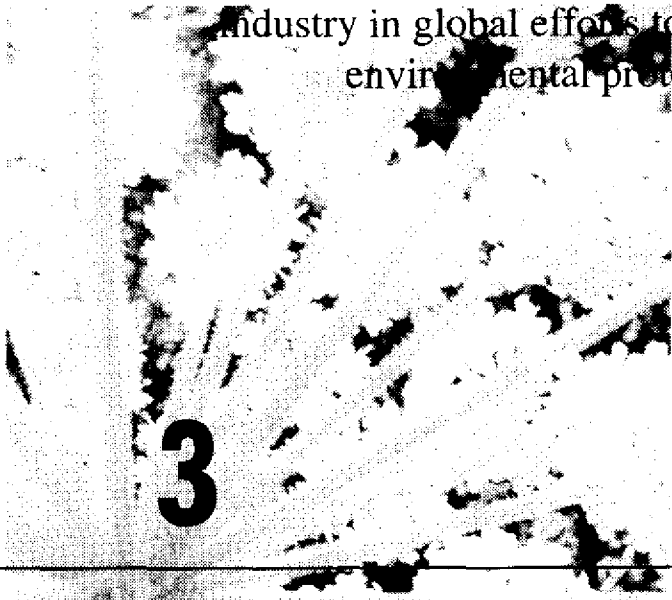
**(f) Other Regional Efforts to Control the
Management of Hazardous Wastes**

In addition to the regional mechanisms already in place, a number of agreements are currently in the process of negotiation.

There are plans for the development of hazardous waste protocols to some of the Regional Seas Conventions elaborated under UNEP's Regional Seas Programme. Within the Mediterranean Action Plan, a draft protocol to the Barcelona Convention on the protection of the Mediterranean is being prepared by a group of experts; it is intended to be ready for adoption in 1995. Work has also started on a hazardous waste protocol to the Lima Convention on the protection of the marine environment in the South-East Pacific. In their current form, both these drafts follow the format of the Basel and Bamako Conventions. Plans for the elaboration of hazardous waste protocols have also been made within the framework of the conventions covering the Black Sea, the Caribbean, and the Gulf.

The newly industrialized countries, members of the Association of South-East Asian Nations (ASEAN), i.e. Malaysia, Indonesia, the Philippines and Singapore, are considering the adoption of a regional hazardous waste convention. A draft prepared by the Philippines, based to a large extent on the Bamako Convention, was discussed at a Ministerial meeting in April 1994. In addition to a ban on imports of foreign hazardous wastes into the ASEAN region, the draft also calls for reduction of hazardous waste generation and sets out rules for transboundary movement within ASEAN, an issue of increasing concern to these countries given the rapid development of their industries.

Agenda 21 calls for sustainable economic development, especially in developing countries, and recognizes the role of business and industry in global efforts towards environmental protection.



Environmentally Sound Management of Hazardous Wastes and Sustainable Industrial Activity

IN THE YEARS SINCE THE ADOPTION OF THE BASEL CONVENTION, a number of pertinent issues emerged as having a potential impact on industrial activities in different groups of countries. As UNCED's *Agenda 21* calls for sustainable economic development, especially in developing countries, and recognizes the role of business and industry in global efforts towards

environmental protection, the participation of industrial enterprises in such efforts should be encouraged. In this context, some issues of potential concern to the relevant industries in all countries will be examined in this chapter.

3.1. What is a “Hazardous Waste”?

An important prerequisite for the successful implementation of hazardous waste legislation, whether at the international or the national level, is a clear understanding of what is covered by the rules in question. The definitions of “wastes” and “hazardous wastes” currently in use pose a number of problems, however. One problem concerns the definition of wastes as opposed to secondary products or raw materials. This is of particular practical significance for the recycling industry, but is also relevant in the context of compatibility of environmental and free trade regimes. Secondly, criteria for qualifying a waste as hazardous are sometimes considered to be lacking in precision, making it difficult to determine which rules apply to a certain type of waste. Uncertainty on which substances are covered by the various legal instruments can lead to confusion, and make their application more difficult.

(a) National and International Definitions

At the national level, a major problem is that many states, especially developing countries, lack national legislation defining wastes, or distinguishing between hazardous wastes and other kinds of wastes. Absence of a definition of hazardous wastes in particular can mean that such wastes are not subjected to the special treatment necessary for protecting the environment and human health.

Of the existing national laws and regulations, many base the definition of wastes on the subjective criterion that the holder of a substance or object intends to, or is required to, dispose of

it.⁵⁸ In other words, the question whether or not the substance or object is a waste is determined on the basis of its subjective value, i.e. whether or not the current holder has a use for it. The problem with this approach is that any potential value for persons other than the current holder is not considered. This is actually spelled out in the Australian Hazardous Waste (Regulations of Exports and Imports) Act of 1989: "Waste includes anything that has been rejected as worthless by a person who has or had possession of it (whether or not someone else may regard it as having some value)".

Another difficulty is that the notion of "disposal" often extends to recycling or resource recovery, so that a waste traded for the purpose of recycling is subjected to the same rules as wastes intended for final disposal. Industry circles in particular feel, however, that recyclable materials should be treated as a tradeable commodity and thus be subject to different rules than wastes intended for final disposal.

In order to circumvent these difficulties, a manual on waste management in developing countries, elaborated under the auspices of the World Bank, proposes the following simplified "working definition" of a waste: "a moveable object which has no direct use and is discarded permanently".⁵⁹

Hazardous wastes are defined in many countries either by describing their characteristics, the risks they pose, the special treatment they require, or - more commonly - by reference to lists of categories of wastes and hazardous characteristics. The existing national definitions range from the fairly general to sophisticated classification systems. One of the problems here is that very few countries use limit values of concentration to determine the hazard potential of a given substance.

An important function of the definition of "wastes" and "hazardous wastes" in international legal instruments, outlined

above, is to provide those countries that do not have national definitions with a minimum standard, and to ensure a certain degree of harmony between existing national definitions. Current international definitions share the main characteristics of many national definitions: wastes are defined as substances or objects subject to disposal, and hazardous wastes are defined by reference to a set of technical annexes containing a classification system. International definitions are often generic, serving as a basis upon which states are free to elaborate. This is true of the definitions of the Basel and Bamako Conventions, and the Central American Agreement: all these legal instruments explicitly provide that parties may define additional wastes as hazardous by national legislation. A number of regional agreements cover a wider scope of wastes than the Basel Convention, for example by including certain radioactive wastes, and substances that are banned or severely restricted in the state of origin. With the exception of the waste management systems of the EU and the OECD, the existing regional agreements (like the Basel Convention) do not distinguish between recyclable and non-recyclable wastes.

The Basel Convention's system of classifying hazardous wastes and hazardous characteristics has been subject to criticism: many feel that it is too wide, allowing an unduly wide range of substances to be subsumed. In fact, one of the key problems with the efficient implementation of the Convention concerns the use of Annex III, which lists hazardous characteristics. There is a lack of criteria for defining some of these characteristics, namely the last four classes in the list (H10 to H13), whereas others are fairly well defined. In accordance with a decision of the Conference of the Parties, UNEP and other interested international agencies are cooperating to develop appropriate criteria.⁶⁰ For similar reasons, there are some difficulties with the application of some of the categories of

wastes listed in Annex I (e.g. Y18: "Residues arising from industrial waste disposal operations").

The Basel Convention also does not establish limit values of concentration, so that a substance contaminated with even a small quantity of a hazardous component may be considered a hazardous waste. This problem is indirectly addressed in a note to Annex III, which refers to the need for further research into testing methods to determine the hazard potential of the wastes in question. The OECD draft convention of 1985 (which was never finalized as it was considered to be superseded by the Basel Convention) would have established a generic definition while placing the burden of proof for the absence of hazardous characteristics on the holder of the wastes. This means that the person in charge of the waste would have had the option of proving that a given waste was not hazardous. He could show, for example, that the hazardous component was so small as to render the whole substance non-hazardous. This concept has not been explicitly included in the Basel Convention.

There are, however, ways to mitigate these problems to some extent. As noted above, the definition of the Basel Convention can be elaborated by the national legislation of parties. Countries can therefore develop more detailed criteria to define hazardous wastes, and the Technical Guidelines may provide some guidance in this matter. A number of states, mainly in the industrialized world, have adopted relevant legislation. An advanced example is the Japanese Law for the Control of Export, Import & Others of Specified Hazardous Wastes and Other Wastes of March 1994, and related legal instruments: they provide very detailed definitions, including limit values of concentration and specifying testing methods. The Japanese Environment Agency also published a set of guidelines proposing ways to identify wastes defined as hazardous under the Basel Convention.⁶¹

(b) Wastes versus Products, Goods, and Secondary Raw Materials

The question whether there should be a distinction between “useless” wastes, on the one hand, and “useful” products or secondary raw materials, on the other, has gained obvious significance with the prohibition of waste exports from the industrialized world to developing countries and those with economies in transition, now endorsed by all relevant international legal instruments: should there be a category of substances which, although constituting (or derived from) a waste material, are defined as secondary products or secondary raw materials and therefore exempt from the export prohibitions? This question is equally important in the discussion of the relationship between rules restricting trade in the relevant substances, and the free trade regimes established by the GATT (and on a regional scale by the European Union), discussed in Chapter 4. If some wastes are defined as products, the question arises to what extent the rules restricting their international transfer and the rules established by the trade regimes are compatible with each other.

As already mentioned, the Basel Convention and most relevant regional agreements do not distinguish between wastes and secondary materials that could have some use. As environmental treaties, their declared aim is to reduce the generation and transboundary movement of hazardous wastes, whether recyclable or not. They are concerned with the protection of the environment and human health rather than with the needs of the recycling industry and the requirements of free trade. The legal rules of the EU and the OECD do make a distinction, as noted above. However, these rules base the different treatment of wastes with potential economic value on the fate of the substances (i.e. the fact that they are destined for recycling), rather than on a definition of the substances as

products or raw materials.

Despite the importance of the issue, there is as yet no agreed definition of a secondary raw material, or a product, as opposed to a waste. Probably the most extensive discussion of this question has taken place within the framework of the European Union, in the context of potential conflicts between the aims of environmental protection through restriction of the waste trade, and promotion of the free movement of goods to secure the Single Market. On various occasions, the European Court of Justice (ECJ) ruled that wastes have an economic value and are therefore considered “goods” (the term used in the Treaty of Rome). This applies to wastes destined for disposal as well as to those destined for recycling. The economic value of the wastes is positive if they are destined for recycling or resource recovery. If the wastes are intended for final disposal, their value is negative, i.e. the holder is prepared to pay for their disposal. This means that all wastes are considered “goods”, whether their economic value is positive or negative. The Court considered that a distinction between recyclable and non-recyclable wastes would be impractical, as it depended on uncertain and constantly changing factors such as technical progress, and costs and profits of recycling operations.⁶² Thus the ECJ opted against a distinction between “wastes” on the one hand and “goods” on the other.

In the context of the GATT, the issue has not as yet been explicitly addressed.⁶³ There appears to be no agreed definition of the term “product”, even though this is a crucial notion within the GATT context. The GATT Working Group on Export of Domestically Prohibited Goods and other Hazardous Substances included hazardous wastes in the scope of its work. However, the Group defined “substances” and “wastes” as categories separate from “products”.⁶⁴

The issue of distinguishing between wastes and products or

secondary raw materials is being discussed within various other interested organizations, including the OECD, its Business and Industry Advisory Committee (BIAC), and the Bureau of International Recycling (BIR). No definite conclusions have been reached as yet. In the OECD discussions, it was considered that the economic value alone was not sufficient to define a discarded substance as a product instead of a waste. Tentative elements of a future definition include the following: the substance must be suitable for re-use in some form, it must have an economic value, and there must be an established market for it. The existence of a market value was given substantive weight in a recent decision of the German *Bundesverwaltungsgericht*: the court argued that potentially useful waste materials are to be treated as goods, not as wastes, if there is a market for them. Contrary to the ECJ decision mentioned above, the court did not consider this to be the case if their value is negative in the sense that the holder is prepared to pay for disposal.⁶⁵

An internationally agreed definition of goods or products as opposed to wastes could help to clarify the issue. An alternative solution would be that chosen in the legislation of the EU and the OECD, i.e. making the applicability of special rules on recycling or disposal dependent on the fate of the substance rather than its characteristics as a product or a waste, and providing that the less stringent rules on recycling may not be applied to the most hazardous category of wastes. For the purpose of improving control at border points, the separate identification of hazardous wastes in the Harmonized System of the Customs Co-operation Council represents an essential step forward. The Secretariat of the Basel Convention is cooperating in the further development of this system.

(c) The Special Case of Scrap Metals

The case of scrap metals illustrates some of the problems outlined

above. First, as already mentioned, there is an established international market for scrap metal, as well as a substantive recycling industry. In the case of the four major non-ferrous metals (aluminium, copper, lead and zinc), a high percentage of the required materials is gained through recycling.⁶⁶ The question whether the relevant materials, although basically constituting unwanted by-products of industrial processes, should be defined as products or secondary raw materials and subjected to special rules which would take into account their intrinsic value, would therefore be worth further investigation.

Second, as metals hardly ever occur naturally in pure form, scrap metals usually consist of a main component and several minor components. The minor components are often substances that may come within the scope of the Basel Convention (e.g. copper compounds, or cadmium and cadmium compounds), but occurring in very small amounts. Scrap metals are also often contaminated with small amounts of other hazardous substances, e.g. oil or PCBs. In very low concentrations, these components do not harm the environment or human health. It would therefore be useful to introduce low limits of concentration for the relevant components, below which the scrap in question would not be considered a hazardous waste, provided it did not have other harmful characteristics.

(d) The Exclusion Clauses of the Basel Convention

As mentioned above, the Basel Convention expressly excludes certain categories of wastes from its scope of application, namely radioactive wastes (Article 1 para. 3) and wastes derived from the normal operations of a ship (Article 1 para. 4). The reason for this is not that the negotiating states, and UNEP as the sponsoring agency, considered these categories of wastes to be harmless, but that they have traditionally been within the sphere of competence of other international agencies within the UN

system: respectively, the IAEA and the IMO. Accordingly, both exclusion clauses specify that the wastes in questions are excluded only if covered by another international control system.

The discharge of wastes from ships is subject to the 1973/78 MARPOL Convention, adopted under the auspices of the IMO. This Convention has been updated and supplemented with numerous technical rules and guidelines, and has widespread support. The term “wastes derived from the normal operations of a ship”, although not formally defined, is generally understood to refer to wastes generated in the course of activities directly related to the purpose of the ship. There has been some discussion about the scope of this exclusion clause, as individual operators proposed to interpret it to cover wastes generated by desludging of tankers at sea. An unduly wide interpretation of this clause would pose the danger of creating a loophole for hazardous residues resulting from such activities.⁶⁷ Apart from this problem of interpretation, the respective scopes of application of the Basel and MARPOL Conventions has not been seriously challenged.

The exception clause for radioactive wastes is somewhat more problematic in that there is as yet no established legal regime for transboundary movement of radioactive waste comparable to the MARPOL Convention. The exclusion clause for radioactive wastes was contested during the negotiations leading to the adoption of the Basel Convention mainly by African and other developing countries: they feared that it would provide a loophole for radioactive wastes, for which they would continue to be targeted as import states. Others supported the exclusion clause, pointing out that the IAEA was at that time in the process of negotiating a legal instrument on transboundary movements of radioactive wastes, and duplication should be avoided. The latter opinion finally prevailed.

However, the discussion did not end there. The General Conference of the IAEA in 1990 adopted a Code of Practice on

the International Transboundary Movement of Radioactive Waste.⁶⁸ However, in addition to being non-binding, its provisions are also considered by many to be considerably weaker than those of the Basel Convention. The IAEA is now considering the elaboration of a binding legal instrument.⁶⁹ Many developing countries, not happy with the outcome of the discussion on this issue in the Basel negotiations, have subsequently insisted on the inclusion of radioactive wastes in regional hazardous wastes agreements (e.g. the Bamako Convention, the Lomé IV provision, and a number of others yet to be finalized).

An ongoing discussion concerns the interpretation of the exclusion clause for radioactive wastes: it can be argued that radioactive wastes that are not covered by other control systems (for example because of their low level of radioactivity), are included in the scope of the Basel Convention. Based on this point of view, the following wording was in fact proposed (unsuccessfully) for inclusion in the Basel Convention in 1989: "Radioactive wastes which are not subject to international control systems applying specifically to radioactive waste material are included in the scope of this Convention".⁷⁰ In response to an enquiry of the Basel Secretariat, the IAEA in 1993 confirmed that some radioactive wastes are not subject to relevant IAEA or IMO control systems due to their low level of radioactivity. The Secretariat formed the opinion that such wastes should be covered by the Basel Convention.⁷¹

Another open question is whether radioactive wastes resulting from military activity, also not covered by IAEA control systems, come within the purview of the Basel Convention.⁷² There was a brief discussion on these issues during the second meeting of the Conference of the Parties, with a diversity of opinions put forward. It was agreed that the discussion should continue outside the Conference of the Parties: states were

accordingly invited to present their views to the Secretariat.⁷³

3.2. Banning the Export of Hazardous Wastes from OECD to non-OECD Countries for Disposal and Recycling

There appears to be general agreement in environmental, industrial and governmental circles that a prohibition of the export of hazardous wastes for final disposal from developed to developing countries, or to those with economies in transition, is justified and represents a reasonable measure from every point of view. The need to protect those countries against the negative environmental impacts of the transfer of hazardous wastes for the purpose of recycling or recovery is also recognized. The discussion now centres around the technical and economic implications of prohibiting hazardous waste exports for recycling outside the OECD area. The ambiguity of this issue was reflected in the discussions at the second meeting of the Conference of the Parties to the Basel Convention, where a number of countries agreed to this measure only reluctantly. Some business circles subsequently predicted dire consequences for the recycling industries concerned, both in developed and developing countries.

In this context, two major questions are of interest: first, the apparent conflict between the environmental and economic benefits of recycling in both developed and developing countries, on the one hand, and the dangers of recycling as a "dirty" operation, particularly in the context of sham recycling schemes in developing countries, on the other; and second, the question under what circumstances and between which groups of countries the transfer of hazardous wastes for recycling or recovery can be considered environmentally and economically sound.

(a) The “Recycling Dilemma”: Recovery of Valuable Resources or Dirty Industry?

Recycling has an established place in the so-called waste management hierarchy, now widely recognized by governments and international organizations. This hierarchy establishes the following order of priority between waste management options: (1) waste avoidance, (2) reduction of quantities and toxicity at source, (3) recycling, resource recovery, and re-use, and (4) environmentally sound disposal. Chapter 20 of *Agenda 21* explicitly encourages governments and industry to promote recycling, provided it is done in an environmentally sound manner. Recycling can take different forms: recycling to materials, recycling to energy recovery, and recycling to chemical recovery.

The advantages of recycling, undisputed and well documented, have both environmental and economic aspects.⁷⁴ From an environmental perspective, recycling can ensure that valuable substances are re-used instead of discarded. This can slow down the depletion of limited natural resources. It can help to reduce the quantity and hazard potential of waste streams by minimizing the amount of residues that would otherwise go to disposal. In the case of recycling to energy recovery, or where the extraction of a substance through recycling is less energy-consuming than the processing of the primary raw material, it can help to promote energy savings.

The export of hazardous wastes for recycling can be environmentally beneficial, provided that the country of destination has better and more environmentally sound facilities than the country of origin. In this case, export could ultimately lead to an overall reduction of the pollution of air or water resulting from the recycling process. This is most likely to be the case if the wastes are exported for recycling between industrialized countries, or from developing to industrialized

countries. The latter possibility is explicitly provided, for example, in Article 39 of the Lomé IV Convention.

For the most part, developing and transitional countries do not have recycling facilities comparable to those available in industrialized countries, as already noted. However, a number of newly industrialized countries not members of the OECD do have facilities that are newer and therefore more modern and sophisticated than equivalent facilities in some OECD countries. Some of these facilities are built within the framework of bilateral or multilateral development cooperation, or with the assistance of international funding mechanisms such as the World Bank. In these cases, sending wastes to the facilities in question for recycling, even from OECD countries, could in fact make sense from an environmental viewpoint. The justification of such export in individual cases can also be clarified through life cycle analysis.

Another case where export for recycling may be justifiable from an environmental viewpoint is that of a multinational enterprise choosing a location for a recycling plant in a newly industrialized country for economic reasons, but adhering to the stricter environmental standards of its home country in the building and operation of the facility.

From an economic viewpoint, recycling of certain wastes leads to the recovery of valuable raw materials. In this case, there usually is an established market for the wastes in question, and the relevant trade has substantive economic significance.

The most important example is that of scrap metals, subject to a multi-billion dollar international trade: according to OECD estimates, the amount of recoverable metals or metal-bearing wastes subject to international trade in 1989 was 40 million tons, valued at US \$16 billion.⁷⁵ International trade in recyclable wastes takes place in accordance with market criteria; in order to be economically viable, trade has to remain flexible and able

to respond quickly to market fluctuations. This flexibility can obviously be hampered by legal regulations and restrictions, which may have serious financial consequences.

In economic terms, recycling can also have advantages if the recycling process is technically simpler than that used for the extraction of raw materials from primary substances: in that case, the price of the resulting material may be considerably lower. In addition, the simpler process is more easily accessible for countries with less sophisticated facilities.

The dangers connected with recycling are equally obvious. For recycling to have the environmental and economic benefits mentioned, it must be carried out under certain conditions. The Technical Working Group of the Basel Convention has developed a set of criteria that should be met if recycling is to be environmentally sound.⁷⁶ In practice, it is not always possible to meet these criteria, so that environmentally sound recycling is often not guaranteed. This is especially likely in countries with little technical and infrastructural capacities. In addition, the recycling of hazardous wastes generates hazardous residues. The hazard potential of such residues can be equal to, or even greater than, that of the original waste (e.g. if the recycling process leads to a higher concentration of the toxic components in the residue). If the technical and institutional capacities for environmentally sound management and disposal of toxic residues do not exist, as is likely to be the case in most developing countries, the recycling operation has equally dangerous effects as the final disposal of a hazardous waste.

These problems are obviously exacerbated if toxic wastes are exported for the purpose of recycling from a country with higher standards to a country with lower standards. In addition, the dangers of transporting hazardous wastes over long distances are the same, whether the wastes are intended for recycling or final disposal. Also, the factors that influence the international

market for recyclable wastes do not necessarily correspond to the requirements of environmentally sound management. The limited recycling facilities in less technically advanced countries can be overburdened with huge influxes of foreign hazardous wastes.

The situation is even more problematic if the export of hazardous wastes destined for recycling is subject to less strict rules than the export for the purpose of disposal. In this case, the possibility of exporting hazardous wastes for recycling can serve as a disincentive to promote cleaner production and low-waste technologies in the country of origin. A widely acknowledged danger of permitting the export of hazardous wastes from developed to developing countries for the purpose of recycling is the so-called "recycling loophole": the tightening of national and international rules on export for disposal has led to an increase in fake recycling schemes in developing countries, using the label of recycling for what is really a disposal operation - and as often as not an unsound one. This was in fact one of the main reasons for the endorsement by the international community of the universal ban on exports of hazardous wastes from OECD to non-OECD countries.

It is clear from the above that despite the undisputed advantages of recycling, there is also a case for prohibiting the export of hazardous wastes for recycling, especially to countries with insufficient infrastructure. The "recycling dilemma" does not, at this stage, appear easy to resolve. A possible direction for future developments could be the development of sufficiently strong implementing and supervisory mechanisms, at the national and international levels, which would allow the continuation of the trade in certain recyclable materials with a low hazard potential while ensuring that it is carried out under environmentally sound conditions, and that there is no room for abuse. Such mechanisms would, however, not be easy to

implement. An important prerequisite would be the elaboration of more precise definitions and classifications of the types of waste materials to be subjected to the ban, along the lines discussed above. If a means could be found to distinguish recyclable wastes with a low hazard potential, where the economic and environmental benefits of international transfer for recycling outweigh the dangers, from those with a high hazard potential which should be subjected to a ban despite possible benefits, this could go a long way towards resolving the conflict of aims discussed in this section.

**(b) Possible Effects of the Ban on Industry,
Particularly in Developing Countries**

The adoption of the Basel Parties' decision to prohibit the export of hazardous wastes from OECD to non-OECD countries for recycling as well as disposal has produced a variety of reactions. While environmentalists celebrated the decision as a victory of environmental concern over the exploitation of developing countries for financial gain, industrial circles were more sceptical since they felt it could have adverse effects on their activities. Some considered it an ill-judged measure against a basically beneficial practice, which would eventually result in heavy financial loss to the industries concerned in all countries.

The extent to which industry in any given country will be affected by the ban depends largely on the size, character, and scale of operation of relevant industrial enterprises. This varies widely not only between industrialized and developing countries, but also within the group of countries generally defined as developing. In addition, the ban has potential effects on different types of industrial companies: while it primarily affects the recycling industry, it can also have repercussions for enterprises requiring recycled materials for their production processes, and for those developing or marketing recycling technologies.

The effects of the ban are probably the easiest to assess in the case of the least developed countries. In most of these countries, there is an established practice of extracting and re-using any potentially valuable substance, but this is not usually done on an industrial scale. There is no recycling industry of any significance, and thus no market for recyclable materials, whether generated domestically or imported. For these countries, the general ban on imports of foreign hazardous will therefore have exclusively positive effects: it will help to protect the countries in question against the import of foreign hazardous wastes, especially in the context of fake recycling schemes. This corresponds to the intention of the delegations and NGO representatives who urged the adoption of the ban for recyclable wastes. As this group of countries is fairly large, the ban will have widespread positive effects.

A second category of countries, some of which are also considered developing countries but are at a more advanced level of industrialization than the group referred to above, is faced with a different situation. The so-called newly industrialized countries (including mostly South and South-East Asian states) and the countries in transition to a market economy also have a need for protection against fake recycling schemes as their capacity for monitoring the trade in recyclable materials and wastes is usually less advanced than that of industrialized countries. However, they are also beginning to introduce recycling options and facilities in the course of their own industrialization. Some of these countries not only have a recycling industry, but also an established market for certain recyclable materials, and materials derived from recycling processes. For example, Taiwan is estimated to import 75 per cent of its required amount of scrap zinc from the EU, Pakistan 15 per cent of its required amount of scrap aluminium, and India 17 per cent of its required amount of scrap copper.⁷⁷ As already

mentioned, some of the newly industrialized countries have the necessary technology to carry out the operations in question, in some cases provided to them through international technical assistance. While the ban can have positive effects on the local market for recyclable materials in the sense of protecting it against the influx of massive amounts of foreign materials, there is also a danger of the relevant industries being cut off from the world market, and being unable to obtain sufficient supplies to meet their requirements. This might indeed lead to significant financial loss to the industries concerned.

Industry in OECD countries is likely to be similarly affected by being cut off from trade in recyclable wastes especially with newly industrialized countries, which will equally result in financial loss. Depending on the flexibility of the industries concerned, the negative effects of this might be mitigated by further building the market within the OECD, which is not affected by the decision. The ban is likely to provide industry in OECD countries with an incentive to recycle its own wastes, which by all accounts seems possible and feasible. Law and policy of the OECD, its member states, and the EU has already moved in that direction in recent years, as discussed above. Some experts are of the opinion that the ban provides industries involved in the development and production of recycling and low-waste technologies with an opportunity to expand their share in the market, as the need for such technologies will increase due to the incentive for domestic treatment of hazardous wastes provided by the ban.

**(c) The Categories of Countries between which
Waste Trade is Prohibited**

While it is clear that countries lacking an adequate infrastructure need protection against the import of hazardous wastes from more heavily industrialized countries, and that such imports

should therefore be prohibited, it is less easy to define the categories of countries between which such a prohibition should apply. Obvious criteria to determine the two categories of countries include the level of technical and economic development, the amounts of hazardous wastes generated and subject to export, the existence of waste disposal and recycling facilities, and the existence and effective enforcement of relevant legislation. As already mentioned, the Parties to the Basel Convention determined the categories of countries between which hazardous waste transfer is prohibited on the basis of their membership of the OECD. This distinction takes into account most of the above criteria, and is thus a reasonable solution in many respects: as noted above, the OECD states collectively generate by far the largest share of the world's hazardous wastes, and are generally more advanced in terms of industrialization. Introducing a ban between "developed" and "developing" countries (in the sense commonly given to these terms within the UN system) would have meant excluding a number of countries with economies in transition from the protection of the ban: some of these countries are generally considered "developed".

Nevertheless, the distinction between OECD and non-OECD countries in the context of prohibiting hazardous waste transfer is causing some concern. The main problem is that the diversity of situations existing in the countries of the world is reduced to two basic categories, and sufficient account is not taken of the different situations within the large and heterogenous group of non-OECD countries, briefly addressed above. This is problematic from various points of view: first, countries that are not (yet) members of the OECD, but have a similar level of industrialization, may have a trade advantage over OECD states: they will be able to participate in the waste trade with both OECD and non-OECD states. As the hazardous waste generation in

these countries is not very significant compared to that of the OECD countries, the practical implications of this should not be serious, however. Second, as discussed above, some of the more advanced newly industrialized countries, not members of the OECD and therefore precluded from importing hazardous wastes, are believed to have environmental standards and facilities at least the equivalent of those of the less advanced OECD countries, which may, nevertheless, accept hazardous wastes from their wealthier neighbours. Third, a number of countries are likely to join the OECD and thus be able to accept hazardous wastes for recycling as well as disposal. One country, Mexico, has already joined, and another, South Korea, is likely to be admitted within the next few years. A number of South American and Eastern European countries are also in the process of applying for OECD membership. This means that the countries in question will be excluded from the protection of the ban, even though some of them belong to the group targeted for such protection on the grounds of their inadequate technical and regulatory infrastructure. On the other hand, the fact that the membership of the OECD is subject to change does provide for some flexibility: the admission of newly industrialized countries (such as South Korea) means that their relatively high level of industrialization will also be taken into account in the context of the waste trade.

For the above reasons, however, the division between OECD and non-OECD countries is perceived by some as not sufficiently adapted to the reality of the situation. A possible alternative to be considered for the future might be to define the groups of countries between which a general ban should apply through lists annexed to the Basel Convention. This approach was chosen in the UN Framework Convention on Climate Change to define the categories of countries accepting different obligations under the Convention. This technique would allow a more

differentiated approach to the problem. As the procedure for the amendment of annexes is simpler than that for amending the Convention proper, it would also allow the necessary flexibility: countries could be moved from one list to the other in response to significant changes in their situation.

(d) “Opting out” through Bilateral or Regional Agreements?

After the adoption of the ban, the possibility was considered, mainly by representatives of the recycling industry, of individual OECD and non-OECD states concluding separate agreements on transboundary movements of certain recyclable wastes under the Basel Convention. The Bureau of International Recycling (BIR), for example, alerted its members to the consequences of the ban for the recycling industry and proposed the conclusion of bilateral agreements to provide an exemption from the ban for specific secondary raw materials under certain circumstances.⁷⁸ The Basel Convention does indeed provide for the conclusion of separate agreements between its parties, and also between parties and non-parties, under certain conditions. A number of relevant agreements exist, as we have seen. The main motivation underlying the 1992 OECD Decision on recyclable wastes was in fact to mitigate adverse consequences that the Basel Convention could have on the recycling industry within the OECD, by providing less strict standards than the Basel Convention.

However, the Basel Convention does not allow its Parties complete freedom in concluding separate agreements: it stipulates that any such agreement must be in conformity with its fundamental aims (Article 11). Even though the relevant provision of the Basel Convention is not very clearly worded, it does limit the conclusion of separate agreements to those that conform to the environmentally sound management of hazardous

wastes as required by the Convention. The 1994 Decision of the Conference of the Parties states in its preamble that “transboundary movements of hazardous wastes from OECD to non-OECD states have a high risk of not constituting an environmentally sound management of hazardous wastes as required by the Basel Convention”. Thus it sets out a presumption against the environmental soundness of such a transfer, which any relevant agreement would have to disprove. A bilateral or regional agreement between OECD and non-OECD states that would allow the transfer of hazardous wastes for recycling would therefore have to meet very high standards: in order to be considered “environmentally sound”, it would have to create mechanisms strong enough to eliminate the dangers connected with such transactions, as outlined above. On the political front, the conclusion of such an agreement would be very difficult to justify, as it would go against the conviction of a large proportion of the international community.

Such an agreement might be feasible and even useful, however, if it applied to wastes or substances that are not covered by the Basel Convention. This approach could in fact contribute to the clarification of the distinction between hazardous wastes and other types of wastes which do not come under the Basel Convention. A possible example would be an agreement covering scrap metals, the hazardous component of which is below a certain limit value.

**(e) Enforcing the Ban on Hazardous Waste Exports
from OECD to non-OECD Countries**

The enforcement of international obligations is one of the weakest points of international law, as is often pointed out in the academic and political discussions. The inherent problem is that it is up to states to determine whether and to what extent they want to submit to international enforcement mechanisms. This weakness is shared by international mechanisms to

implement the ban on hazardous waste exports from OECD to non-OECD countries, and enforcement is thus a major challenge. The problem is exacerbated in this case by the fact that the illegal trade in hazardous wastes is a flourishing business, comparable in scale to the illegal trade in arms or narcotics. This was true even before the introduction of the ban, i.e. when the possibility of legally exporting hazardous wastes from OECD to non-OECD countries still existed. With or without the ban, persons who stand to make millions of dollars profit out of illegal hazardous waste transactions will not be easily deterred.

One of the arguments in favour of the Basel Convention's original control system based on PIC was that the obligation to document and monitor every hazardous waste transport from the point of generation to the point of disposal, in accordance with the concept of "cradle-to-grave monitoring", would provide the necessary transparency for both efficient control and rapid intervention in the event of an accident, whereas an outright ban would merely force the entire hazardous waste trade into illegality. This seems to be borne out in part by observations which indicate that illegal schemes for the transfer of hazardous wastes have tended to become more ingenuous and elaborate since the inception of the Basel Convention, and thus more difficult to spot: where the wastes were previously transported in a straightforward way, there is now more camouflage to circumvent the mechanisms of the Convention. Some illegal schemes take on the characteristics of organized crime, and some are carried out in conjunction with humanitarian aid or the illicit transfer of money. As already mentioned, there seems to have been an increase in fake recycling schemes since export for disposal has become more restricted internationally.

It is widely acknowledged that the successful application of the PIC procedure presents even industrialized states with a problem, and borders on the unrealistic in the case of developing

countries. Some experts in the field are indeed of the opinion that if the PIC procedure is difficult to apply, the ban now agreed is even more so because of the lack of transparency. With the PIC procedure, hazardous waste shipments are declared as such and are subject to inspection by customs authorities in the countries involved. By contrast, there is little means of identifying a hazardous waste shipment carried out in contravention of the ban because there is no documentation. For this reason, some predict an increase in illegal traffic as a direct result of the ban. Others advocated the ban precisely because the PIC procedure was difficult to apply, on the grounds that prohibiting an activity altogether was easier than applying the elaborate bureaucracy required by PIC. In addition, if the ban can be circumvented, so can the obligation to fully document hazardous waste transactions involving border crossings in accordance with the PIC procedure. A third opinion is that it is too early to judge which approach will prove more effective. In any event, it seems undisputed that the national mechanisms for control and prevention of hazardous waste traffic have to be strengthened considerably, not only by adopting relevant criminal legislation as required by the Basel Convention, but also by developing the national infrastructure for the inspection of waste shipments and facilities for storage, recycling and disposal of hazardous wastes.

The seriousness of this problem was recognized by the Secretariat of the Basel Convention and brought to the attention of the Conference of the Parties. Even before the introduction of the ban, the Secretariat has worked with governments and regional organizations to assess the illegal traffic situation and to help develop national legislation and mechanisms.⁷⁹ In accordance with a 1994 Conference Decision which outlines a strategy to control illegal traffic⁸⁰, the Secretariat will continue to help states with the adoption of national legislation as well as

capacity building. It will also liaise with other international organizations in dealing with this problem, including the International Customs Cooperation Council, and Interpol.

3.3. The Legal Regulation of Hazardous Waste Management and the Promotion of Cleaner Production

As noted, the reduction of waste generation is recognized by *Agenda 21* as one of the most important components of cleaner production. Chapter 30 sets out the objectives of promoting cleaner production as follows: "Governments, business and industry, including transnational corporations, should aim to increase the efficiency of resource utilization, including increasing the re-use and recycling of residues, and to reduce the quantity of waste discharge per unit of economic output" (para. 30.6.). This is in line with the overall objective of Chapter 20 on hazardous waste management, briefly outlined above.

(a) Cleaner Production and Related Concepts

The term "cleaner production" was coined by UNEP's Industry and Environment Programme Activity Centre (UNEP IE/PAC, previously IEO), which also set up the Cleaner Production Programme to help countries and industrial enterprises to put this concept into action. Many similar terms are currently in use, denoting the same concept.⁸¹ Cleaner production can be described as the application of an integrated, preventive environmental strategy to processes and products in order to reduce risks to humans and the environment. Cleaner production techniques include conserving raw materials and energy, eliminating toxic raw materials, and reducing the quantity and toxicity of all emissions and wastes. A cleaner production strategy for products focuses on reducing the environmental impacts of a product throughout its life cycle.⁸² This involves

the promotion and application of environmentally sound technologies, and the use of tools such as environmental impact assessment and life cycle analysis of products.

In addition to the obvious environmental benefits, one of the aims of cleaner production is to reduce the costs and thus make the process in question more attractive economically. *Cleaner Production Worldwide*, a 1993 publication by UNEP IE/PAC, shows examples of the successful application of cleaner production methods in different industrial processes in both developed and developing countries, where considerable savings could be achieved. A technical manual on waste audits elaborated by UNEP IE/PAC and UNIDO summarizes the benefits of waste prevention (as opposed to waste treatment) as follows: reduction of the quantities of waste, reduction of raw material consumption and thus of the related costs, reduction of waste treatment costs, reduction of the pollution potential, improvement of working conditions, and improvement of the efficiency of the process.⁸³

Although efforts are undertaken by UNEP and other international institutions to promote the application of cleaner production, for example through the organization of workshops and seminars, the support of specific projects, and the establishment of national cleaner production centres, the use of cleaner production is still relatively limited in most countries (with the exception of a small number of environmentally-minded industrialized nations). The efforts of many governments are still basically limited to the adoption of action agendas, and the participation in cleaner production programmes of international agencies (such as UNEP IE/PAC and the World Bank). Some reasons for the reluctance of applying cleaner production methods, especially in developing countries, are outlined in a recent study on the promotion of cleaner production in Tanzania: lack of information and/or misconceptions about a

technology, doubts as regards the suitability of a given technology for a particular country or a particular type of industry, inherent limitations of a given technology, high capital costs of the appropriate technology, lack of trained personnel, uncertain legislative and regulatory climates, and cultural obstacles.⁸⁴ It is encouraging to note, however, that there are examples of the use of cleaner production in developing as well as developed countries that have proved successful, as evidenced in the cases presented in *Cleaner Production Worldwide*.

(b) The Promotion of Cleaner Production through the Basel Convention and Related Legal Instruments

The “waste management hierarchy” discussed above obviously has an important place in the promotion of cleaner production. Chapter 20 of *Agenda 21* explicitly states that the prevention or minimization of hazardous waste is part of an overall integrated cleaner production approach (para. 20.7), and outlines specific steps to be taken in the achievement of this objective. All measures proposed in the Chapter are seen in conjunction with cleaner production. The fundamental aims of the Basel Convention and other relevant agreements are to promote hazardous waste reduction and environmentally sound management, as outlined in Chapter 1 of this paper. If implemented efficiently, these legal instruments should play an important role in further developing and applying cleaner production. Strategies, programmes, guidelines, and related activities have been developed in this field, as mentioned. They include the action programme set out in Chapters 20 and 21 of *Agenda 21*, the Basel Convention’s three basic implementation tools (i.e. the Technical Guidelines on the management of hazardous wastes, the Model National Legislation, and the Implementation Manual), and the Global Waste Survey carried out under the auspices of IMO in cooperation with the Basel

Convention Secretariat and other relevant bodies of UNEP.⁸⁵

The Framework Document on the Preparation of Technical Guidelines, approved by the second Conference of the Parties together with the sets of Technical Guidelines, endorses a number of principles that are indicative of the cleaner production approach. They include, among others, the “source reduction principle”, the “integrated life-cycle principle” (which includes the use of clean technologies), the “precautionary principle”, and the “integrated pollution control principle”. The document stresses the importance of national legislation that would provide a framework for the implementation of the proposals made.

(c) Increasing the Capacities of Less Industrialized Countries through Training and Technology Transfer

As mentioned repeatedly, a large number of countries do not have appropriate national legislation for dealing with the issues of waste prevention and management. In addition, many countries lack the technical and financial capacities to implement the proposals and guidelines developed by the Basel Convention’s Technical Working Group and similar bodies. The slow development of cleaner production options in many countries is due in part to the absence of these capacities, and the lack of access to cleaner technologies.

Taking this into consideration, and based on the relevant provisions of the Basel Convention, the Secretariat and the specialized bodies established under the Convention are implementing a programme designed to strengthen the relevant capacities of party states, especially in the developing world, and helping them to implement the Convention. The Basel Convention itself provides a basis for action at three levels: bilateral and multilateral technology transfer, training and education, and the establishment of funding mechanisms.

Technical assistance and transfer of technology is often provided on a bilateral basis, sometimes with the involvement of the private sector or international funding agencies. The Secretariat provides clearing-house functions. One problem with the provision of technical assistance is that potential recipient countries are often not able to identify the types and amounts of hazardous waste they generate, and thus provide sufficiently detailed information on their needs. In response to this problem, the Secretariat has recently sent consultants to prospective recipient countries to assess their needs and propose the appropriate technologies.

Work is progressing also on the establishment of regional centres for training and technology, mentioned above.⁸⁶ Feasibility studies are under preparation for such centres in the Latin American and Caribbean region (to be funded by Canada), and in the Eastern and Central European Region (to be funded by Finland). Australia recently indicated its willingness to consider supporting feasibility studies for a centre in the Asia and Pacific region.⁸⁷ This type of assistance, based on training and pilot studies in the recipient country, obviously has an important place alongside the conventional technical assistance, not only because even the most advanced technology provided by a donor will not achieve the desired results if there is a lack of expertise in applying it, but also because cleaner production methods and technologies designed for an industrialized country are not necessarily appropriate for the situation and needs in a developing country.

Subject to the availability of funding, the Basel Secretariat also organizes seminars and workshops related to the implementation of the Convention. Cooperation with the European Union and the UN Institute for Training and Research (UNITAR) is planned in this field.⁸⁸ Some of the training activities of UNEP IE/PAC also cover the reduction and

management of wastes in the context of promoting cleaner production, for example a hazardous waste management workshop for East Africa organized jointly with the International Solid Wastes and Public Cleansing Association (ISWA) and the IMO in 1991.⁸⁹

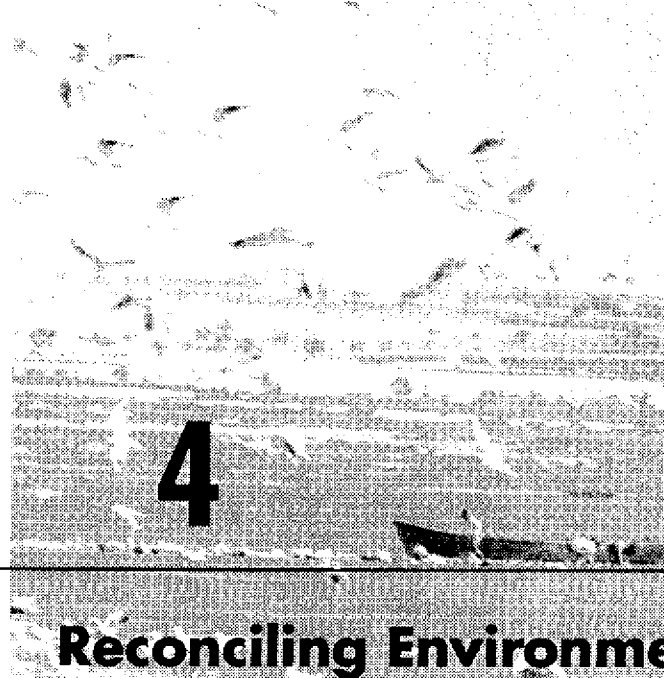
In addition to the trust fund which covers the general expenses of the administration of the Basel Convention through the Secretariat, a special technical cooperation trust fund to support developing countries and other countries in need of technical assistance has been set up under the Convention. This is financed through voluntary contributions from party states. The budgets approved by the Conference of the Parties for the years 1993 to 1996 are between US\$ 788'740 (1993) and 1'427'190 (1996). Activities to be funded include the provision of technical assistance to 10 countries per year, and the organization of regional workshops and seminars.⁹⁰ The scale of operation of the fund is currently rather limited, as only a fraction of the budgeted financial means were contributed by countries in 1993.⁹¹

However, the notorious lack of financial means should not be considered an absolute obstacle to initiatives in the promotion of cleaner production, including waste minimization: the Tanzania country study on cleaner production, referred to above, points out that "in order to bypass financial constraints, industry should start with low- or no-cost cleaner production measures such as good housekeeping".⁹²

As mentioned above, the adoption of the ban on exports of hazardous wastes from OECD to non-OECD countries is likely to modify the aims of technical assistance and training: the objective of any relevant action will now be the minimization and environmentally sound management of hazardous waste generation within the recipient countries through the use of clean technologies, and the prevention of the illegal import of

hazardous wastes. In countries where the amount of hazardous wastes imported at present significantly exceeds the amount generated domestically (e.g. Indonesia, which is one the largest importers of recyclable wastes from OECD states), the demand for relevant technology is likely to decrease with the disappearance of the import options. It is possible that in certain cases, companies or governments of industrialized countries may have less incentive to provide technology to developing countries after the adoption of the ban: this is likely to be the case where a specific pattern of technology transfer can no longer be followed, namely the provision or financing of a waste treatment facility, to which the donor subsequently also sends his own wastes for processing. It has also been suggested that the stigmatization of some countries as the world's polluters, during the heated debate on the ban, might lead to a certain reserve of these countries or their industries on the technical assistance front. It remains to be seen to what extent this will be the case.

The concept of
integrating environmental
and development aims is now
universally recognized.



Reconciling Environmental and Economic Aims in the Context of Hazardous Waste Management⁹³

4.1. Aims set by Agenda 21

The concept of integrating environmental and development aims is now universally recognized, not only in the context of hazardous waste management. It evolved in response to the concern expressed during the last decades by developing

countries (and more recently, by countries in transition to a market economy), that environmental requirements would hinder economic development, which for these countries constitutes an overriding priority. The need for integration of the two aims is expressed through the notion of sustainable development, defined by the World Commission on Environment and Development in 1987 as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs”.⁹⁴ The concept of sustainable development is reflected in the programme areas set out in individual Chapters of *Agenda 21*, including Chapters 20 and 21 on waste management, repeatedly referred to above.

However, the implications of sustainable development go beyond the duality of priorities of developed and developing countries and those in transition to a market economy. Integrating environmental and developmental aims also means reconciling the objectives of environmental protection and those of trade liberalization, in the industrialized as well as in the developing world. Chapter 2 of *Agenda 21* sets out the following programme areas in this field: (a) promoting sustainable development through trade liberalization, (b) making trade and environment mutually supportive, (c) providing adequate financial resources to developing countries and dealing with international debt, and (d) encouraging macroeconomic policies conducive to environment and development (para. 2.3.). A number of international organizations (including UNCTAD, the OECD, the GATT Group on Environmental Measures and International Trade, and UNEP) are currently addressing this issue. Its importance was confirmed by the Commission on Sustainable Development at its May 1994 session. It will also be taken up by the new WTO Committee on Trade and Environment, to be established in accordance with a decision adopted at Marrakesh in April 1994.

4.2. The GATT / WTO and the International Regulation of Transboundary Movements of Hazardous Wastes

The General Agreement on Tariffs and Trade (GATT), and the multilateral trade agreements elaborated during the Uruguay Round of trade negotiations (in particular the Agreement Establishing the World Trade Organization (WTO)), constitute the global framework for the liberalization of trade world-wide. As the membership of the GATT (and in all probability the future WTO and the other new trade-related agreements) is virtually universal, most parties to multilateral environmental agreements (MEAs), including the Basel Convention and regional waste management regimes, are at the same time parties to the GATT / WTO. Although some national and international interest groups in both environmental and business circles tend to adopt a one-track approach, focusing on the differences between the aims of the GATT / WTO and the MEAs and defending the aims of the one against the other, the countries which are parties to both systems have a real interest in promoting their harmonization. The preamble to the Agreement Establishing the WTO indirectly acknowledges this: it contains a reference to the need to conduct economic efforts in a way that is compatible with sustainable development and the need to protect the environment.

(a) Efforts Undertaken under the GATT to Harmonize Trade and Environmental Aims

In response to the growing interest in the issue of reconciling trade and the environment in the last few years, the Working Group on Environmental Measures and International Trade was convened under the auspices of the GATT in November 1991.⁹⁵ Its work programme initially covered the examination of three issues: (1) trade provisions contained in existing MEAs, in particular the Montreal Protocol on Substances that Deplete the

Ozone Layer, the Convention on International Trade in Endangered Species (CITES), and the Basel Convention; (2) multilateral transparency of national environmental regulations likely to have trade effects; and (3) trade effects of new packaging and labelling requirements aimed at protecting the environment. In July 1993, the work programme of the Group was expanded to include the follow-up to UNCED in the field of trade and the environment.

The first of these issues is obviously the most important in the present context, the Basel Convention being one of the relatively few existing MEAs that introduce what could be seen as trade provisions.⁹⁶ The GATT Group decided not to investigate potential conflicts between trade and environment in individual MEAs, but to limit its examination to generic issues. The focus of the discussions was on two basic problems: the use of trade measures for the protection of environmental resources outside the national jurisdiction of the state that adopted the measure (as illustrated by the US-Mexico tuna-dolphin dispute), and the restriction or prohibition of trade with states not adhering to a given environmental agreement. The latter problem in particular is relevant in the context of international hazardous waste management, as will be discussed below.

The Decision on Trade and Environment, adopted in Marrakesh in April 1994, directs the General Council of the WTO to establish a Committee on Trade and Environment.⁹⁷ The Committee's terms of reference were drafted in a broad manner to allow the examination of issues related to its work programme that may arise in connection with the trade in services or goods, or of intellectual property rights. The work programme, as set out in the Decision, is wider than that of the Working Group on Environmental Measures and International Trade, which it incorporates. Among other things, it includes the identification of the relationship between trade and

environmental measures, and recommendation of possible modifications to the multilateral trading system.

The General Agreement on Trade in Services (GATS), also adopted at Marrakesh, contains a Ministerial recommendation that the future Council for Trade in Services should set up a Working Party to examine the relationship between trade in services and environmental protection, including the relationship between GATS and the relevant MEAs. This issue could also be relevant for the issue under discussion.

In addition to these more generic discussions, an earlier effort focused on an issue closely related to that of transboundary traffic in hazardous wastes, namely international trade in domestically prohibited goods. The Working Group on the Export of Domestically Prohibited Goods and Other Hazardous Substances, established in 1989, prepared a draft Decision on Products Banned or Severely Restricted in the Domestic Market. In its current form, this draft provides for an international notification scheme for hazardous substances the sale or use of which is prohibited or restricted in the domestic market of a country, but which is subject to export. This scheme is not to affect the rights and duties of states under existing international instruments that cover the international transfer of hazardous substances (including the Basel Convention).⁹⁸ This draft was never adopted by the Group: agreement could not be reached on various points, and work came to a standstill in 1991. The issue has now been included in the work programme of the Committee on Trade and Environment. The Committee will need to decide whether to base its work in this field on the draft of the working group, or whether to start on a new basis.

(b) The "GATTability" of the Basel Convention

The apparent problem in the relationship between the Basel Convention and the GATT and related instruments is that the

former introduces restrictions on the international transfer of certain substances for environmental reasons, while the latter generally prohibits non-tariff restrictions on the import or export of products (Article XI). The same problem exists in the relationship between the GATT and a number of other MEAs, namely CITES and the Montreal Protocol. As already mentioned, some aspects of this problem have been discussed by the relevant GATT Group, and the Committee on Trade and Environment will take it up. The issue has not as yet been addressed in a controversial manner: no dispute touching upon the compatibility with the GATT of trade-related provisions of an MEA has so far been submitted to a GATT panel.

Article XI of the GATT, prohibiting trade restrictions, applies to "products". Prior to examining the compatibility with Article XI of the restrictions imposed by the Basel Convention, the question would therefore have to be asked whether the substances controlled by the Convention are in fact "products" in the sense of the GATT. As discussed in Section 4.1.(b) above, there is no agreed definition of a product in the GATT context, and the question whether or not wastes (or certain categories of wastes) are products has yet to be answered conclusively. This question has not yet been directly addressed by either the parties to the GATT or the parties to the Basel Convention. Depending on the answer, the issue of "GATTability" of the Basel Convention will present itself in a different light: if wastes are not products, they do not come within the purview of the GATT, and the question of conflicts need not be addressed. This approach has in fact been supported by some experts in the field. As an alternative, it has been suggested that the management and disposal of wastes might be considered a service. If this were the case, it would not come within the purview of the GATT, but of the newly adopted GATS, which contains a similar

prohibition of trade restrictions and a similar provision on exceptions.

If hazardous wastes - or certain categories of hazardous wastes, for example those subject to recycling - are considered products, the question arises whether the measures adopted by the Basel Convention could be based on the "environmental" exception of Article XX(b): notwithstanding Article XI, a trade restriction may be adopted if it is necessary to protect human, animal or plant life or health, provided it does not lead to arbitrary discrimination between countries where the same conditions prevail, or constitute a disguised trade restriction. If waste management and disposal is considered a service, the issue is virtually identical, as Article XIV(b) of GATS is modelled on Article XX(b) of GATT.

The Basel measures under consideration are the prohibition of the export of wastes to non-parties unless subject to an agreement which meets the environmental standards of the Convention (Articles 4(5) and 11), and the general ban of hazardous waste exports from OECD to non-OECD states after December 1997 (Decision II/12 of the Conference of the Parties). The fundamental problems arising in this context are in fact those already addressed by the GATT Group on Environmental Measures and International Trade: first, the fact that the measures in question are adopted not under the national legislation of an individual state (which is the typical situation envisaged by Article XX), but by an MEA with relatively widespread membership; and second, the issue of export restrictions to non-parties to a given MEA.

The ban of traffic in hazardous wastes with a particular category of countries (in this case non-parties to the Basel Convention or an equivalent agreement, and between OECD and non-OECD states) is problematic because it may be considered an arbitrary trade restriction against countries where

conditions are otherwise the same. The question should then be asked which differences between countries justify different treatment in this respect. According to some interpretations, a different treatment based on different conditions in terms of infrastructure or ecological and social conditions could be acceptable, and the relevant measure thus be non-discriminatory.⁹⁹ As discussed above, this kind of consideration certainly prompted the distinction between OECD and non-OECD countries, although the differentiation does not always correspond to reality. Therefore this measure is probably less problematic than the ban on traffic with non-parties, which is based exclusively on whether or not a state has decided to adhere to the MEA in question.¹⁰⁰

In the light of the doubts surrounding the prohibition of trade with non-parties, there does seem to be room for potential conflict between the two systems, which leads to the fundamental question of the relationship between the GATT and an MEA. It has been pointed out by scholars as well as practitioners in the field that a measure adopted unilaterally (as in the tuna-dolphin dispute) does not have the same weight as a measure agreed by an often substantive part of the world community through an MEA: the latter should undoubtedly have more weight. Technically speaking, the GATT and an MEA such as the Basel Convention are at the same level within the hierarchy of international legal instruments, and there is thus no obvious priority. In the event of a conflict between the two, the rules of the Vienna Convention on the Law of Treaties could in theory be applied to determine, in the particular case, which is to be given preference over the other. The GATT Group has noted this, but decided not to base its deliberations on this basically confrontational approach, but to focus on avoiding the conflict situation in the first place.

The aim is therefore to harmonize the MEAs and the GATT

rules in a way that accommodates the objectives of both. In the discussion of the GATT Group, two schools of thought have emerged on this: the first is the possibility of the GATT parties agreeing on a waiver, based on Article XXV, for individual MEAs where this is considered necessary (e.g. where there are doubts about the compatibility of the MEA with a GATT requirement, but where it is deemed appropriate to move outside the limits set by the GATT). Article XXV allows for the GATT parties, by a two-thirds majority, to waive an obligation imposed by the GATT in exceptional circumstances. The second proposed approach, described as “creating an environmental window in the GATT”, is a collective interpretation of Article XX by the GATT parties which would determine the criteria and conditions under which trade measures could be used to achieve the aims of the MEA. Both these approaches have been discussed, and the group outlined the advantages and disadvantages of each.

The “environmental window” approach in particular was discussed in some detail. Questions to be investigated further include the following: how universal must an international agreement be in order to be given the weight of an MEA as understood under this approach? How specific or closely defined must a trade measure be in order to be eligible for this general exception? What standards should be applied to the necessity of the measure for the achievement of the aims of the MEA? What safeguards against protectionist abuse would have to be developed?

The analysis of the relationship between the GATT and the other agreements adopted under the Uruguay round, and MEAs such as the Basel Convention, is one of the important mandates of the GATT Environment Committee, as already noted. The fact that this expressly includes investigating the necessity and the possibility of amending the trade rules shows a forward-looking attitude of the negotiating states: collective interpretation

of the existing provisions may be a very useful short term solution, but the formal modification of the rules in question to take account of new realities would provide a more solid basis for the future. It is to be hoped that the useful basis already provided by the GATT Group, as well as the discussion beginning to take place in other international organizations, will help the Committee to reach a more definite conclusion on these important but still contentious issues. The developments outlined above give rise to hopes that the parties to GATT, and to the new trade agreements, no longer rule out the possibility of taking environmental concerns into consideration while promoting global trade liberalization. It has even been argued that the establishment of the GATT working group to consider a notification system for trade in products that are domestically restricted or prohibited indicates a move away from the traditional one-sided promotion of free trade, and a willingness to consider trade restrictions for the sake of environmental aims.

4.3. Regional Efforts to Reconcile Trade and the Environment in the Context of Waste Management: Lessons Learned from the European Union and the North American Free Trade Agreement

When attempting to reconcile trade and environmental interests at the global level, it may be interesting to look at the equivalent efforts and experiences of two regional organizations: the EU, a well-established regional integration system which has learned, over the last 20 years, to gradually adapt its originally purely economic objectives to take into account the requirements of environmental protection; and the NAFTA, a recent regional integration organization with mainly economic orientation, which was negotiated at a time when the consideration of environmental requirements was already accepted as a matter of course.¹⁰¹

(a) The European Union

The waste management policy and legislation of the European Union was briefly outlined in Section 3.2.(c) above.¹⁰² Whereas the early waste Directives provided fairly general rules, the two 1991 Directives and the 1993 Regulation are more detailed, and take account of modern environmental concepts such as the preventive approach, the polluter pays principle, and the concept of cradle-to-grave monitoring. During the deliberations on these rules (in particular the 1993 Regulation), much of the discussion now taking place in the GATT context took place in a similar fashion. The free movement of goods and services, laid down in the Treaty of Rome, is one of the cornerstones of the EU Treaty system. This aim was enhanced with the completion of the Single Market pursuant to the Maastricht Treaty. As we saw above, wastes are generally considered "goods" under the ECJ jurisdiction and are therefore in principle subject to the free movement of goods. On the other hand, the opening of borders exacerbates some environmental problems. Unrestricted trade in hazardous and other wastes within the Single Market area, for example, would provide a strong incentive for "waste tourism" to those member states with the least developed legislation and infrastructure and thus the cheapest disposal facilities: the problem is thus basically a regional replica of the "North-South" problem existing at the international level, outlined in Section 2. The conflict of market and environmental aims presents itself in a similar fashion.

The early Treaty rules constituting the (then) European Economic Community made no provision for the adoption of environmental measures at Community level, and the Community's competence to do so was derived, through interpretation, from subsidiary clauses. The Single European Act of 1987, and to a greater extent the Maastricht Treaty of 1992, introduced specific provisions on the adoption of

environmental rules by the EU, and also formally elevated environmental policies to the same level as the other policies of the EU. The introduction of specific "Treaty bases" for environmental as opposed to market-oriented measures have different substantive and procedural implications, and a controversy soon developed as to which Treaty provision was the appropriate basis for a given measure: this was particularly important in areas considered to be at the interface of market and environmental aims, such as the waste trade (and particularly the trade in recyclable wastes). The Treaty itself provides no clear answer, but the case law of the ECJ on this subject is already extensive, and the debate is continuing in different contexts.

The clash between environmental and market aims was particularly evident in the negotiations on the 1993 Regulation on the transfer of wastes, including hazardous wastes, within the EU and with third states. As already mentioned, these negotiations took over two years and were very contentious: the main problem area was the extent to which the trade in wastes, including recyclable wastes, should be restricted for environmental reasons, to the detriment of the free market. The stickiest issues included the compatibility of the proposed control mechanisms with the free movement of goods; the nature and extent of such control mechanisms; the extent to which a recyclable waste should be considered a commodity as opposed to a waste, and thus be subject to less stringent rules; and the proposed right of every member state to unilaterally ban the import of wastes from other member states as well as from third states.

In addition to the obvious substantive parallels, one similarity between these discussions and the ongoing global discussion in the context of the GATT and MEAs is that the existing legal rules provided no clear answer to most of the questions raised. The solution therefore had to be reached through interpretation.

which was often politically motivated. Many arguments were put forward on both sides, not only within the EU, but also in the NGO community and the academic world. They were frequently prompted by the wish to give preference either to the minimization of the detrimental effects of the waste trade on the environment, even at considerable expense to trade (environmentalists), or to the unhindered completion of the Single Market, and the free movement of all goods, even those which entail certain dangers to the environment (industrial circles).

The final form of the Regulation as adopted shows a remarkably balanced approach, with a certain emphasis on environmental aims: the Regulation is based on the "environmental" provision (Article 103s) instead of the "market" provision (Article 100a) of the Treaty (a case has already been filed with the ECJ, contesting this choice of Treaty basis). The general acceptance of restrictions of the waste transfer for environmental reasons, even within the EU, is reflected in the Regulation's elaborate control system. This system is a significant advance on the previous EC Directive of 1984, which merely established a notification system combined with the concept of tacit consent, showing this acceptance to a lesser degree. In 1979, and again in the mid-eighties, the ECJ had ruled that the free movement of goods is not absolute, but can be restricted under certain circumstances if this is justified by other interests pursued by the Community: these other interests expressly include environmental protection.¹⁰³ A fairly surprising outcome is the acceptance of the basic right of member states to unilaterally ban the import of wastes, even from other members.

The interests of the recycling industry are taken into account to some degree by the establishment of less stringent rules for recyclable wastes under certain (more or less clearly defined) circumstances, and the exemption of those recyclable wastes

that are not considered hazardous from the control system. As regards the trade in wastes with third countries, the now widely accepted view prevailed that the export of wastes for disposal to non-OECD countries is unjustifiable for any reason. The rules on the export of recyclable wastes again take some account of the interests of the recycling industry: the export restrictions in this case are somewhat less strict.

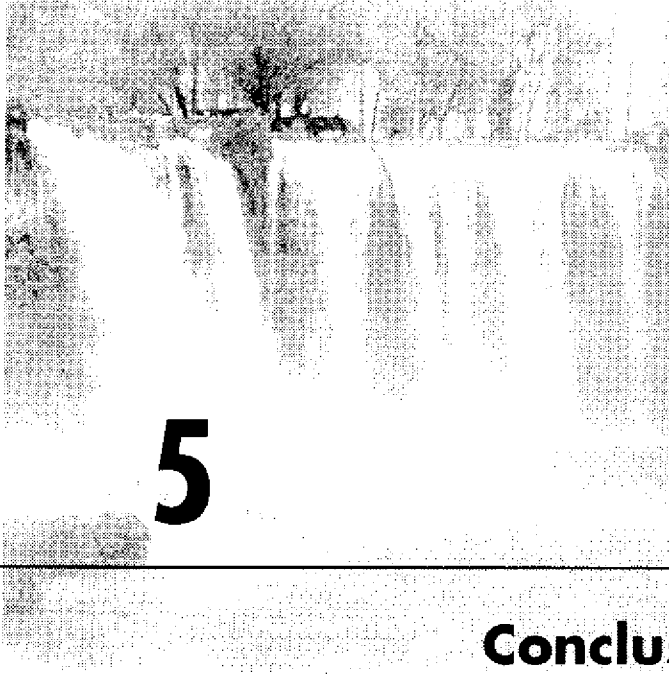
Two interesting lines of development are worth noting here. First, the development of the EU's waste legislation over the last 20 years, and most particularly the outcome of the negotiations on the 1993 Regulation, show a definite "greening of the EU": the increasing tendency to take account of environmental considerations, already reflected in the evolution of the EU Treaty system, is evident in the development of the waste Regulation of 1993. Second, a continuous interplay of interpretation and formal legal regulation can be observed: the necessity of adopting a measure is first accepted on the political front. This then leads to pertinent interpretation (in this case by the ECJ) of basically inadequate existing legal rules. As the general acceptance of this interpretation increases, it is transformed into a formal amendment of a legal instrument. Questions unresolved by this legal instrument again call for interpretation. After it is sufficiently accepted, the interpretation may again be reflected in a formal amendment of the legal instrument.

(b) The North American Free Trade Agreement (NAFTA)

While the European Union started out as a free trade regime which only later took environmental issues on board, the issue of integrating trade and environmental issues was present throughout the negotiations on the North American Free Trade Agreement. This integration process, which was by no means

smooth, is recounted comprehensively in another Monograph in this series.¹⁰⁴ The NAFTA deals differently with different environmental issues. Its approach to MEAs that contain trade provisions is truly innovative: during the negotiations, there was considerable support for protecting trade-related provisions of certain widely accepted MEAs against trade challenges. Accordingly, Article 104 of the NAFTA provides that in the event of an inconsistency, certain MEAs and bilateral agreements shall take precedence over the NAFTA "to the extent of the inconsistency, provided that where a Party has a choice among equally effective and reasonably available means of complying with such obligations, the Party chooses the alternative that is least inconsistent" with the NAFTA rules. The agreements in question are listed in the Annexes to Article 104: the Montreal Protocol, the Basel Convention, and CITES - the same MEAs that are also the focus of the relevant discussion within the GATT context. By unanimous decision of the NAFTA parties, additional environmental agreements may be added to this list.

In the context of this system, concerns have been raised by environmental groups on two counts: first, that the wording "least inconsistent" in Article 104 will provide an easy basis for challenging an action taken by a party in accordance with a listed MEA, and second, that the requirement of unanimity will make it very difficult to list additional agreements. Experience will undoubtedly show to what extent these concerns are justified. From an environmental viewpoint, in any event, the clear preference given to MEAs under the NAFTA approach goes well beyond anything that has thus far been considered within the GATT context. It should certainly be kept in mind in the future negotiations of the Committee on Trade and Environment established pursuant to the Uruguay Round.



5

Conclusion

THE ADOPTION OF THE BASEL CONVENTION IN 1989 CONSTITUTED the starting point for the emergence of a global regulatory system for the management of hazardous wastes. In the past few years, this regulatory system has significantly modified the approach of the international community to the problems pertaining to international hazardous waste traffic.

In addition to raising awareness and promoting the protection of the environment in all countries, the emerging global waste management regime has given rise to discussion in areas that were not at the forefront of international attention in the 1980s. These issues include the need to promote sustainable industrial activity in all countries while combating the ill-effects of hazardous wastes, particularly in developing countries; the need to integrate activities pertaining to environmentally sound waste management into the wider concept of cleaner production; and the need to achieve harmonization between environmental and trade measures in the handling of hazardous wastes and substances.

This paper has attempted to highlight some areas in which further work could contribute to the reconciliation of divergent aims in the management of hazardous wastes. A key area is the development of a clearer concept of what is considered a hazardous waste. This could include more detailed classification systems, ideally extending to the introduction of limit values of concentration and the specification of testing methods. It could also include the elaboration of criteria to distinguish hazardous wastes with primarily negative effects from secondary products or raw materials with a positive economic value and a comparatively low hazard potential.

Another area worth considering is an adaptation of the categories of countries between which trade in hazardous wastes is prohibited, in order to take better account of the diverse situations in the countries of the world. The building of national and international infrastructures to ensure effective enforcement of the rules to control transboundary movements of hazardous wastes, and to prevent illegal traffic, is obviously a major challenge.

Finally, the important discussion on how to reconcile environmental and trade aims in the context of waste management

should be pursued within the various global fora. The experience of regional free trade organizations such as the EU and the NAFTA could provide some helpful insights.

In many of these areas, work is already underway, as noted. In the spirit of *Agenda 21*, we may hope that this work will enhance the concerted effort of the world community to protect the environment against the ill-effects of hazardous wastes while minimizing negative impacts on economic development in all countries.

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Endnotes

¹ Parts of Chapters 2 and 3 of this paper are based on the relevant sections of Kummer, *International Management of Hazardous Wastes: The Basel Convention and Related Legal Rules* (Oxford University Press, forthcoming).

² Cf. UN Illegal Traffic Report (1989), p. 6 (quoting estimates of UNEP's International Register for Potentially Toxic Chemicals). See also Tolba and El-Kholy (1992), p. 249.

³ UNEP Environmental Data Report 1993-94, p. 330; OECD, *Transfrontier Movements* (1993); World Resources Report 1990-91, pp. 315.

⁴ Cf. UN Illegal Traffic Report (1989); World Resources Report 1990-91, p. 328.

⁵ Cf. for example UNEP Environmental Data Report 1993-94, p. 332.

⁶ OECD, *Transfrontier Movements* (1993); OECD Environmental Data (1991); UNEP, *The State of the World Environment* 1989, p. 38.

⁷ Cf. e.g. World Resources Report 1990-91; UNEP Environmental Data Report 1993-94, p. 332; UN Illegal Traffic Report (1989), quoting International Institute for Environment / World Resources Institute, *World Resources* 1987.

⁸ Cf. e.g. World Resources Report 1990-91; UNEP Environmental Data Report 1993-94, p. 332.

⁹ UNEP Environmental Data Report 1993-94, p. 332.

¹⁰ For an overview of exports and imports at a global level cf. World Resources Report 1990-91, p. 325; for exports and imports of OECD countries, cf. OECD, *Transfrontier Movements* (1993). Both these sources comprise legal transactions only. The tables of both the World Resources Report and the OECD show that data are unavailable for most countries.

¹¹ UN Illegal Traffic Report (1989); OECD Environmental Monograph No. 34 (1993), p. 9.

¹² UNEP Environmental Data Report 1993-94, p. 333; OECD Environment Monograph No. 34 (1993); p. 9 et seq. For further details of waste imports and exports of the EU member states see DG XI, Office Statistique des Communautés Européennes: *Mouvements des déchets et résidus selon les statistiques douaniers* (juin 1991).

¹³ OECD Environment Monograph No. 34

(1993) p. 9.; UNEP, *The State of the World Environment 1989*, p. 38. For an overview of the estimated annual hazardous waste exports and imports of selected OECD member states, cf. OECD Waste Management Policy Group, Working Paper No. 3 for the 37th Meeting, March 1993.

¹⁴ UNEP Environmental Data Report 1993-94, referring to OECD estimates.

¹⁵ Focus on IMO: Dumping at Sea (IMO, 1989); GESAMP: *The State of the Marine Environment* (UNEP, 1990), p. 13. Cf. also World Resources Report 1990-91, pp. 341 et seq.

¹⁶ GESAMP: *The State of the Marine Environment* (UNEP, 1990), p. 14.

¹⁷ For an overview cf. e.g. OECD Environment Monograph No. 34 (1993) p. 9 et seq. (quoting a 1984 study of the OECD Waste Management Policy Group).

¹⁸ Richter (1989), p. 20-21; see also Tolba, Preface, in Kwiatkowska and Soons (1993), estimating average disposal costs in Africa as 4-25 times lower than equivalent costs in Europe, and 12-36 times lower than in the United States.

¹⁹ Cf. the UN Illegal Traffic Report (1989), and the Note by the Executive Director of UNEP to the first Meeting of the Conference of the Parties to the Basel Convention on Illegal Traffic in Hazardous Wastes, UNEP/CHW.1/19 (15 September 1992), reviewing reports on cases of illegal traffic received by the Secretariat from five countries in 1992.

²⁰ For an analysis of the causes of hazardous waste exports from developed to developing countries in particular cf. Hilz (1990) p. 35 et seq.; Richter (1989) p. 19 et seq.

²¹ Cf. Greenpeace Inventory (1990), Preface. Within Europe, about 200'000-300'000

tons per year are believed to be exported from the more heavily industrialized West to the East; cf. UN Illegal Traffic Report (1989), quoting World Resources 1987. See also the World Resources Report 1990-91, p. 328 (noting that the actual amount of hazardous waste shipped to developing countries is probably much higher than official estimates, due to the large number of illegal transactions).

²² Cf. Richter (1989), giving a comprehensive analysis of hazardous waste shipments to 27 African countries in the mid- and late 1980s; also Hilz (1990) p. 28, quoting data from various Greenpeace publications; Ndi (1993), giving an overview of documented cases of waste shipments to Africa as per June 1988, based on reports in West Africa Magazine No. 3697, June 1988.

²³ Long (1990), p. 199; EC, Community Strategy for the Management of Hazardous Wastes, September 1989 (Doc. SEC(89)934 final).

²⁴ *An extensive compilation of information on illegal hazardous waste export schemes, including the cases mentioned, is given in Greenpeace, Inventory (1990), pp. 21-380. For a discussion of these and other cases* ²⁵ Cf. among many others Clapp (1994); Jones (1993); Donald (1992); Watts (1992); Greife and Bernstorff (1991); Cusack (1990); Montgomery (1990); Hilz (1990); Richter (1989).

²⁶ OECD, Transfrontier Movements (1993). Cf. also the background document prepared by the OECD Secretariat for the OECD Workshop on Wastes Destined for Recovery Operations (Vienna, June 1991), giving an overview of types and quantities of wastes moved within the OECD for recycling or recovery operations.

²⁷ OECD Waste Management Policy Group, Working Paper No. 3 for the 37th Meeting (March 1993).

²⁸ Yhdego (1993), p. 37 et seq.

²⁹ Tolba and El-Kholy (1992), p. 264, 273.

³⁰ International Monetary Fund (1993), p. 7 et seq.

³¹ Tolba and El-Kholy (1992), Chapter 10 (Industry) gives an overview of the increase in generation of industrial waste in some developing countries (p. 342 et seq.). Cf. also Spitalnik (1992), p. 3, quoting individual country studies on hazardous waste generation in Asian countries.

³² Repetto (1994), p. 4.

³³ Repetto (1994), pp. 3 et seq.; see also Tolba and El-Kholy (1992), p. 264 et seq. (giving figures for Thailand, Malaysia, and Singapore).

³⁴ For an outline and analysis of pertinent legislation of the ASEAN countries (Malaysia, Indonesia, Philippines, and Singapore), Japan and China, cf. Spitalnik (1992).

³⁵ UNEP Governing Council Decision 14/30 on environmentally sound management of hazardous wastes, 17 June 1987 (Doc. UNEP/GC.14/30).

³⁶ Regional distribution of the Basel parties is as follows: Africa: 7; Asia: 17; Western Europe and others: 20; Eastern Europe: 8; Latin America: 13.

³⁷ *Basel Convention, Article 2(1)*: "«Wastes» are substances or objects which are disposed of or are intended to be disposed of or are required to be disposed of by the provisions of national law."

³⁸ In the discussion on processes leading to the re-use in some form of a waste material,

or of components thereof, a wide variety of terms is used, including the above. There does not as yet appear to be a generally acknowledged definition of "recycling" or related terms, whether in the Basel Convention or in other legal instruments. The International Standards Organization (ISO) is giving its attention to this issue.

³⁹ *This definition, as well as the lists contained in Annexes I and III, are closely modelled on the definitions set out in OECD Council Decision C(88)90 on Transfrontier Movements of Hazardous Waste (27 May 1988).*

⁴⁰ Document UNEP/CHW. 2/14 on the Implementation of Decision I/21 of the first meeting of the Conference of the Parties on Documentation, Annex I.

⁴¹ Framework Document and Technical Guidelines for the Environmentally Sound Management of Wastes subject to the Basel Convention, May 1994 (Basel Convention Series/SBC No. 94/005 and 94/006); Decisions I/19 and II/13 of the Conference of the Parties.

⁴² Report of the Second Meeting of the Conference of the Parties (25 March 1994), Doc. UNEP/CHW.2/30. The Decisions are reprinted in Basel Convention Series/SBCNo. 94/008 (June 1994).

⁴³ Decision I/22 of the first meeting of the Conference (Piriapolis (Uruguay), 30 November to 4 December 1992).

⁴⁴ For a discussion see for example Aust (1986), p. 786 et seq.

⁴⁵ See the report of the Secretariat on its role in the implementation of the Basel Convention (Doc. UNEP/CHW.2/28, December 1993); also Conference Decisions I/23 and II/21.

⁴⁶ The UNCTDG Recommendations, widely used by governments, cover all modes of transport and set out rules on classification, packaging, labelling, and transport.

⁴⁷ Important codes of practice relating to the transport by sea of hazardous substances, elaborated by IMO committees, include the International Maritime Dangerous Goods Code (IMDG Code), the Code of Safe Practice for Solid Bulk Cargoes (BC Code), and the codes relating to the construction and equipment of ships carrying liquid chemicals in bulk (BCH and INC Codes).

⁴⁸ Resolutions 2, 5 and 7 of the Basel Conference, 22 March 1989 (attached to the Final Act of the Conference).

⁴⁹ See the pertinent report of the Basel Convention Secretariat to the Conference of the Parties (Doc. UNEP/CHW.2/23, December 1993).

⁵⁰ For an overview of work done cf. e.g. Kummer, in Yearbook of International Environmental Law, Vol. 2 (1991) p. 176, and Vol. 3 (1992) p. 288.

⁵¹ For a more detailed discussion see Jones (1993), p. 324; Donald (1992), p. 419.

⁵² All relevant OECD rules are reprinted and discussed in *OECD Environment Monograph No. 34* (1993).

⁵³ The notification form provisionally approved by the Conference of the Parties to the Basel Convention lists the IWIC as a possible way to designate wastes, cf. Doc. UNEP/CHW.2/14.

⁵⁴ OECD draft International Agreement on Control of Transfrontier Movements of Hazardous Wastes, ENV(87)9(5th Revision, October 1987. Work on the draft agreement was

suspended by Council Decision in 1989, after the successful conclusion of the Basel negotiations.

⁵⁵ OECD Council Decision Concerning the Control of Transfrontier Movements of Wastes Destined for Recovery Operations, C(92)39/Final, March 1992.

⁵⁶ Council Directive 91/156/EEC amending the 1975 Directive on waste, OJ No. L 78/32 (March 1991); Council Directive 91/689/EEC on hazardous waste, OJ No. L 377/21 (December 1991).

⁵⁷ Council Regulation 259/93 on the supervision and control of shipments of waste within, into and out of the European Community, OJ No. L 30/1 (February 1993).

⁵⁸ See the compilation of pertinent national legislation of some 30 countries carried out by the Secretariat of the Basel Convention in 1993 (Basel Convention Series/SBC No. 94/002, Geneva, January 1994); also Kiss and Shelton (1991), p. 313; and Spitalnik (1992), giving an overview of the national waste legislation in selected Asian countries.

⁵⁹ World Bank Technical Paper No. 93 (1989), Vol. 1 p. 12.

⁶⁰ Cf. the relevant report of the Secretariat (Document UNEP/CHW.2/22), and Decision II/24 of the Conference of the Parties.

⁶¹ *Office of Marine Pollution Control & Waste Management, Water Quality Bureau, Environment Agency, Japan: Practical Guidance for the Identification of Hazardous Wastes Controlled by the Basel Convention* (October 1993).

⁶² ECJ Case 7/68, *Commission v. Italy* (ECR 1968 p. 42 et seq.): "By goods (...) there must be understood all products which can be valued i. money, and which are capable, as such, of forming the subject of commercial transactions". See

also *Joined Cases 206/88 and 207/88, Vessoso and Zanetti* (28 March 1990); *Case C-2/90, Commission v. Belgium* (9 July 1992); *Case 155/91, Commission v. Council* (17 March 1993).

⁶³ For an analysis cf. Rublack (1993), pp. 262 et seq.

⁶⁴ Report of the Chairman of the Working Group, L/6872, 2 July 1991; also "Trade and Environment": Factual Note by the Secretariat, L/6896, 18 September 1991.

⁶⁵ *Bundesverwaltungsgericht, Decision of 24 June 1993, reported in Rohstoff Rundschau* No. 21/1993 p. 818.

⁶⁶ Implementation of Decision I/16 of the First Conference of the Contracting Parties on Transboundary Movements of Hazardous Wastes Destined for Recycling or Recovery Operations, Note of the Secretariat, UNEP/CHW.2/12, 17 December 1993, Annex III.

⁶⁷ This problem was brought to the attention of the Conference of the Parties by the representative of Malaysia in his statement.

⁶⁸ Repr. in IAEA News Features No. 9, December 1990.

⁶⁹ IAEA General Conference Resolution GC(XXXVII)/Res/615, October 1993.

⁷⁰ Proposal made during the last negotiating session on the Basel Convention, UNEP/CRP.24 (March 1989).

⁷¹ Note of the Basel Convention Secretariat on the scope of the Basel Convention in relation to its applicability to radioactive wastes, Doc. UNEP/CHW.2/26 (December 1993).

⁷² N 71 supra.

⁷³ Decision II/11 on the scope of the Basel Convention.

⁷⁴ The following outline of the advantages and disadvantages of recycling is based to a large

extent on the Note by the Secretariat of the Basel Convention on the Implementation of Decision I/16 of the First Meeting of the Conference of the Contracting Parties on Transboundary Movements Destined for Recovery Operations, UNEP/CHW.2/12, 17 December 1993. Some parts are based on information received from representatives of various organizations.

⁷⁵ Quoted in Document UNEP/CHW.2/12 (N 74 supra), Annex 3: Note on Trade in Scraps.

⁷⁶ Note by the Secretariat on Transboundary Movements of Hazardous Wastes Destined for Recovery Operations (Doc. UNEP/CHW. 2/12, December 1993).

⁷⁷ *Rohstoff Rundschau* 8/1994, 20 April 1994, p. 256.

⁷⁸ *Rohstoff Rundschau* 8/1994, 20 April 1994, p. 256.

⁷⁹ The Note by the Secretariat on Illegal Traffic (Doc. UNEP/CHW.2/8, December 1993) gives an overview of the Secretariat's activities in this field.

⁸⁰ Decision II/4 on Illegal Traffic in Hazardous Wastes and Other Wastes.

⁸¹ UNEP IE/PAC, Cleaner Production Worldwide (1993), Introduction.

⁸² UNEP IE/PAC Newsletter "Cleaner Production", No. 5, June 1992, p. 2.

⁸³ UNEP and UNIDO (1991), Chapter 1: Introduction to Waste Auditing.

⁸⁴ Yhdego (1993), quoting two 1991 studies.

⁸⁵ An overview of the background, purpose and current status of the Global Waste Survey is given in the relevant report of the Secretariat to the Conference of the Parties (Doc. UNEP/CHW.2/24, December 1993).

⁸⁶ Cf. Decision I/13 of the first Conference of the Parties; Decision II/19 of the second Conference of the Parties.

⁸⁷ Basel Secretariat Documents UNEP/CHW/C.1/1/6 (Information received from the Parties to the Basel Convention in relation to the establishment of regional centres for training and technology transfer); UNEP/CHW.2/19 (Note by the Secretariat on regional centres for training and technology transfer).

⁸⁸ Basel Secretariat Document UNEP/CHW.2/20 (Note by the Secretariat on training and seminars related to the Basel Convention).

⁸⁹ UNEP IE/PAC Activity Report 1991.

⁹⁰ Note by the Executive Director on Financial Provisions (UNEP/CHW.1/9, August 1992); Decision I/7 of the first Conference of the Parties; Decision II/27 of the second Conference of the Parties.

⁹¹ Report of the Bureau of the Conference of the Parties (Doc. UNEP/CHW/C.1/1/3/Rev.2/Corr.1, 27 October 1993).

⁹² Yhdego (1993).

⁹³ For further discussion see among many others Arden-Clarke (1991); Brown Weiss (1992); and Schoenbaum (1992).

⁹⁴ World Commission on Environment and Development ("Brundtland Commission"), *Our Common Future* (1987).

⁹⁵ On the work of this group see generally the report of its Chairman to the 49th Session of the Contracting Parties to GATT, 2 February 1994 (Doc. L/7402); and the report of the GATT Secretariat to the 2nd meeting of the Commission on Sustainable Development (9 March 1994), p. 9 et seq.

⁹⁶ A GATT study in 1992 concluded that 17 out of 127 MEAs contained trade provisions

(GATT (1992), p. 11.

⁹⁷ Decision on Trade and the Environment, repr. in Doc. MTN.TNC/W/141 (29 March 1994).

⁹⁸ Report by the Chairman of the Working Group on Export of Domestically Prohibited Goods and Other Hazardous Substances (Doc. L/6872, 2 July 1991); see also Rublack (1993), p. 92 et seq.

⁹⁹ Rublack (1993), p. 274, and literature quoted there.

¹⁰⁰ GATT (1992), p. 11.

¹⁰¹ Observations on the approach of the European Union are based on Kummer (forthcoming), Chapter 4. Observations on NAFTA are based on Housman (1994).

¹⁰² On the the EU environmental policy and its evolution cf. Krämer (1990); and Wilkinson (1992), addressing the environmental implications of the Maastricht Treaty.

¹⁰³ Case 120/78 ("Cassis de Dijon"), ECR 1979 p. 649 et seq.; Case 240/83 ("ADBHU"), ECR 1985 p. 531 et seq.; Case 302/86 ("Danish Bottles"), ECR 1988 p. 4627.

¹⁰⁴ Housman (1994), p. 3 et seq.



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