



International Environmental Law-making and Diplomacy Review

2007

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The articles in the present Review are based on lectures given during the fourth University of Joensuu - UNEP Course on International Environmental Law-making and Diplomacy, which was held from 12 to 24 August 2007 at the University of Joensuu, Finland. The special theme of the Course was chemicals. The aim of the Course was to convey key tools and experiences in the area of international environmental law-making to present and future negotiators of multilateral environmental agreements. In addition, the Course served as a forum for fostering North-South co-operation and for taking stock of recent developments in the negotiation and implementation of multilateral environmental agreements and diplomatic practices in the field.

The lectures were delivered by experienced hands-on diplomats, government officials and members of academia. The Course is an annual event designed for experienced government officials engaged in international environmental negotiations. In addition, other stakeholders such as representatives of non-governmental organizations and the private sector may apply and be selected to attend the Course. Researchers and academics in the field are also eligible.

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Foreword

The articles in the present Review are based on lectures given during the fourth University of Joensuu – UNEP Course on International Environmental Law-making and Diplomacy, which was held from 12 to 24 August 2007 at the University of Joensuu, in Joensuu, Finland. The first two Courses were held in Joensuu in 2004 and 2005; the third was hosted at the Pietermaritzburg campus of the University of KwaZulu-Natal, South Africa. The proceedings of those courses have been published in the 2004, 2005 and 2006 *Reviews*.¹

The aim of the Course is to convey key tools and experiences in the area of international environmental law-making to present and future negotiators of multilateral environmental agreements. In addition, the Course serves as a forum for fostering cooperation between developed and developing country negotiators; and for taking stock of recent developments in the negotiation and implementation of multilateral environmental agreements and diplomatic practices in the field. The ultimate aim of the course is to improve environmental negotiation and governance worldwide.

The Course is an annual event designed to enhance the negotiation skills of government officials who are, or will be, engaged in international environmental negotiations. In addition, other stakeholders such as representatives of non-governmental organizations and the private sector may apply and be selected to attend the Course. Researchers and academics in the field are also eligible. Altogether 37 participants from 26 countries, with an equal distribution from the North and South, as well as between genders, participated in the fourth Course.

We would like to express our gratitude to all of those who contributed to the successful outcome of the fourth Course. It gives us great pleasure to recognize that the lectures and presentations given during the Course are now recorded in this *Review*. We are grateful that the authors were willing to take on an extra burden after the Course by transferring their presentations into article form; thereby making the Review such a useful resource. In addition, we would like to thank Tuula Kolari and Ed Couzens for skilful editing of the Review and the Editorial Board for providing guidance in the editing process.

Professor Perttu Vartiainen
Rector of the University of Joensuu

Achim Steiner
Executive Director of UNEP

¹ For electronic versions of the 2004, 2005 and 2006 Reviews please see the University of Joensuu – UNEP Course on International Law-making and Diplomacy website, <<http://www.joensuu.fi/unep/envlaw>>.

PREFACE

The lectures of the fourth University of Joensuu – UNEP Course on International Environmental Law-making and Diplomacy, from which the papers in the present *Review* emanate, were delivered by experienced diplomats, government officials and members of academia.² One of the main purposes of the Course is to take advantage of the practical experiences of experts working in the field of international environmental law-making and diplomacy. Consequently, the articles in this *Review* and the different approaches taken by the authors reflect the diverse professional backgrounds of the lecturers and resource persons. Overall, the articles in the *Review* represent various aspects of the broad and complex field of international environmental law-making and diplomacy.

The current *Review* seeks to provide practical guidance, professional perspective and historical background to practitioners, stakeholders and researchers working in the area of international environmental law-making and diplomacy. The *Review* highlights dominating doctrines, approaches and techniques in the field, including international environmental governance, sustainable development, international environmental law-making, environmental education and empowerment, and compliance. Additionally, the fourth volume focuses on ‘chemicals and waste’ as a special theme. The first, second and fourth Courses were hosted by the University of Joensuu, in Joensuu, Finland – an area in which forests and water provide abiding and dominant images. The special themes of the first two Courses were, therefore, ‘water’ and ‘forests’. The third Course was hosted by the University of KwaZulu-Natal, on its Pietermaritzburg campus in KwaZulu-Natal, South Africa. KwaZulu-Natal is an extremely biodiversity-rich area, both in natural and cultural terms, and the chosen special theme was therefore ‘biodiversity.’

The editorial board and the editors believe that the value of the *Review* lies in it making a permanent contribution to knowledge and learning in the field of environmental negotiation and diplomacy. In particular, the *Review* has been proud to receive ongoing contributions – through the various editions – of persons who have been involved in some of the most important environmental negotiations in the past several decades. Publication of these contributions means that the experiences, insights and reflections of these environmental leaders are now recorded and disseminated, where they might not otherwise have been committed to print. It is our opinion that the value of these contributions cannot be understated.

As in the previous three editions, the Editorial Board and the editors of the *Review* wished also to give the opportunity, and encouragement, to Course participants to

² General information on the University of Joensuu – UNEP Course on International Environmental Law-making and Diplomacy is available at <<http://www.joensuu.fi/unep/envlaw>>.

submit papers. This has become a regular feature of the *Review* and is, we hope, a tradition that will continue. Two such papers are published in this year's *Review*.

Tuula Kolari and Ed Couzens edited the *Review*, both advising on and amending the style and content of the submissions. They also provided research assistance by checking, adding and editing references and footnotes.

The present *Review* is divided into four sections. Part I addresses general issues relating to international environmental law-making and governance, with some attention paid to chemicals issues. In the first paper, Tuomas Kuokkanen suggests various techniques which are, or might be, adopted within international legal instruments for solving problems. Through consideration of how, historically, understanding of the nature of environmental problems has increased, and of the ways in which this increased understanding has been reflected in law, he provides lessons for the future.

In the second paper, Tuula Kolari considers the principle of common but differentiated responsibility in international law, its history and development, and the ways and places in which it is currently found in international environmental treaties. She also considers implications raised by the principle; her discussion including difficult issues such as equity, ethics, criteria and enforcement. She then turns her attention to the future role of the principle in environmental negotiations, and considers possible problems and solutions. In the third paper, Akpezi Ogbuigwe considers the role of public participation in international environmental diplomacy and in implementation of international environmental law. She then tackles the difficult question of the role that ethics ought to play in the area. In the fourth paper, Nicola Notaro takes the European Union – one of the most important players in international environmental negotiations – and considers the implications of its October 2007 Reform Treaty. In doing so, he analyses and explains important personality, competence and representation issues with which the EU is currently wrestling.

Parts II and III are dedicated to the special theme of the fourth University of Joensuu – UNEP Course: chemicals and waste; and the papers in these Parts consider problems related to chemicals use, and problems with specific governance efforts, as well as the nature of chemicals-related negotiations.

Part II sets the scene generally, with Shafqat Kakakhel explaining the structure of international governance in respect of chemicals-related multilateral environmental agreements. He then considers how this structure might be improved to provide sounder management in the future. The second paper in this section, by Iwona Rummel-Bulska, considers the negotiations which led up to the adoption of the Basel Convention. She explains how the political needs of developing countries were accommodated, considers the final text, and seeks to draw lessons for future negotiations. In the third paper in this section, Maged Younes further explains global issues relating to chemicals, international actions taken in respect of chemicals and

challenges which need to be dealt with. In the fourth paper, Kerstin Stendahl considers current efforts being made to enhance cooperation and coordination among the Basel, Rotterdam and Stockholm Conventions.

The last two papers in Part II consider the particular vulnerability of developing countries' environments to exposure to chemicals; and developing country and regional efforts to address this. Donald Kaniaru, a stalwart of environmental negotiation as well as of the *Review* (this being his fourth consecutive contribution), writes on the challenges – both national and international – faced by developing countries in managing chemicals and wastes. Course participant Arielle Delprado then writes on an instrument of regional integration – the 15 member Caribbean Community, or CARICOM. She considers the relationship between trade and environmental protection in the region.

Part III contains three papers dealing with particular chemicals-related problems. Firstly, a joint paper prepared at UNEP Chemicals considers problems relating to mercury, its use worldwide and its sources. The paper then considers the governance efforts that have been made to deal with these issues, particularly by UNEP. Secondly, Michael Kidd focuses on the use of DDT in malaria control; particularly, he examines the provisions which relate to DDT in the 2001 Stockholm Convention on Persistent Organic Pollutants – producing some possibly surprising conclusions on the use of this infamous pesticide. Finally, rather than considering a particular chemical, Ed Couzens, in the third paper in this section, focuses on the effects of chemicals as these are visible in a particular study subject: marine mammals.

Part III also contains a paper by a Course participant. Tammy de Wright endeavours to give practical insight into compliance problems by considering the experiences of a particular country. de Wright examines compliance mechanisms under the Montreal, Basel, Rotterdam and Stockholm Conventions – both past and ongoing – integrating a case study of Russia into the discussion.

Part IV of the *Review* reflects the interactive nature of the Course. During the Course negotiation simulation exercises were organized to introduce the participants to the real-life challenges facing negotiators of international environmental agreements. Participants were given individual instructions and a hypothetical, sometimes country-specific negotiating mandate and were guided by international environmental negotiators in the two simulation exercises. Excerpts from the exercises are reprinted in this *Review*.

Gerhard Loibl facilitated an interactive discussion on difficult issues concerning the relationship between international rules designed to promote trade and rules protective of the environment. Hannu Braunschweiler gives a scan of the global problems related to mercury and of international legal measures taken in this regard; and then

explains the interactive exercise, and how it was run for course participants. Cam Carruthers provided a simulation exercise for negotiating rules of procedure; the exercise was based on the real example of PrepCom II of the Strategic Approach to International Chemicals Management (SAICM).

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PART I

GENERAL ISSUES OF INTERNATIONAL
ENVIRONMENTAL LAW-MAKING AND
GOVERNANCE

THE PROBLEM-SOLVING ROLE OF INTERNATIONAL ENVIRONMENTAL LAW

*Tuomas Kuokkanen*¹

1 Introduction

One of the functions of international law is to solve problems.² This raises the issue of what problems are. In the environmental context, one would list various environmental issues as problems; such as climate change, depletion of the ozone layer, acidification, and marine pollution. Whilst these surely represent environmental problems, they are not necessarily legal problems. Indeed, there is a difference between a legal and an environmental problem. Take, for example, unilateral trade restrictions which are motivated by environmental reasons. Despite being based on good environmental intentions; such measures might, from the trade law point of view, turn out to be problematic and eventually create legal problems. Therefore, the concept of a problem is not a black and white question; but rather is one to be determined in a particular context.

A problem is usually understood as an unresolved issue or an obstacle which makes it difficult to achieve a desired objective.³ Following this definition, one can point out several examples of problems drawn from the field of chemicals: how to solve the global mercury problem; how to take into account the special needs and circumstances of developing countries; how to limit adverse effects of chemicals on

¹ Professor of International Environmental Law, University of Joensuu; Counsellor, Ministry of the Environment of Finland. The author participates in the Legitimacy of Environmental Governance project of the Environment and Law Research Programme financed by the Academy of Finland. The article is partly based on the work: Tuomas Kuokkanen, *International Law and the Environment: Variations on a Theme*, The Erik Castren Institute of International Law and Human Rights, Vol. 4 (Kluwer Law International, 2002).

² See Veijo Heiskanen, 'Death of the Layman: The Legacy of Deconstruction and the Philosophy of International Law', *XV Finnish Yearbook of International Law* (2004) 233–272 at 271.

³ Problem may be defined as 'a matter or situation regarded as unwelcome or harmful and needing to be dealt with and overcome'. See Oxford Dictionary of English (Oxford University Press, 2nd ed. 2005) at 1402.

marine mammals; how to reconcile environment protection with protection of trade interests; how to take into account the impacts of chemical and waste regimes on biodiversity ecosystems; how to reconcile the dangerous effects of the use of DDT with the need to control malaria; or how to enhance cooperation and coordination among chemicals-related international instruments. All of these problems require solutions. In the chemicals field, many steps have already been taken in order to solve problems. For instance, global and regional chemical and waste instruments; the regime for protection of the ozone layer; or global governance of chemicals issues all represent attempts to solve chemical-related problems.

This paper will discuss key problem-solving methods of international law – dispute settlement, regulations and management – using examples from the chemical field. While these are all still applicable, they also reflect historical development. Dispute settlement was topical at a time when environmental problems were rare. It became widely apparent from the 1960s onwards that environmental regulations were needed against chemical pollution. Later on, a more managerial type of problem-solving was needed in addition to the regulatory approach. Other articles in this *Review* deal with specific problems related to chemical use and problems with specific governance efforts.

2 Solving problems through dispute settlement: the *Trail Smelter* Arbitration

2.1 Settlement by referral to arbitral tribunals

The function of arbitration tribunals in the latter part of 19th century represented a landmark in the evolution of international law by demonstrating that international law can have professional, not merely academic or philosophical, value. From arbitration, international dispute settlement evolved to the Permanent Court of Arbitration, to the Permanent Court of International Justice and to the International Court of Justice.

As early environment-related problems were of a sporadic and bilateral nature, it seemed sufficient to solve them retroactively through dispute⁴ settlement. The arbitration procedure appeared to be a successful method of settlement. One of the seminal cases of international environmental law relating to adverse effects caused by chemicals is the *Trail Smelter* arbitration between the United States and Canada.

⁴ John Merrills defines a dispute as follows: ‘A “dispute” is a disagreement about something and an “international dispute” is a disagreement, typically but not exclusively between States, with consequences on the international plane.’ See John Merrills, ‘The Means of Dispute Settlement’ in Malcom D. Evans (ed.), *International Law* (Oxford University Press, 2003) 529–557 at 529–530.

2.2 The *Trail Smelter* dispute

The dispute related to a lead and zinc smelter that had began operating in 1896 near the town of Trail in British Columbia, some seven miles from the international boundary between the United States and Canada.⁵ The smelting process resulted in emissions of large quantities of sulphur dioxide fumes through the stacks of the smelter. In 1916, for example, about 5 000 tons of sulphur was emitted each month. Because of increased production and the erection of new stacks, emissions of sulphur dioxide rose at the end of the 1920s. About 300–350 tons of sulphur was emitted daily in the year 1930. It could be shown that, at least between the years 1925 and 1937, the sulphur dioxide fumes caused damage across the border in the State of Washington.⁶

In 1928, as a result of complaints concerning the damage caused by the smelter, the two governments referred the issue to the International Joint Commission established on the basis of the Boundary Convention of 1909.⁷ On 28 February 1931, the International Joint Commission rendered a unanimous report in which it determined that an indemnity in the amount of \$350 000 would compensate the United States' interests up to 1 January 1932. However, the two governments did not accept the report by the Commission. As the Trail Smelter still continued to cause damage in the United States side, the two governments signed a *compromis* on 15 April 1935 submitting the dispute to arbitration.⁸

2.3 The decision of the tribunal

The tribunal rendered its interim decision on 16 April 1938; and then its final decision on 11 March 1941.⁹ The determination of compensable damage and the prevention of future damage were the underlying themes of the arbitration.¹⁰ The *compromis*

⁵ *Trail Smelter* arbitration, III UN Reports of International Arbitral Awards (UNRIAA) at 1917 and 1945. In 1906, the Consolidated Mining and Smelting Company of Canada, Limited obtained a charter of incorporation from the Canadian authorities. *Ibid.* at 1945.

⁶ *Ibid.* at 1945.

⁷ See Article XI of the Treaty between Great Britain and the United States Relating to Boundary Waters, and Questions Arising between the United States and Canada, Washington, D.C., 11 January 1909, United Nations Legislative Series (UNLS) ST/LEG/SER.B/12 at 260.

⁸ Convention for Settlement of Difficulties Arising from Operation of Smelter at Trail, B.C., Ottawa, 15 April 1935, III UNRIAA 1907–1910. The tribunal consisted of the following three members: Charles Warren (appointed by the United States), Mr. Robert A.E. Greenshields (appointed by Canada) and a chairman, Mr. Jan Frans Hostie (appointed by the two governments jointly).

⁹ Decision reported on April 16, 1938, to the Government of the United States of America and to the Government of the Dominion of Canada under the Convention signed April 15, 1935, III UNRIAA at 1911–1937; Decision reported on March 11, 1941, to the Government of the United States of America and to the Government of the Dominion of Canada, under the Convention signed April 15, 1935, *ibid.* at 1938–1982.

¹⁰ In the first article of the *compromis*, Canada undertook to pay the sum of \$350 000, recommended by the International Joint Commission, as compensation for damage occurring prior to 1 January 1932. The questions referred to the tribunal were laid down in Article III of the *compromis*.

of 1935 did not include a specific definition of 'damage', but merely referred in several instances to the phrase 'damage caused by the Trail Smelter'.

In assessing the amount of the damages, the tribunal relied on the court practice of the United States. With regard to cleared land used for crops, the tribunal adopted the measure of damages that the American courts applied in cases concerning the nuisance of trespass; that is, the amount of reduction in value, of use or rental value of the land, caused by the emissions.¹¹ Likewise, as regards damage to cleared land not used for crops, and to all uncleared land other than uncleared land used for timber, the tribunal adopted the amount of reduction in the value.¹² In relation to uncleared land used for merchantable timber the tribunal noted that, under the leading American decision, the value of the merchantable timber destroyed is, in general, deemed to be substantially the equivalent of the reduction in the value of the land.¹³ Furthermore, with regard to damage due to the destruction and impairment of growing timber, not of merchantable size, the tribunal applied the measure of reduction in the value of the land itself due to such destruction and impairment.¹⁴ Finally, the tribunal took the lack of reproduction of trees into account to some extent in awarding indemnity for damage to uncleared land in use for timber.¹⁵ On the basis of the above-mentioned assessment standards and the evidence in the record, the tribunal awarded, in its interim award, compensation of US\$78 000 in total.¹⁶ The tribunal rejected the rest of the five categories of claims submitted by the United States. In its final decision, the Court did not amend the compensation amount rendered in the interim award. Accordingly, Canada was obliged to pay US\$78 000.

With regard to the future damage, the tribunal gave a well-known *dictum* on the non-harmful use of territory.¹⁷ Furthermore, the tribunal proposed to establish a permanent regime to be adopted for the continued operation of the Trail Smelter. The purpose of this regime was to prevent the occurrence of sulphur dioxide in the atmosphere in such amounts, with reference to concentration, duration and frequency, as would be capable of causing damage in the State of Washington. The tribunal laid down the maximum permissible hourly emissions of sulphur dioxide, expressed as tons per hour of sulphur contained. Furthermore, it determined the type and location of instruments for recording meteorological conditions and the sulphur dioxide concentrations. The tribunal also submitted a prescription as regards the height of the stacks. In addition, the tribunal ordered certain general restrictions and provisions. In

¹¹ See *supra* note 9, at 1924–1926.

¹² *Ibid.* at 1926.

¹³ *Ibid.* at 1928.

¹⁴ *Ibid.* at 1929.

¹⁵ *Ibid.* at 1929–1931.

¹⁶ *Ibid.* at 1931.

¹⁷ The tribunal stated: 'under the principles of international law, as well as of the law of the United States, no State has the right to use or permit the use of its territory in such a manner as to cause injury by fumes in or to the territory of another or the properties or persons therein, when the case is of serious consequence and the injury is established by clear and convincing evidence'. *Ibid.* at 1965. For discussion, see note 19 below.

order to give the regime an uninterrupted test, through at least two growing periods and one non-growing period, the tribunal prescribed a special procedure according to which the regime could have been amended after 31 December 1942.¹⁸

2.4 The importance of the *Trail Smelter* arbitration

The *Trail Smelter* arbitration is one of the seminal environmental awards to which scholars refer.¹⁹ The achievement of the case is that it succeeded in settling a substantive environmental dispute. Moreover, the tribunal was also empowered to recommend preventive future measures. In proposing such measures and setting up such a preventive regime, the tribunal was arguably acting as a kind of environmental legislator; prescribing obligations through which future damage could be prevented. As environmental problems became more common after the Second World War, it was this rule-setting function that began to gain more importance. However, instead of adopting a practice of asking arbitral tribunals to make recommendations on environmental regulations and regimes, states began to establish such regulations and management through international cooperation. As pollution problems increased, it began to be accepted that states should seek to prevent such problems through international regulations; rather than by settling them retroactively in bilateral arbitration tribunals.

3 Recourse to international regulations to protect the environment against chemical pollution

3.1 Increased understanding of the dangers of chemicals

In her seminal environmental book *Silent Spring*, published in 1962, Rachel Carson, warning of the adverse consequences of chemical pesticides, drew an alarming picture of how the world might come to be in the future.²⁰ Carson's work and other environmental cries of distress began to influence public opinion in the 1960s; both on a national and at the international level. Progressive industrialization and accel-

¹⁸ *Ibid.* at 1974–1978.

¹⁹ For discussion see, for example, Arthur K. Kuhn, 'The Trail Smelter Arbitration – United States and Canada', 32 *American Journal of International Law* (1938) 785–788; Arthur K. Kuhn, 'The Trail Smelter Arbitration – United States and Canada', 35 *American Journal of International Law* (1941) 665–666; John E. Read, 'The Trail Smelter Dispute', 1 *Canadian Yearbook of International Law* (1963) 213–229; Alfred P. Rubin, 'Pollution by Analogy: The Trail Smelter Arbitration', 50 *Oregon Law Review* (1971) 259–282; Philippe Sands, *Principles of International Environmental Law* (2nd ed., Cambridge University Press, 2003) 241–242, 318–319 and 885–886.

²⁰ Rachel Carson, *Silent Spring* (Houghton Mifflin Company, 1962). Carson wrote, for example, that: '[t]here was a strange silence. The birds, for example – where had they gone? Many people spoke of them, puzzled and disturbed. The feeding stations in the backyards were deserted. The few birds seen anywhere were moribund; they trembled violently and could not fly. It was spring without voices'. *Ibid.* at 2.

erated development were causing deterioration in the quality of the environment,²¹ which deterioration was characterized as ‘pollution’. The relationship between man and his environment had turned into an environmental crisis. Even though it was difficult to assess whether an environmental crisis was ‘just around the corner or well over the horizon’,²² it was held that states had a tangible and urgent problem on their hands. For example, the preamble to the 1972 Stockholm Declaration²³ reveals that environmental problems had become so obvious that even at that time they were regarded as generally observable, stating that:

[w]e see around us growing evidence of man-made harm in many regions of the earth: dangerous levels of pollution in water, air, earth and living beings.²⁴

As pollution problems had emerged unexpectedly, states had recourse to environmental diplomacy to deal with environmental crises. To make a distinction between the natural and man-made spheres, the concepts of ‘biosphere’ and ‘technosphere’ were introduced.²⁵ In order to protect the biosphere, and thereby the human environment, states deemed it necessary to issue restrictions upon activities in the technosphere through international regulations. For example, specific emissions standards were needed to regulate harmful substances and to protect different environment media. Thereby, environmental regulatory work to protect freshwaters, marine environment, air and soil against chemical pollution began to develop.

3.2 A Shift to protect environmental elements against chemical pollution

As freshwater pollution problems increased, states recognized that there was a need to issue regulations to protect hydrological units. The scope of the regulatory approach was broadened from boundary waters to control watercourses which were subject to international concern. For example, regulations were issued to protect

²¹ Report of the United Nations Conference on the Human Environment, Stockholm, 5–16 June 1972, UN Doc. A/CONF.48/9 (1972) at 4–5, paras 7–9, where it is suggested that: ‘[t]oday what has really changed between man and his environment – and this explains much of the present alarm – is primarily the scale of the physical phenomena caused by human activity.– Chemical pollution, for example, which in the past was virtually non-existent or affected only very small sectors, is now notorious for its magnitude’.

²² See the opening statement by Maurice F. Strong, *Aktstycken utgivna av utrikesdepartementet*, Ny serie II:25, 165–175 at 167.

²³ Stockholm Declaration, Report of the United Nations Conference on the Human Environment, UN Doc. A/CONF.48/14/Rev.1 (1972).

²⁴ See *ibid.* preamble para. 3.

²⁵ While biosphere refers to a thin surface layer surrounding the earth, the concept of technosphere refers to the world of tools and artifacts. For discussion, see Lynton K. Caldwell, *In Defense of Earth: International Protection of the Biosphere* (Indiana University Press, 1972) at 31–52.

the Mosel,²⁶ the Rhine,²⁷ and the Great Lakes.²⁸ These regulations set specific water quality objectives or emissions limits, or then alternatively established frameworks under which specific regulations could be determined. In addition to bilateral arrangements, states have established multilateral regulatory frameworks²⁹ to protect international watercourses. The main purpose of these frameworks has been to ensure that riparian states enter into bilateral or multilateral arrangements to prevent adverse transboundary impacts.

A number of international agreements have been concluded to protect the marine environment against pollution. Because many marine pollution³⁰ problems appeared regional in nature, states focused especially on regional regulations. Global treaties were, however, still needed – on the one hand, to regulate particular activities such as dumping and pollution from ships; and, on the other hand, to provide an umbrella for regional and bilateral protection.³¹ The international preventive action was structured so as to take into account the main sources of pollution. To this end, regulations were imposed to prevent, for example, the following causes of pollution:

²⁶ Protocol Concerning the Constitution of an International Commission for the Protection of the Mosel against Pollution, Paris, 20 December 1961, in force July 1962, 940 *United Nations Treaty Series* 211.

²⁷ Agreement Concerning the International Commission for the Protection of the Rhine against Pollution, Berne, 29 April 1963, in force 1 May 1965, 994 *United Nations Treaty Series* 3; Convention for the Protection of the Rhine against Chemical Pollution, Bonn, 3 December 1976, in force 1 February 1979, 16 *International Legal Materials* (1977) at 265.

²⁸ Agreement between the United States of America and Canada on Great Lakes Water Quality, Ottawa, 22 November 1978, available at <<http://www.epa.gov/glnpo/glwqa/1978/index.html>> (visited 20 February 2008).

²⁹ The first regional convention was adopted in 1992 under the auspices of the United Nations Economic Commission for Europe. In 1997, a global Convention on the Law of the Non-Navigational Uses of International Watercourses was also adopted under the auspices of the United Nations. The convention was elaborated by the International Law Commission and was negotiated in the Sixth Committee of the General-Assembly of the United Nations in 1996 and 1997. See the Report of the Sixth Committee convening as the Working Group of the Whole, UN Doc. A/51/869 (1997).

³⁰ The concept of 'marine pollution' was construed to mean both the action-oriented introduction of substances or energy into the marine environment; and the effect-oriented adverse impacts that such introduction has or might have. For discussion, see Kari Hakapää, *Marine Pollution in International Law. Material Obligations and Jurisdiction with Special Reference to the Third United Nations Conference on the Law of the Sea* (Suomalainen Tiedekatemia, 1981) at 35–40.

³¹ Environmental issues did not receive much attention in the First United Nations Conference on the Law of the Sea, convened in 1958. Only a few provisions on the protection of the marine environment were included in the Convention on the High Seas (Geneva, 29 April 1958, in force 30 September 1962, 450 *United Nations Treaty Series* 82) and in the Convention on the Continental Shelf (Geneva, 29 April 1958, in force 10 June 1964, 499 *United Nations Treaty Series* 311). See Arts 24 and 25 of the High Seas Convention, and Arts 5(1) and 5(7) of the Continental Shelf Convention. The 1958 Convention on the High Seas obliged parties to take measures to prevent pollution from the discharge of oil and from the dumping of radio-active waste. However, during the Third United Nations Conference on the Law of the Sea, environmental issues played an important role. Regulations on the protection and preservation of the marine environment are laid down in Part XII (Articles 192–237) of 1982 UNCLOS (United Nations Convention on the Law of the Sea, Montego Bay, 10 December 1982, in force 16 November 1994, 21 *International Legal Materials* (1982) 1261).

pollution by dumping;³² vessel-based pollution;³³ air-based pollution;³⁴ land-based pollution;³⁵ and pollution from the exploration and exploitation of the sea-bed.³⁶ Furthermore, the approach followed was to attempt to cover the whole range of preventive actions. Moreover, in order to prevent adverse effects arising from pollution incidents, regulations were laid down to combat such incidents.³⁷ In many conventions, toxic pollutants were divided into different categories on the basis of the adverse effects they posed.³⁸

In similar vein, awareness of the widespread damage that air pollutants were causing to natural resources and to man-made constructions began to increase in the 1960s and 1970s. The concept of transboundary air pollution³⁹ was introduced to underscore the fact that air pollution was not a local problem, and that air pollutants

³² See, for example, the 1972 Oslo Convention (Convention for the Prevention of Marine Pollution by Dumping from Ships and Aircraft, Oslo, 15 February 1972, in force 7 April 1974, 11 *International Legal Materials* (1972) 262); the 1972 London Convention (Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, London, 13 November 1972, in force 30 August 1975, 11 *International Legal Materials* (1972) 1294, <<http://www.londonconvention.org/>>); Protocol Concerning Co-operation in Combating Pollution of the Mediterranean Sea by Oil and Other Harmful Substances in Cases of Emergency, Barcelona, 16 February 1976, in force 12 February 1978, 15 *International Legal Materials* (1976) 285; Protocol for the Prevention of Pollution of the South Pacific Region by Dumping, Noumea, 25 November 1986, in force 22 August 1990, 26 *International Legal Materials* (1987) 65.

³³ See International Convention for the Prevention of Pollution from Ships, 1973, first signed 2 November 1973, as modified by the Protocol of 1978 relating thereto (MARPOL 73/78), adopted 17 February 1978. The combined instrument entered into force on 2 October 1983, 12 *International Legal Materials* (1973) 1319, <<http://www.imo.org>>.

³⁴ See Article 212 of the 1982 UNCLOS.

³⁵ See, for example, the Protocol for the Protection of the Mediterranean Sea against Pollution from Land-Based Sources, Athens, 17 May 1980, in force 17 June 1983, 19 *International Legal Materials* (1980) 869.

³⁶ Pursuant to the 1982 UNCLOS, the so-called 'Area', meaning the sea-bed and ocean floor and subsoil thereof beyond the limits of national jurisdiction, was established. In accordance with Article 145 of the Convention, the International Sea-Bed Authority should adopt appropriate rules, regulations and procedures with respect to activities in the Area to ensure effective protection of the marine environment from harmful effects which may arise from such activities. Furthermore, in accordance with Paragraph 2 of Article 209, subject to the relevant provision of Section 3 of Part XII, states should adopt laws and regulations to prevent, reduce and control pollution of the marine environment from activities in the Area undertaken by vessels, installations and other devices flying their flag or their registry or operating under their authority.

³⁷ An *occasio legis* for the protection of the marine environment was the *Torrey Canyon* accident which occurred in the English Channel in 1967. The accident set a process in motion which led to the adoption of the 1969 International Convention on Civil Liability for Oil Pollution Damage (Brussels, 29 November 1969, in force 19 June 1975, 973 *United Nations Treaty Series* 3) and the 1971 International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage (Brussels, 18 December 1971, in force 16 October 1978, 11 *International Legal Materials* (1972) 284). See, generally, <<http://www.imo.org/>>.

³⁸ See Marc Pallemmaerts, *Toxics and Transnational Law. International and European Regulation of Toxic Substances as Legal Symbolism* (Hart Publishing, 2003) at 36.

³⁹ See, for example, the Agreement between the Government of the United States of America and the Government of Canada on Air Quality, Ottawa, 13 March 1991, in force 13 March 1991, 30 *International Legal Materials* (1991) 678, Article 1(2) ('--"transboundary air pollution" means air pollution whose physical origin is situated wholly or in part within the area under the jurisdiction of one Party and which has adverse effects, other than effects of a global nature, in the area under the jurisdiction of the other Party').

did not respect national boundaries. Countries downwind were most vulnerable to the adverse effects of transboundary air pollution. For this reason, countries in this position in particular were pressing for international action.⁴⁰ Intensive diplomatic activities finally led, in 1979, to the conclusion of the first multilateral Convention on transboundary air pollution protection under the auspices of the United Nations Economic Commission for Europe (ECE).⁴¹ The fundamental principle of the Convention is ‘to protect man and his environment against air pollution’.⁴² Air protection cooperation in the ECE region demonstrates the success of diplomacy in the resolution of air pollution problems.⁴³ Having recourse to environmental diplomacy, the ECE states were able quite rapidly to develop a response to a new type of international problem.

In addition to air and water protection, policy-makers recognized that legal protection should be extended to cover the third environmental element – soil. In many countries contaminated sites caused by heavy metals, pesticides and other chemicals caused new pollution problems. As a legal response, policy-makers elaborated rules to protect soils and to cover clean-up costs of contaminated sites.⁴⁴ Soil pollution was regarded, however, mainly as a domestic problem.⁴⁵

4 The shift to management of chemical risks

4.1 A shift away from a narrow approach

As the regulatory approach eventually proved unable to solve pollution problems, it was regarded as ineffective and over-optimistic. It was ineffective in the sense that its proactive approach was mainly a reaction against problems which already existed. Rather than preventing environmental problems from appearing, states were forced into a crisis management approach when dealing with pollution problems which had already arisen. The regulatory approach appeared to be over-optimistic as it assumed that the emergence of environmental problems could be precluded through interna-

⁴⁰ See Lars Björkbom, ‘Resolution of Environmental Problems: the Use of Diplomacy’, in John E. Carroll (ed.), *International Environmental Diplomacy* (Cambridge University Press, 1988), 123–137 at 127.

⁴¹ Convention on Long-Range Transboundary Air Pollution, Geneva, November 13 1979, in force 16 March 1983, 18 *International Legal Materials* (1979) 1442, <<http://www.unece.org/env/lrtap/>> (hereinafter LRTAP Convention).

⁴² *Ibid.* Art. 2.

⁴³ See Johan Sliggers and Willem Kakabeeke (ed.), *Cleaning the Air. 25 years of the Convention on Long-range Transboundary Air Pollution* (United Nations Publications, 2004).

⁴⁴ See, for example, Council of Europe, European Soil Charter, Res. (72)19, 30 May 1972. In the 1993 Lugano Convention, a provision was adopted to allow for compensation for loss or damage by soil contamination. See Convention on Civil Liability for Damage Resulting from Activities Dangerous to the Environment, Lugano, 21 June 1993, 32 *International Legal Materials* (1993) 1230. The Convention is not in force.

⁴⁵ See Alexandre Kiss and Dinah Shelton, *International Environmental Law*, (2nd ed. Transnational Publisher, 2000) at 387–392.

tional regulations. Thereafter, it was pointed out that environmental policy should be complemented by a 'forecast and prevent' approach 'to ensure timely intervention';⁴⁶ so that potential environmental problems could be identified at an earlier stage and managed before they reached crisis proportions.

At the end of the 1970s and the beginning of the 1980s, it was gradually acknowledged that protection of the environment had, until then, focused too narrowly on environmental effects; rather than on the primary causes of those effects.⁴⁷ The purpose of the proactive method was, as André Nollkaemper notes, to move from 'end-of-pipe' solutions to a prescription of processes and clean production methods which prevented harmful effects from occurring in the first place.⁴⁸ To that end, the criteria 'Best Environmental Technology' and 'Best Environmental Practices' were set by policy-makers for pollution sources. These criteria were based on dynamic techniques rather than unified solutions. Along with shifting the focus from effects to sources, the protection of environmental elements, that is air, water and soil, appeared insufficient. Moreover, it was recognized that, in fact, pollution sources often affected several environmental media; and that, therefore, it was more appropriate to consider impacts on the environment as a whole,⁴⁹ rather than focusing on each

⁴⁶ See Conclusions of the Siena Forum on International Law of the Environment, reprinted in 1 *Yearbook of International Environmental Law* (1990) 696–703 at 697; and the 1982 World Charter for Nature, available at <<http://www.un.org/documents/ga/res/37/a37r007.htm>> (visited 21 February 2008), paragraph 19, where it is stated that '[t]he status of natural processes, ecosystems and species shall be closely monitored to enable early detection of degradation or threat, ensure timely intervention and facilitate the evaluation of conservation policies and methods'.

⁴⁷ The European Community, in recognizing the insufficiency of this approach, pointed out that environmental problems ought to be addressed 'not so much as problems, but as symptoms of mismanagement and abuse'. See Resolution of the Council and the Representatives of the Governments of the Member States, Meeting within the Council of 1 February 1993 on a Community Programme of Policy and Action in Relation to the Environment and Sustainable Development (93/C 138/01) (EC's fifth Environmental Programme) para. 17, OJ 1993 No. C138, 17 May 1993.

⁴⁸ André Nollkaemper, *The Legal Regime for Transboundary Water Pollution: between Discretion and Constraint*, (Kluwer, 1993) 128. See also David Freestone and Ellen Hay, 'Origins and Development of the Precautionary Principle' in David Freestone and Ellen Hay (ed.), *Implementing the Precautionary Principle: Challenges and Opportunities* (Kluwer Law International, 1996), 3–15 at 13, where it is stated that: '[t]he first element implies a shift of focus away from trying to determine the level of pollution which the environment can assimilate to technologies which will eliminate or at least reduce the input of pollutants to the environment. A shift away from policies based on "dilute and disperse" towards policies based on "minimization and containment" of substances harmful to the environment'. See also World Commission on Environment and Development, *Our Common Future* (Oxford University Press, 1987) at 311, where it is said that '[t]oday, the sources of [the] effects must be tackled'. See also the Convention on the Ban of the Import into Africa and the Control of Transboundary Movement and Management of Hazardous Wastes within Africa, Bamako, 29 January 1991, in force 22 April 1998, 30 *International Legal Materials* (1991) 773, Article 4(3f), where the obligation is laid down that '[t]he Parties shall co-operate with each other in taking the appropriate measures to implement the precautionary principle to pollution prevention through the application of clean production methods, rather than the pursuit of a permissible emissions approach based on assimilative capacity assumptions'.

⁴⁹ See the OECD Council Recommendation on Integrated Pollution prevention and Control, 31 January 1991, OECD Doc. C(90)164/FINAL, Preamble.

environmental element separately. Environmental policy-makers thus adopted a dynamic approach to environmental media.

4.2 New concern for new problems: the ‘precautionary principle’ emerges

While states were still suffering from traditional pollution problems, new types of environmental concerns had emerged. Attention was drawn to ‘mega-risks’; such as depletion of the ozone layer, and climate change involving potential adverse affects for all states. To distinguish between these new environmental problems and traditional pollution problems, the new problems were called ‘second generation environmental problems’.⁵⁰ Even though pollution prevention and control were integrated and efforts were made to extend these to the sources of pollution; the approach proved nonetheless insufficient for controlling new environmental threats such as acidification, depletion of the ozone layer, climate change, desertification, deforestation, eutrophication, and the loss of biodiversity. For example, it was considered inaccurate to characterize depletion of the ozone layer and climate change⁵¹ as merely being air pollution problems subject to normal provisions for air protection.⁵²

Having shifted their focus from reaction to anticipation and from effects to sources; environmental policy-makers began to deal not only with actual, but also with potential, problems. The distinction between an ‘environmental problem’ and an ‘environmental risk’ was drawn; by noting that whilst an environmental problem is a concrete extant problem, an environmental risk represents only a potential problem that has not yet fully materialized. Having decided to take action against environmental threats before they turned into crises; environmental policy-makers were forced to confront, however, the difficulty of scientific uncertainty. Because environmental threats were neither observable nor scientifically certain; it was, in fact, not possible

⁵⁰ See Andronico A. Adede, *International Environmental Law Digest. Instruments for International Responses to Problems of Environment and Development 1972–1992* (Elsevier, 1993) at 3.

⁵¹ See the 1985 Vienna Convention (Convention on the Protection of the Ozone Layer, Vienna, 22 March 1985, in force 22 September 1988, 26 *International Legal Materials* (1985) 1529), Article 1(2), where ‘--“Adverse effects” means changes in the physical environment or biota, including changes in climate, which have significant deleterious effects on human health or on the composition, resilience and productivity of natural and managed ecosystems, or on materials useful to mankind’; and the 1992 United Nations Framework Convention on Climate Change (New York, 9 May 1992, in force 21 March 1994, 31 *International Legal Materials* (1992) 849, <<http://unfccc.int>>), Article 1(1), where it is stated that ‘--“Adverse effects of climate change” means changes in the physical environment or biota resulting from change which have significant deleterious effects on the composition, resilience or productivity of natural and managed ecosystems or on the operation of socio-economic systems or on human health and welfare’.

⁵² For example, Alan E. Boyle notes that ‘the use of “pollution” [was] inappropriate to climate change and ozone depletion and that an analogy between atmosphere and airspace was quite inappropriate because the atmosphere is “a dynamic airmass”--’. See Alan E. Boyle, ‘International Law and the Protection of the Global Atmosphere: Concepts, Categories and Principles’ in Robin Churchill and David Freestone (eds), *International Law and Global Climate Change* (Graham & Trotman/Martinus Nijhoff, 1991) 7–19 at 11 and 8.

to have a unified scientific consensus to predict future developments of the various potentially adverse ecological processes.⁵³

Policy-makers concluded that it was for them to decide whether the risks required policy action, without waiting for firm scientific evidence. From this, the 'precautionary principle' was construed, meaning that lack of scientific information should not be used as a reason to postpone taking environmental policy measures. By referring to the precautionary principle, environmental policy-makers were able to avoid the problem of uncertain scientific evidence; and to determine that it was, at any rate, appropriate from a policy point of view to take preventive action. The precautionary principle was introduced at the beginning of the 1980s in connection with the protection of the North Sea;⁵⁴ whereafter the precautionary approach gradually began to take root also in other *fora*, and it was adopted as a guiding approach in several environmental instruments and agreements.⁵⁵

4.3 The move to management of environmental problems

Recognition of the complexity of environmental problems resulted in the view that environmental threats could not be solved 'in the accustomed way – if ever at all'; and that it was necessary to switch the rhetoric, as Helga Nowotny puts it, 'from solving problems to managing them'.⁵⁶ Those supporting the new managerial ap-

⁵³ See Bo R. Döös, 'Environmental Issues Requiring International Action' in Winfried Lang, Hanspeter Neuhold and Karl Zemanek (eds), *Environmental Protection and International Law*, (Graham & Trotman/Martinus Nijhoff, 1991) 1–54 at 8; where it is observed that: '[t]he first observational indications that an environmental problem is emerging, which could have severe consequences, attracts very effectively the attention of the scientific community. Attempts are made to obtain the data required and to model the physical, chemical, and biological processes involved, and thereby make it possible to predict the future development.-- No doubt, there always exist different opinions about the validity of the assumption made and the magnitude of these uncertainties and even about the practical value of these predictions. A unified scientific consensus is not likely to be expected'.

⁵⁴ See Peter Ehlers, 'The History of the International North Sea Conferences' in David Freestone and Ton Ijlstra (eds), *The North Sea: Perspectives on Regional Environmental Co-operation* (Graham & Trotman/Martinus, 1990) 3–14 at 5. See Declaration of the International Conference on the Protection of the North Sea, Bremen, 1 November 1984, para. A 6 and 7, reproduced in Freestone and Ijlstra (eds), *The North Sea*, 64–89 at 64.

⁵⁵ See, for example, Principle 15 of the 1992 Rio Declaration on Environment and Development (UN Declaration on Environment and Development, Rio de Janeiro, 14 June 1992, UN Doc. A/CONF.151/5/Rev.1 (1992), 31 ILM (1992) p. 876); and Art. 3(3) of the United Nations Framework Convention on Climate Change.

⁵⁶ Helga Nowotny, 'A New Branch of Science' in Harvey Brooks and Chester L. Cooper (eds), *Science for Public Policy* (Pergamon Press, 1987) at 71; where it is stated that: '[t]he development of the managerial conception occurred gradually and on several levels. At the height of environmental concerns, when the limits of growth and exploitation of natural resources became a newly perceived part of reality, resources were suddenly seen to be finite – to be managed for the interest of all. When technologies were threatening to get out of hand and in urgent need of new kinds of control, we started to speak of managing them. When it became clear that the new problems created through scientific-technological interventions, with their unknown, unintended, yet potentially harmful effects, could not be solved in the accustomed way – if ever at all – we switched in our rhetoric from solving problems to managing them'. Furthermore, the following statement by the World Commission on Environment and Development in

proach recognized that it was necessary to expand anticipatory and precautionary measures, more comprehensively to control activities and substances involving many unexplored environmental risks. In order to manage such activities and substances in an environmentally sound manner, environmental management began to focus on the development of waste management; nuclear safety; chemical management; transportation of hazardous substances; and safety of the working environment and liability arrangements. To this end, various risk assessments, registration and classification standards, safety practices, and other management methods were developed to control activities.⁵⁷

5 The emergence of environmental regimes

5.1 The establishment of regimes as frameworks

Having shifted focus from the protection of environmental elements to the management of dynamic ecological processes; those involved in environmental management needed to confront the problem of how, in fact, to exercise such management. Because there were no concrete problems to be regulated yet, it was inappropriate to have recourse to the modern regulatory approach. Nor did the general principles provide guidance on how to manage such processes. In these circumstances, it was decided first to establish appropriate regimes as frameworks under which specific regulations could then be elaborated through co-operation between policy and science.⁵⁸

Between the 1970s and 1990s a number of international environmental agreements were concluded whereby international environmental bodies were established. These environmental bodies or regimes began to develop alongside with pollution control; because a flexible framework approach, that would allow further developments and adjustments on a dynamic basis, appeared more appropriate. This was done either through new and separate protocols; or by amending, in a simplified procedure, annexes of the conventions. Using flexible amendment mechanisms such as the opting-out procedure, parties to those agreements have regularly amended conventions;

1987 reflects the changed paradigm: '[t]his new reality, from which there is no escape, must be recognized – and managed'. See World Commission on Environment and Development, *Our Common Future*, *supra* note 58, at 1.

⁵⁷ See, for example, David A. Wirth, 'Hazardous Substances and Activities' in Daniel Bodansky, Jutta Brunnée and Ellen Hay (eds), *The Oxford Handbook of International Environmental Law* (Oxford University Press, 2007) 394–422.

⁵⁸ See Peter M. Haas, 'Introduction: Epistemic Communities and Mediterranean Pollution Control', 43 *International Organization* (1992) 1–35; Thomas Gehring, 'International Environmental Regimes: Dynamic Sectoral Legal Regimes', 1 *Yearbook of International Environmental Law* (1990) 35–56.

and, in particular, their annexes. In the chemicals field, the Basel,⁵⁹ Rotterdam⁶⁰ and Stockholm⁶¹ Conventions were established as the main global chemicals regimes.

5.2 The evolution of environmental regimes

Environmental regimes began to develop dynamically. In pursuit of their ultimate goals, environmental regimes began to be designed with step-by-step interim objectives, usually through separate protocols or annexes. The control of transboundary air pollution under the auspices of the United Nations Economic Commission for Europe provides a further example of regime building. The 1979 Convention on Long-range Transboundary Air Pollution was established as a framework within which Parties can identify concerns posed by transboundary air pollution; and can elaborate protocols on specific substances. To this end, parties began to develop further the monitoring⁶² of air pollutants and the assessment of their effects. Specific protocols were adopted⁶³ in order to control various adverse processes such as

⁵⁹ Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, Basel, 22 March 1989, in force 5 May 1992, 28 *International Legal Materials* (1989) 657, <<http://www.basel.int>> (hereinafter 1989 Basel Convention).

⁶⁰ Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, Rotterdam, 11 September, 1998, in force 24 February, 38 *International Legal Materials* (1999) 1, <<http://www.pic.int>> (hereinafter 1998 Rotterdam Convention).

⁶¹ Convention on Persistent Organic Pollutants, Stockholm, 22 May 2001, in force 17 May 2004, 40 *International Legal Materials* (2001) 532, <<http://www.pops.int>> (hereinafter 2001 Stockholm Convention).

⁶² In order to monitor emissions of air pollutants and their environmental effects, the Co-operative Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe (EMEP) was established in 1977, see, <<http://www.emep.int/>>.

⁶³ As a first step, parties agreed in 1985 to reduce sulphur emissions by 30 per cent; and in 1988 to freeze nitrogen emissions. See the Helsinki 1985 Sulphur Protocol (Protocol to the 1979 Convention on Long-Range Transboundary Air Pollution on the Reduction of Sulphur Emissions or Their Transboundary Fluxes by at Least 30 per Cent, Helsinki, July 8, 1985, in force 2 September 1987, 27 *International Legal Materials* (1988) 707) and the 1988 Sofia Protocol (Protocol Concerning the Control of Emissions of Nitrogen Oxides or Their Transboundary Fluxes, Sofia, 31 October 1988, in force 14 February 1991, 28 *International Legal Materials* (1988) 214). Along with increased scientific knowledge, it was recognized that, instead of similar flat rate reductions of sulphur, the acidification risk could be better managed through a more scientific approach which included the concept of critical loads. To this end, a new protocol on Further Reduction of Sulphur Emissions was adopted in 1994 (Protocol on Further Reduction of Sulphur Emissions, Oslo, 14 June 1994, in force 5 August 1998, 33 *International Legal Materials* (1994) 1540). Once critical loads for sulphur were set, individual reduction targets were set, country by country, in order to close the gap of actual inputs and critical loads. The individual emission ceilings in annex II were calculated on the basis of achieving a 60% cap closure between critical loads and actual inputs. Referring to increased scientific input, Churchill, Kütting and Warren have called the new protocol 'a scientifically engineered solution'. See R. R. Churchill, G. Kütting and L.M. Warren, 'The 1994 UN ECE Sulphur Protocol' 7 *Journal of Environmental Law* (1995) 169–197 at 183 and 194. Subsequently, the Executive Body decided to elaborate a new protocol on nitrogen oxides and related substances by further developing the science-based approach. The new protocol is based on the multi-pollutant and multi-effect critical load approaches. This means that, in the same protocol, parties control emissions of sulphur, nitrogen compounds and volatile organic compounds (VOCs); in order to manage, at the same time, acidification, eutrophication and tropospheric ozone (see the Protocol to the 1979 Convention on Long-range Transboundary Air Pollution to Abate Acidification,

acidification;⁶⁴ eutrophication; photochemical oxidant creation;⁶⁵ and bioaccumulation.⁶⁶ Another good example is the dynamic and effective work done by the Parties under the Montreal Protocol⁶⁷ in order to control substances that deplete the ozone layer.

Environmental governance⁶⁸ began to develop as a result of new types of managerial techniques to manage ecological processes. Instead of dealing with environmental matters in one single organization, a number of environmental bodies or policy-frameworks were established. Usually, institutional arrangements for a multilateral environmental agreement comprise a meeting of the parties, a secretariat, and one or more specialist subsidiary bodies.⁶⁹ In order to distinguish them from treaties or organizations,⁷⁰ these bodies or arrangements are usually characterized by referring to them as 'regimes'.

The elaboration of substantive regulations was, therefore, referred to within the context of established regimes. Taking note of this development, Peter M. Haas describes regimes as being learning processes instead of being 'simply static summaries of rules and norms'.⁷¹ In the same vein, Sjöstedt, Spector and Zartman note that a post-agreement negotiation process involves 'a continual process of management, monitoring, adjustment, and continued negotiation as the effects of the negotiated provisions are fed back to enhance policy learning'.⁷²

Eutrophication and Ground-Level Ozone, Gothenburg, 30 November 1999, in force 17 May 2005, UNECE Doc. EB.AIR/1999).

⁶⁴ 1985 Helsinki Protocol; 1988 Sofia Protocol; and 1994 Oslo Protocol.

⁶⁵ Protocol concerning the Control of Emissions of Volatile Organic Compounds or their Transboundary Fluxes, Geneva, 18 November 1991, in force 29 September 1997, 31 *International Legal Materials* (1992) 568.

⁶⁶ Protocol to the 1979 Convention on Long-range Transboundary Air Pollution on Heavy Metals, Aarhus, 24 June 1998, in force 29 December 2003, UN Doc. EB.AIR/1998/1; Protocol to the 1979 Convention on Long-range Transboundary Air Pollution on Persistent Organic Pollutants, Aarhus, 24 June 1998, in force 23 October 2003, UNECE Doc. EB.AIR/1998/2.

⁶⁷ Montreal Protocol on Substances that Deplete the Ozone Layer, Montreal, 16 September 1987, in force 1 January 1989, 26 *International Legal Materials* (1987) 154 (hereinafter 1987 Montreal Protocol).

⁶⁸ See *Our Global Neighbourhood*, Report of the Commission on Global Governance (Oxford University Press, 1995) 2, where it is stated that '[g]overnance is the sum of the many ways individuals and institutions, public and private, manage their common affairs. It is a continuing process through which conflicting or diverse interests may be accommodated and co-operative action may be taken.'

⁶⁹ See Robin R. Churchill and Geir Ulfstein, 'Autonomous Institutional Arrangements in Multilateral Environmental Agreements: A Little-Noticed Phenomenon in International Law', 94 *American Journal of International Law* (2000) 623–659 at 623.

⁷⁰ See Martin List and Volker Rittberger, 'Regime Theory and International Environmental Management' in Andrew Hurrell and Benedict Kingsbury (eds), *The International Politics of the Environment. Actors, Interests, and Institutions* (Clarendon Press, 1992) 85–109 at 90.

⁷¹ Peter M. Haas, 'Do Regimes Matter? Epistemic Communities and Mediterranean Pollution Control', 43 *International Organization* (1989) 377–403 at 377, where he states that '[r]egimes are not simply static summaries of rules and norms; they may also serve as important vehicles for international learning that produce convergent state policies'.

⁷² Gunnar Sjöstedt, Bertram I. Spector and I. William Zartman, 'Looking Ahead' in Bertram I. Spector, Gunnar Sjöstedt and I. William Zartman (eds), *Negotiating International Regimes. Les-*

The purpose of regime building was to establish dynamic processes and frameworks under which normative regulations and scientific expertise could develop in synchronism. Technical expertise was integrated with regimes to allow further development more effectively.⁷³ This ‘in-house’ scientific advice by the subsidiary bodies was needed, as Jacob Werksman notes, ‘[i]n order to assist parties to make complex trade-offs between scientific uncertainties and political judgements’.⁷⁴ This allowed for the partnership between science and policy-making to begin to develop a close relationship. In addition, the roles of non-state actors began to increase in significance within environmental regimes. It was found that individual citizens, non-governmental organizations and the private sector can make valuable contributions to the management of such regimes; and that it was necessary to broaden environmental governance from governance by states only, toward better encompassment of other stakeholders.⁷⁵

5.3 Regimes become more important

As technical expertise became more firmly internalized within the environmental regimes; traditional diplomacy and politics began to lose their former pre-eminence. Through the partnership between policy and science, regimes were created on a long-term basis to manage existing and potential problems. Various new techniques were also developed within the regimes. In particular, the administrative side of the environmental regimes was strengthened in order to manage day-to-day problems.⁷⁶

Even though regimes were established on a more or less permanent basis, the purpose appeared nevertheless to be that they would be reviewed regularly; and would be subject to revision according to current scientific knowledge. Furthermore, technical expertise began to draw the policy-makers’ attention to completely new areas which required regime building. Moreover, it was recognized that many ecological problems were interlinked; and that it was also necessary to strive to find synergies between different regimes managing those problems, and to strengthen international environmental governance ‘to effectively address wide-ranging environmental threats in a globalizing world’.⁷⁷

sons Learned from the United Nations Conference on Environment and Development (UNCED) (Graham & Trotman/Martinus Nijhoff, 1994) 233–249 at 241.

⁷³ Gehring, ‘International Environmental Regimes’, *supra* note 58, at 38.

⁷⁴ Jacob Werksman, ‘The Conference of Parties to Environmental Treaties’ in Jacob Werksman (ed.), *Greening International Institutions* (Earthscan, London, 1996) 55–68 at 58.

⁷⁵ See Thilo Marauhn, ‘Changing Role of the State’ in Bodansky et al. (eds), *The Oxford Handbook of International Environmental Law*, *supra* note 57, at 727–748.

⁷⁶ See Christian Tietje, ‘The Changing Legal Structure of International Treaties as an Aspect of an Emerging Global Governance Architecture’, 42 *German Yearbook of International Law* (1999) 26–55.

⁷⁷ See the Malmö Ministerial Declaration, adopted by the First Global Ministerial Environment Forum, Sixth Special Session of the Governing Council of the United Nations Environmental Programme, 31 May 2000, available at <http://www.unep.org/malmo/malmo_ministerial.htm> (visited 21 February 2008), para. 24.

6 Conclusions

Environmental and legal problems require solutions. In the present paper, three broad problem-solving methods of international environmental law have been discussed – dispute settlement, the regulatory approach, and management. They represent different methods or tools for dealing with various problems. Currently, regulatory and management approaches dominate problem solving. Moreover, in many instances they are interlinked. For example, a particular chemical regime might include both regulatory and management elements. However, even though regulatory and management approaches do currently dominate international thinking, the relevance of dispute settlement has not faded away. Indeed, there may be many instances where states will rely on dispute settlement procedures to solve their disputes.⁷⁸

The functionality of problem-solving tools depends on the specific context. While it is important to seek to develop new, or to apply existing, methods; it is equally important to assess whether such methods work effectively or whether they are merely symbolic.⁷⁹ On the basis of such reviews, one should, if necessary, adjust existing problem-solving methods, and consider developing further methods.

Even though international environmental law has been able to provide tools to solve or manage problems, this does not mean that all problems have been or will be solved. Rather, environmental regulators and managers appear to have a Sisyphean task – once some problems have been dealt with, new problems have meanwhile emerged. Many agreed solutions, for example, have fallen short in addressing adequately the problems in question. In some instances, a problem has been identified but states have not been able to agree whether to use hard or soft measures to tackle the problem. In other instances, specific rules have represented unhelpful fragmentation from previously set ones. While some regimes do represent clear success stories, other regimes have turned out to be ineffective. For environmental regulators and policy-makers all these issues form new problems which ask for new answers or solutions.

⁷⁸ See, for example, the pending dispute between Argentine and Uruguay in the International Court of Justice on the matter of a pulp mill at Fray Bentos on the River Uruguay. For further information, see <<http://www.icj-cij.org>>.

⁷⁹ See Pallemarts, *Toxics and Transnational Law*, *supra* note 38, at 701–727.

THE PRINCIPLE OF COMMON BUT DIFFERENTIATED RESPONSIBILITY IN MULTILATERAL ENVIRONMENTAL AGREEMENTS

*Tuula Kolari*¹

1 Introduction to common but differentiated responsibility

In general, relations and cooperation between states are based on the principle of sovereign or judicial equality. This includes, inter alia, the principle of reciprocity and similar rights and obligations for states.² Increasingly often, however, this is perceived as overlooking the situation of the more disadvantaged parties and leading sometimes to substantively unjust outcomes. Therefore, some agreed criteria for differentiation are needed. Indeed, according to one definition, differential treatment refers to ‘instances where, because of pervasive differences or inequalities among states, the principle of sovereign equality is sidelined to accommodate extraneous factors, such as divergences in levels of economic development or unequal capacities to tackle a given problem’.³ In other words, differentiation of rights and obligations takes into account extra-legal differences amongst parties. It makes room for substantive equity in international environmental regimes; compromising over requirements of reciprocity, but achieving other values that count for treaty parties.

The principle of common but differentiated responsibility (CBDR) is often said to be about incorporating justice and fairness into the obligations of international environmental agreements.⁴ Transboundary and global environmental problems re-

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² See Declaration on Principles of International Law Concerning Friendly Relations and Co-operation Among States in Accordance with the Charter of the United Nations, UNGA Res. 2625 (1970).

³ Philippe Cullet, *Differential Treatment in International Environmental Law* (Ashgate, 2003) at 15.

⁴ See generally, for example, *ibid.* and Lavanya Rajamani, *Differential Treatment in International Environmental Law* (Oxford University Press, 2006).

quire strong action from all members of the international society; and, subsequently, much needed multilateral treaty arrangements become increasingly demanding for all states. In these circumstances, broad participation within the international society is needed but, at the same time, claims for fairness considerations and differentiation in commitments are increasingly presented, especially by the developing world.⁵

The principle of common but differentiated responsibility as applied to international environmental treaties has two elements: firstly, it entitles, or possibly even requires, all concerned states to participate in international response measures aimed at addressing environmental problems. Secondly, and furthermore, it leads to the adoption and implementation of different commitments for states; taking into account their diverse situations, their circumstances and capacities, their historical contributions to a problem, and their future development needs.

The first dimension of the principle of CBDR is that it lays down a requirement for all parties in the international society to participate, and to do their share in the efforts to ameliorate global environmental problems. The word 'common' in the principle has been interpreted to indicate that certain risks affect and are affected by every nation in the world.⁶ In the same vein, active participation is needed in all parts of the world, since many environmental problems do not stop at country boundaries and are expected only to become more severe with time. From this, corresponding common responsibility arises as an integral part of the CBDR principle. The second dimension of differentiation of commitments or obligations involves a direct response to country differences in face of the anticipated effects of environmental degradation and the capacity to take action at the national level. Young has summarized the central thrust of the principle of common but differentiated responsibility aptly: it is 'to couple an acknowledgement that everyone bears some responsibility for coping with large-scale environmental problems with a recognition of the fact that some members of international society are much better situated than others to provide the resources needed to address these problems'.⁷ Common and differentiated responsibilities must be thought of in unison, not as one element without the other.

Differential treatment applies mechanisms and allows for deviations from general state obligations to favour least advantaged countries; usually, but not exclusively, this

⁵ See generally e.g. Duncan French, 'Developing States and International Environmental Law: The Importance of Differentiated Responsibilities', 49 *International and Comparative Law Quarterly* (2000) 35–60; and Joyeeta Gupta, 'International Law and Climate Change: The Challenges Facing Developing Countries', 16 *Yearbook of International Environmental Law* (2005) 119–153.

⁶ Christopher D. Stone, 'Common but Differentiated Responsibilities in International Law', 98 *American Journal of International Law* (2004) 276–301 at 276.

⁷ Oran R. Young, 'Environmental Ethics in International Society' in Jean-Marc Coicaud and Daniel Warner (eds), *Ethics and International Affairs: Extent and Limits* (United Nations University Press, 2001) 161–193 at 169. In a way, the CBDR works the same way as a progressive tax system where people with a higher income level are required to pay more than lower-income citizens.

is equated with developing countries.⁸ In practice, CBDR is realized by giving states different obligations and/or assistance in the implementation of an international environmental agreement (MEA). Differentiation can have, therefore, two dimensions: allocation of rights or obligations and redistribution of resources.⁹ Differentiated obligations mean that treaty commitments may be formulated as being less demanding for a certain group of parties (or even excluding them completely from binding obligations to take action). Other possible implications are that states might be granted longer implementation periods with their commitments; exceptions and reservations may be used; or a treaty may create specific mechanisms to account for the different national situations in the participating countries. In other words, state burdens are differentiated according to certain criteria. This arguably indicates an international response to concerns over the legitimacy, equity and effectiveness of international environmental regimes.

Redistribution of resources is another way of differentiating within international environmental agreements. It is based on assistance that is given to less developed, or to especially vulnerable, states; with the aim being to alter incentives, to build the capacity to promote environmental concern, and to take action. Resource redistribution can mainly be realized by allocation of financial assistance and by transfer of technology. Making provision for such measures helps to gain support for an international regime and to contribute to its environmental effectiveness. Consequently, differential treatment does not only seek to achieve justice and substantive equity; but also to achieve more effective implementation of international environmental agreements.

Although the principle of common but differentiated responsibility is nowadays commonly invoked and applied in negotiations toward multilateral environmental agreements, it usually comes with some serious problems and difficulties for parties. Perhaps most importantly, it must be acknowledged that the principle does not have a strictly fixed content or clear legal status; rather, it is plagued with controversies.¹⁰

⁸ This paper uses, perhaps quite simplistically, the division between industrial and developing countries. The author recognizes that the division is over-generalized but uses it while lacking a better way to discuss the current issue on a general level. Moreover, the North–South divide is quite visible and frequently referred to in the multilateral negotiation positions of countries especially in the environmental and developmental fields.

⁹ It has been posited that differentiation can lead to an undesirable ‘double burden’ for developed countries in the name of equity. This arguably happened in the context of the global climate change regime, where developed nations are not only subjected to more stringent standards but they must also significantly contribute to the reduction of greenhouse gas emissions in developing nations. Michael Weisslitz, ‘Rethinking the Equitable Principle of Common but Differentiated Responsibility: Differential Versus Absolute Norms of Compliance and Contribution in the Global Climate Change Context’, 13 *Colorado Journal of International Environmental Law & Policy* (2002) 473–509 at 483. See also Henry Shue, ‘The Unavoidability of Justice’ in Andrew Hurrell and Benedict Kingsbury, *The International Politics of the Environment* (Oxford University Press, 1992) 373–397 at 378.

¹⁰ Open questions include, for instance, whether the CBDR principle is only morally binding on states; to what extent it allows developing countries to be exempted from strict limitations on their emissions; and on which basis countries are categorized for differential treatment.

Nevertheless, the CBDR principle represents an effort to respond to concerns as to the legitimacy, equity and effectiveness of international environmental regimes. It has the function of trying to reconcile tension between the need for universalism in taking action to combat global environmental problems on one hand; and, on the other, the need to be sensitive to individual countries' special and relevant circumstances.

2 Development of the CBDR principle

2.1 The common heritage of humankind

Although originally developed to deal with global commons issues, such as the use of deep seabed resources or the utilization of outer space,¹¹ the concept of common heritage of humankind has subsequently adapted to include perspectives on states' historical contributions to international environmental degradation; and has incorporated fairness and justice elements to be taken into account when devising relevant legal commitments. The common heritage concept is, in a way, based on a principle of solidarity; of fair sharing both of the efforts to protect a resource and the enjoyment of the accruing benefits.

The concept of common but differentiated responsibility can arguably be regarded as having evolved from the notion of common heritage of humankind. Simply put, the CBDR has developed as an answer to the voices (mainly coming from the developing world) demanding fairer rules to international environmental cooperation and governance. The 'common' element of the CBDR derives from the concept of humankind's common heritage whereas the differentiation of responsibilities is of later origin. The common heritage concept may be seen both as providing a justification and as laying down a responsibility for the international community to protect a common resource. It reflects states' common interest and concern to take joint action.

2.2 The New International Economic Order

The more precise origins of the principle of common but differentiated responsibilities can be traced back to the 1960s and 1970s, when developing countries voiced their concerns in the area of international law of development,¹² especially in connec-

¹¹ Within these contexts, the concept of the common heritage of humankind was mainly used when the international community was deciding upon the utilization of natural resources i.e. in a benefit-sharing context rather than in devising international burden-sharing schemes.

¹² Rajamani presents international law for development as a basis for the NIEO movement and the CBDR later on. See Rajamani, *Differential Treatment in International Environmental Law*, *supra* note 4, at 14–17. See also Maurice Flory, 'Adapting International Law to the Development of the Third World', 26 *Journal of African Law* (1982) 12–20.

tion with the proposed New International Economic Order (NIEO).¹³ In short, the South demanded more equitable sharing of the resources and wealth of the world, i.e. fairer rules to international (development) law. Restitution for past and present exploitation and other injustices was definitely the major motive of developing countries in demanding reform of the international system. Furthermore, it was broadly considered in the developing world that the existing international economic order disregarded the special problems and concerns of developing countries. Finally, arguments of basic needs and responsibility were popular: it was posited that all peoples have a right to the satisfaction of their basic needs; and that those that are able to do so have the responsibility to help others.¹⁴

The NIEO movement resulted in the creation of several documents within the United Nations; but these were never legally of a binding nature, and failed to create significant reform in the international system. Despite this failure, seeds were planted for the future. For instance, the ideas and concepts laid down in the 1970 International Development Strategy¹⁵ can well be seen as one of the predecessors for the common but differentiated responsibility adopted later in the international environmental context.

Notwithstanding the modest final outcome, the NIEO process can be regarded as significant in the evolution of international environmental law in at least one important respect: the development of the principle of CBDR.¹⁶ The demands and arguments presented by both the developed and developing countries in the contexts of these two issue areas have remarkable similarities. For instance, the North is not readily accepting moral responsibility for its past harmful behavior toward developing countries; while the South is asserting that its need for development must be respected and assisted by rules for preferential treatment within the international system. The difference to the situation in the 1970s is that the developing world possesses stronger bargaining power, its demands are of less radical nature, and perhaps there has also been a slight softening in the attitudes of at least some industrial countries in this regard.

¹³ For a compact presentation on the implications of the NIEO process and favorable treatment of developing countries, see e.g. Inamul Haq, 'From Charity to Obligation: A Third World Perspective on Concessional Resource Transfers', 14 *Texas International Law Journal* (1979) 389–424.

¹⁴ Richard N. Cooper, 'A New International Economic Order For Mutual Gain', 26 *Foreign Policy* (1977) 65–119 at 67–68.

¹⁵ Interestingly, the Strategy stipulated countries' economic and social progress as the 'common and shared responsibility of the entire international community'. International Development Strategy for the Second United Nations Development Decade, UNGA Res. 2626 (1970), para. 10. This is an interesting formulation and demonstrates the great emphasis that was at the time put on states' pursuit of economic development. The common and shared responsibility was to be realized in the context through increased financial resources and more favorable economic and commercial policies on the part of the developed countries. See *ibid.* para. 11.

¹⁶ Rajamani has referred to the emergence of demands for CBDR as direct continuation of the NIEO ideology: 'When the ideals of the New International Economic Order began to attain an illusory character, developing countries reasserted and reclaimed them, albeit in a different forum and under a different guise'. Rajamani, *Differential Treatment*, *supra* note 10, at 251.

Interestingly, it has been argued that the New International Economic Order was the ‘underlying ideological template’ present also in the negotiations toward the international regimes on ozone depletion and climate change.¹⁷ This is not necessarily a positive note because the NIEO has a bad echo for the ears of most developed countries. Affiliation of climate change negotiation positions with NIEO precepts could meet enduring Northern intransigence, which is based on antipathy to the underlying NIEO ideology. Consequently, the negotiation process might be effectively blocked.¹⁸ It is, therefore, important to be careful with using NIEO arguments in MEA negotiations; the usefulness of resorting to a process that has historically failed might, in any case, be questioned.

2.3 The 1972 Stockholm and the 1992 Rio Conferences

Within the United Nations, the 1972 Conference on the Human Environment (UNCHE) made some cautious reference to countries’ development needs and the issue of differentiated commitments. The final Declaration underlined the need to consider ‘the applicability of standards which are valid for the most advanced countries but which may be inappropriate and of unwarranted social cost for the developing countries’.¹⁹

The principle of common but differentiated responsibility was most prominently defined and brought forward at the international level in the documents adopted at the 1992 UN Rio Conference on Environment and Development (UNCED). The Rio Declaration²⁰ stated, in Principle 6, that:

[t]he special situation and needs of developing countries, particularly the least developed and those most environmentally vulnerable, shall be given special priority. International actions in the field of environment and development should also address the interests and needs of all countries.

Principle 7 went on to declare that:

States shall cooperate in a spirit of global partnership to conserve, protect and restore the health and integrity of the Earth’s ecosystem. In view of the different contributions to global environmental degradation, States have common but differentiated responsibilities. The developed countries acknowledge the responsibility that they bear in the international pursuit of sustainable development in

¹⁷ James K. Sebenius, ‘Overcoming Obstacles to a Successful Climate Convention’ in Henry Lee (ed.), *Shaping National Responses to Climate Change. A Post-Rio Guide* (Island Press, 1995) 41–79 at 51.

¹⁸ *Ibid.* On the other hand, the Southern approach to the NIEO per se has moderated considerably since the 1970s, from which it follows that the risk of an ideologically driven impasse is perhaps manageable with some conscious effort. *Ibid.* at 68.

¹⁹ The Stockholm Declaration, Report of the United Nations Conference on the Human Environment, UN Doc. A/CONF/48/14/Rev.1 (1972), Principle 23.

²⁰ UN Declaration on Environment and Development, UN Doc. A/CONF.151/5/Rev.1 (1992).

view of the pressures their societies place on the global environment and of the technologies and financial resources they command.²¹

The principle of CBDR was also recognized in Agenda 21, the Action Programme for Sustainable Development, which urged states to ‘take into account the different situations and capabilities of countries’ when devising international standards.²²

Most importantly, Principle 7 of the Rio Declaration, with its manifestation of CBDR, has been considered as a major new contribution to international environmental law. It affirmed, as a relevant concept for the future development of international environmental law, the idea that developing countries should receive preferential treatment.²³

2.4 The 2002 World Summit on Sustainable Development

The principle of common but differentiated responsibility was significantly reaffirmed at the 2002 World Summit on Sustainable Development (WSSD). Although the emphasis of the Summit was manifestly on sustainable development/poverty alleviation, leaving environment with a supporting role, the principle of CBDR was elevated to the discussions and strongly linked to the program for the promotion of sustainable development. Importantly, the Plan of Implementation of the Summit mentioned differentiation as a guiding principle in efforts relating to the enhancement of international cooperation on sustainable development.²⁴ In many ways, the WSSD Plan of Implementation repeated what the UNCED documents had already said; nevertheless, the CBDR has been argued to have emerged strengthened, broadened and invigorated by the WSSD.²⁵ In any case, the Conference sought to

²¹ It has been pointed out that neither the developed nor the developing countries were satisfied with the formulation of Principle 7: the former did not like the expressed idea that they would be held legally responsible for their past acts contributing to environmental degradation, while the latter felt that the Rio Declaration failed to specifically blame the North for its past and current behavior. See French, ‘Developing States and International Environmental Law’, *supra* note 5, at 36.

²² Agenda 21, UN Conference on Environment and Development, UN Doc. A/CONF.151/26/Rev.1 (1992), para. 39.3(d).

²³ French, ‘Developing States and International Environmental Law’, *supra* note 19, at 38 and 52. See also Patricia Birnie and Alan Boyle, *International Law & the Environment* (2nd ed. Oxford University Press, 2002) at 103.

²⁴ Plan of Implementation of the World Summit on Sustainable Development, UN Doc. A/CONF.199/20 (2002), Chapter I.2 para. 39. Governments agreed to ‘undertaking concrete actions and measures at all levels and to enhancing international cooperation, taking into account the Rio Principles, including the principle of common but differentiated responsibilities as set out in Principle 7 of the Rio Declaration on Environment and Development’. *Ibid.* para. 2.

²⁵ Marie-Claire Cordonier Segger, Ashfaq Khalfan, Markus Gehring and Michelle Toering, ‘Prospects for Principles of International Sustainable Development Law after the WSSD: Common but Differentiated Responsibilities, Precaution and Participation’, 12 *Review of European Community and International Environmental Law* (2003) 54–68 at 58. See also, for example, Statement on Behalf of the Group of G77 and China by the Delegation of the State of Qatar at the Closing of the 12th Session of the Commission on Sustainable Development, 30 April 2004, available at <<http://www.g77.org/Speeches/043004.htm>> (visited 26 January 2008).

include the principle into wider international, both environmental and developmental, cooperation.

In general, the principle of common but differential responsibility is being invoked increasingly often in negotiations on international environmental issues. Some degree of differentiation in state obligations has been included in most multilateral environmental agreements. The principle enjoys increased recognition in the North while the related awareness and bargaining power in developing countries has been on the rise as well.

3 Current operationalization of CBDR in MEAs: overview

3.1 Montreal Ozone Protocol

The Montreal Ozone Protocol²⁶ was formulated with a view to making the participation of developing countries in it not overtly demanding. It was recognized early on that the particular situation of developing countries should be given special consideration.²⁷ Consequently, the Protocol came to include a number of applications of the principle of common but different responsibility; and, as a whole, it may be regarded as quite an advanced multilateral environmental agreement, especially considering that the instrument was created before the 1992 Rio Summit.

Under the Montreal Protocol, developing countries were granted a general grace period of ten years to reduce their usage of chlorofluorocarbons (CFC),²⁸ which temporarily excluded developing countries from binding obligations to phase out ozone-depleting substances. Further flexibility is introduced to the ozone regime by allowing developed countries to exceed most production restrictions and prohibitions by no more than ten per cent in order to satisfy the 'basic domestic needs' of developing countries, or for the purposes of 'industrial rationalization between Parties'.²⁹ In addition to this exemption, many of the Montreal Protocol's phase-out regulations allow for the continued production and consumption of the controlled substances for certain 'essential' uses.³⁰ Finally, the Protocol facilitates access to technology and financial transfers, which enables the developing world to use alternative methods and substitute products more easily. The Montreal Protocol Multilateral

²⁶ Montreal Protocol on Substances that Deplete the Ozone Layer, Montreal, 16 September 1987, into force 1 January 1989, 26 *International Legal Materials* (1987) 154, <<http://www.unep.org/ozone/>>.

²⁷ See, for example, Draft Resolution on a Protocol Concerning Chlorofluorocarbons (proposal based on discussions in the informal working group) (1985), available at <http://www.ozone.unep.org/Meeting_Documents/adhoc/other-meetings/adhoc-draft_resolution_on_protocol_on_cfcs.85-03-31.doc> (visited 8 October 2007).

²⁸ Art. 5.

²⁹ See Art. 2A(1).

³⁰ See Art. 2A(4). The uses are to be determined by the parties; see, for example, the Report of the Fourth Meeting of the Parties to the Montreal protocol on Substances That Deplete the Ozone Layer, UN Doc. UNEP/OzL.Pro.4/15 (1992), Decision IV/25.

Fund was created as a primary financial mechanism for the regime.³¹ The Fund can be seen as a pioneer mechanism for monetary transfers within international environmental regimes

3.2 The climate change regime

The global climate change regime is explicitly based on the principle of common but differentiated responsibility, and differentiation in state commitments has been one of the key elements of the regime. The 1992 United Nations Framework Convention on Climate Change (UNFCCC)³² calls on its parties to protect the climate system ‘for the benefit of present and future generations of humankind, on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities’.³³

The CBDR principle is made operational in the subsequent Kyoto Protocol,³⁴ in terms of both differential commitments and resource redistribution. The Kyoto Protocol explicitly reaffirmed the CBDR principle³⁵ and demonstrated its applicability in the instrument’s operational provisions. As to the emissions reduction targets, the Protocol makes a distinction between industrial and developing countries, the former have binding emissions reduction obligations, the latter not. A further division is made between different Annex I countries which have been given different commitments.³⁶ The Kyoto mechanisms, Joint Implementation,³⁷ Clean Development Mechanism³⁸ and Emissions Trading,³⁹ can also be regarded as forms of differential treatment. Financial assistance is provided through the Global Environment Facility

³¹ The Fund was established by the London Amendment to the Protocol in 1990 by its subsequent Implementing Agencies: the World Bank, United Nations Environment Programme and United Nations Development Programme. The Multilateral Fund’s website is at <<http://www.multilateralfund.org/>> (visited 26 January 2008).

³² United Nations Framework Convention on Climate Change, New York, 9 May 1992, in force 21 March 1994, 31 *International Legal Materials* (1992) 849, <<http://unfccc.int>>.

³³ Art. 3(1).

³⁴ Kyoto Protocol to the United Nations Framework Convention on Climate Change, Kyoto, 11 December 1997, in force 16 February 2005, 37 *International Legal Materials* (1998) 22.

³⁵ Art. 10 begins: ‘All Parties, taking into account their common but differentiated responsibilities and their specific national and regional development priorities, objectives and circumstances, without introducing any new commitments for Parties not included in Annex I, but reaffirming existing commitments--’.

³⁶ Still further differentiation is made as the European Community, as a party to the agreement, performs an internal burden-sharing of the commitment inside the so-called ‘EU bubble’.

³⁷ Joint implementation under Article 6 of the Protocol is a mechanism whereby Annex I countries can carry out emissions reduction projects in other Annex I countries and transfer the thereby generated ‘emission reduction units’ (ERUs) towards their own limitation target.

³⁸ The Clean Development Mechanism under Article 12 allows Annex I parties to use the certified emission reductions (CERs) that have been generated by their sustainable development projects in developing countries.

³⁹ Emissions trading under Article 17 allows Parties listed in Annex B to sell or buy emission reductions in an emissions trading market.

(GEF),⁴⁰ which funds projects under several other multilateral environmental treaties as well; although the climate change regime has designed funding mechanisms of its own, too.⁴¹ In addition, the transfer of climate-friendly technology is to be promoted under the regime.

A further distinction was made with regard to, and subsequent concession granted to, countries undergoing the process of transition to a market economy. These parties were provided with greater flexibility and their ability to 'address climate change, including with regard to the historical level of anthropogenic emissions of greenhouse gases' was enhanced.⁴² The countries in transition were allowed to use base years other than the generally applicable 1990 for their reduction targets.

Under the Kyoto Protocol, developing countries are only committed to 'thinking about' making emissions reductions. Developing countries did not agree even to postponed reductions when the issue was raised in the negotiations. The principle of common but differentiated responsibility was used as an argument in the negotiations, which developing countries generally interpreted to mean that no commitments should be placed on them.⁴³ Only time will tell what future negotiations will bring on this issue. Pressure, especially from the industrial countries, to control emissions is high on the developing world.

3.3 Other major international environmental regimes

The 1992 Biodiversity Convention (CBD)⁴⁴ does not give much weight to the principle of common but differentiated responsibility as such, or at least not in the sense of burden-sharing. Equity concerns are mainly included in the provisions on benefit-sharing from the use of biological resources. On the whole, the substantive obligations of the Convention remain on such a general level that differentiation is not a feasible approach. Generally, the CBD states that each party's general measures for conservation and sustainable use of biological diversity shall be 'in accordance with

⁴⁰ The GEF was established in 1991 by the World Bank, the United Nations Environment Programme and the United Nations Development Programme (UNDP) to finance developing country action on four global environmental problems: global warming, biodiversity loss, pollution of international waters, and depletion of the ozone layer. Nowadays the GEF activities cover also land degradation and persistent organic pollutants (POPs). For more information, see <<http://www.gefweb.org/>> (visited 26 January 2008).

⁴¹ A special climate change fund (SCCF) to finance activities that are complementary to those funded by the GEF and other sources; a least developed countries fund (LDF); and a specific adaptation fund under the Kyoto Protocol have been established. See Report of the Conference of the Parties on its seventh session, UN Doc. FCCC/CP/2001/13/Add.1 (2001), Decisions 7/CP.7 and 10/CP.7.

⁴² Art. 4(6) of the UNFCCC.

⁴³ See e.g. the speech delivered by the Indian Union Minister for Environment and Forests, Prof. Saifuddin Soz at the 3rd Session of the Conference of the Parties to the Framework Convention on Climate Change at Kyoto, Japan on 8 December 1997, available at <<http://www.indianembassy.org/policy/Environment/soz.htm>> (visited 8 October 2007).

⁴⁴ Convention on Biological Diversity, Rio de Janeiro, 5 June 1992, in force 29 December 1993, 31 *International Legal Materials* (1992) 822, <<http://www.biodiv.org/>>.

its particular conditions and capabilities'.⁴⁵ In addition, the preamble recognizes, similarly to the UNFCCC,⁴⁶ that for developing countries, 'economic and social development and poverty eradication are the first and overriding priorities'. Thus, the basis is laid down in the regime for the CBDR principle but more precise practical applications are not yet available.

The acid rain regime is a good example of an international environmental issue area where the principle of common but differentiated responsibility has gradually acquired a more prominent place.⁴⁷ The original Long-Range Transboundary Air Pollution Convention (LRTAP)⁴⁸ of 1979 was not concerned with common but differentiated responsibility. The numerous protocols introduced to the main convention have each concentrated on a different pollutant, but they have at the same time directed the whole regime and taken it towards more sophisticated and differentiated commitments.

The 1994 second Sulphur Protocol⁴⁹ was especially advanced with regard to the principle of common but differentiated responsibility. The Protocol included country-specific reduction targets that were based on the concept of 'critical loads',⁵⁰ which implied geographical differentiation according to the vulnerability to acid deposition of each country's ecosystems. The approach adopted resulted in wide variations in state obligations to reduce emissions; less well-off states were allowed concessions in both the amount of cuts they were required to make and the time-frames allowed for action. It has been doubted that the 1994 Protocol could ever have materialized without resort to the principle of differentiated obligations.⁵¹ It is also notable that flexibility with the base year for emissions cuts was introduced already under the 1991 VOC Protocol.⁵²

It has been argued that the main lesson from the LRTAP in this context seems to be that it is possible to agree on complex differentiated commitments in an international environmental regime; but probably only after the regime has become well established, detailed common understandings have developed of the problem

⁴⁵ Art. 6.

⁴⁶ In the UNFCCC, however, the statement is included in the operational provisions of the agreement, in Art. 4(7) entitled 'Commitments'.

⁴⁷ For a good account of the CBDR and the acid rain regime, see Cecilia Albin, 'Rethinking Justice and Fairness: The Case of Acid Rain Emissions Reductions', 21 *Review of International Studies* (1995) 119–143.

⁴⁸ Convention on Long-Range Transboundary Air Pollution, Geneva, November 13 1979, in force 16 March 1983, 18 *International Legal Materials* (1979) 1442, <<http://www.unece.org/env/lrtap/>>.

⁴⁹ Protocol on Further Reduction of Sulphur Emissions, Oslo, 14 June 1994, in force 5 August 1998, 33 *International Legal Materials* (1994) 1540.

⁵⁰ A critical load was defined as 'a quantitative estimate of an exposure to one or more pollutants below which significant harmful effects on specified sensitive elements of the environment do not occur, according to present knowledge'. Art. 1(8) of the Protocol.

⁵¹ Cecilia Albin, *Justice and Fairness in International Negotiation* (Cambridge University Press, 2001) at 97.

⁵² See Protocol concerning the Control of Emissions of Volatile Organic Compounds or their Transboundary Fluxes, Geneva, 18 November 1991, in force 29 September 1997, 31 *International Legal Materials* (1992) 568.

and of the responses and simple, equal commitments have been agreed upon and effectively implemented.⁵³ Indeed, an evolutionary approach has proved successful under the LRTAP regime. It might be argued, however, that in these days, when the principle of common but differentiated responsibility is so topical and frequently applied in multilateral environmental agreements, its inclusion and operationalization in treaty texts would not necessarily require a successive approach and a very long time-frame.

Continuing with examples (very briefly presented) of the application of the CBDR principle in multilateral environmental agreements, the 1982 UN Convention on the Law of the Sea (UNCLOS)⁵⁴ is in many parts concerned with equity issues and the situations of geographically and economically very different countries. The interests of developing and landlocked countries are given recognition throughout the Convention.⁵⁵ However, like the CBD, the UNCLOS is clearly more concerned with sharing of benefits than sharing of burdens.

The 1989 Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (the Basel Convention)⁵⁶ states that the parties should 'employ appropriate means to cooperate in order to assist developing countries'; and that in general the parties cooperate 'taking into account the needs of developing countries'.⁵⁷ However, these are very general formulations which do not give much practical guidance to the application of CBDR.

The 2001 Convention on Persistent Organic Pollutants (the Stockholm Convention)⁵⁸ urges its parties to take into account 'the circumstances and particular requirements of developing countries, in particular the least developed among them, and countries with economies in transition'.⁵⁹ The principle of common but differentiated responsibility, as set forth in Principle 7 of the Rio Declaration, as well as the 'respective capabilities of developed and developing countries' should also be noted by the parties.⁶⁰

⁵³ Owen Greene, 'Lessons from Other International Environmental Agreements' in Matthew Paterson and Michael Grubb (eds), *Sharing the Effort. Options for Differentiating Commitments on Climate Change* (Royal Institute of International Affairs, 1996) 23–43 at 32–33.

⁵⁴ United Nations Convention on the Law of the Sea (UNCLOS), Montego Bay, 10 December 1982, in force 16 November 1994, 21 *International Legal Materials* (1982) 1261.

⁵⁵ See e.g. preamble, Art. 194(1) and 207(4).

⁵⁶ Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, Basel, 22 March 1989, into force 5 May 1992, 28 *International Legal Materials* (1989) 657, <<http://www.basel.int>>.

⁵⁷ Art. 10(3) and 10(4).

⁵⁸ Convention on Persistent Organic Pollutants, Stockholm, 22 May 2001, in force 17 May 2004, 40 *International Legal Materials* (2001) 532, <<http://www.pops.int>>.

⁵⁹ Preamble.

⁶⁰ *Ibid.*

3.4 Reservations and loopholes

Differentiated state obligations are evident when a treaty allows for reservations or (intentionally or not) includes outright loopholes. These may be originally meant to remain fairly small in scope but they can at some point turn into rather large gaps. A possible and well-known example of a persistent loophole in a multilateral environmental agreement is arguably the International Convention on the Regulation of Whaling (ICRW)⁶¹ and its ‘scientific permit whaling’ as an exception from the general moratorium on whaling.⁶²

Many international agreements allow for the use of reservations or contain so-called escape clauses.⁶³ These provide leeway for parties to remain outside an arrangement established by the treaty or not to commit to a particular treaty obligation or a set of obligations. Limited deviations from treaty obligations are important for the common but differentiated responsibilities, however, as they allow parties to proceed towards a common objective yet at a different pace.⁶⁴ Nevertheless, they can also undermine, possibly seriously, the effectiveness and felt legitimacy, or the ‘defensible equity’,⁶⁵ of the cooperative arrangements.

A possibility for a reservation, a limited deviation from the agreement, has been left into a treaty for the same reason as the principle of common but differentiated responsibility is used: to ensure the treaty would be acceptable to a greater number of states, and to be a response to countries’ heterogeneity with regard to the issue area the treaty is concerned with. In fact, treaty reservations and other actions to the same effect can be regarded as an illustration of the principle of CBDR.

⁶¹ International Convention for the Regulation of Whaling, Washington D.C., 2 December 1946, in force 10 November 1948, 161 *United Nations Treaty Series* 72.

⁶² Art. VIII. Further, see Timothy Swanson and Sam Johnston, *Global Environmental Problems and International Environmental Agreements. The Economics of International Institution Building* (Edward Elgar, 1999) at 173. Under the ICRW rules countries are permitted to issue permits for ‘scientific research’ and ‘traditional whaling’ by communities and indigenous peoples. The possibility may, however, be used as giving a tiny bit of respectability to a nation’s ‘normal’ commercial whaling action. The Whaling Commission has criticized the practice but pro-whaling nations questioned the legality of this as infringements on the exclusive rights of their governments to issue scientific permits. Gregory Rose and Sandra Crane, ‘The Evolution of International Whaling Law’ in Philippe Sands (ed.), *Greening International Law* (New Press, 1994) 159–181 at 173.

⁶³ General limits for treaty reservations are provided in the Vienna Convention on the Law of Treaties (Vienna Convention on the Law of Treaties, Vienna, 22 May 1969, in force 27 January 1980, 1155 *United Nations Treaty Series* 331): reservations are allowed so long as they are not incompatible with the object and purpose of the treaty, or unless the treaty prohibits reservations or allows only specific kinds of reservations. Art. 19 of the Convention. For discussion, see e.g. Anthony Aust, *Modern Treaty Law and Practice* (Cambridge University Press, 2000) 108 onwards.

⁶⁴ This approach is successfully applied in the EU where reservations for a transitional period when new regulation is introduced are an often-employed instrument. By giving states time to adjust to new rules, it takes into account the differences in the levels of departure between countries. Consequently, the outcome of treaty negotiations does not need to be a compromise that even the last party is ready to accept, but the agreement can be built on objectives that are acceptable to the majority of parties and the rest may opt out from the controversial treaty provision(s). It can be assumed that many a time a more effective agreement, as a whole, is accomplished this way.

⁶⁵ Greene, ‘Lessons from Other International’, *supra* note 47, at 37.

It is notable that important MEAs, such as the Montreal and Kyoto Protocols, specifically prohibit the making of reservations. It is possible that wider application of the principle of common but differentiated responsibility is diminishing the need for reservations, at least partly.

4 Implications of CBDR

4.1 Promotion of fairness and equity

4.1.1 State inequity

State inequity is a real issue with multilateral environmental cooperation. The prevailing inequality between the parties may be political, economic or ecological in character, and in all cases it leads to some degree of marginalization. It could be said that developing countries are in need of differentiation and assistance in their international environmental commitments because of both historical and current inequities, their fewer available resources, and because they are often in more vulnerable positions with regard to the effects of global environmental problems. In these circumstances, a fair and legitimate regime works towards significantly reducing inequities among states; and, in general, it encourages cooperation and voluntary commitment.⁶⁶ Common but differentiated obligations in international environmental agreements are probably most often seen as making the treaty arrangements fairer and as removing imbalances and inequities that would otherwise remain large between the participating states. Equity through CBDR is a focal point, and an important legitimizing factor in the negotiations of multilateral environmental agreements.

4.1.2 Responsibility for the problems

The 'historical responsibility of the North', as well as developed countries' better capability to take mitigating actions, are frequently-used arguments in international environmental treaty bargaining. In the negotiations, demands for environmental responsibility and differentiated commitments are being justified by a great variety of principles and positions. One of the most commonly sought justifications is the polluter pays principle (PPP), emphasizing the responsibility aspect of the CBDR and the need for the North to take leadership. The PPP attaches the responsibility to take remedial action or to bear the costs of preventive and abatement efforts on the party

⁶⁶ Young has aptly stated that:

[t]hose who believe that they have been treated fairly and that their core demands have been addressed will voluntarily endeavour to make regimes work. Those who lack any sense of ownership regarding the arrangements because they have been pressured into *pro forma* participation, on the other hand, can be counted on to drag their feet in fulfilling the requirements of governance systems. It follows that even great powers have a stake in the development of international institutions that meet reasonable standards of equity.

Oran R. Young, *International Governance: Protecting the Environment in a Stateless Society* (Cornell University Press, 1994) at 134.

that has caused the problem.⁶⁷ At first glance, the principle appears to be a promising solution to bring justice, real responsibility and even efficiency to environmental regulation and burden-sharing. However, the practical realization of the principle is actually far from straightforward, especially in an international context.⁶⁸

Historical responsibility is by far the most popular argument for the application of the polluter pays principle, and more generally for the principle of common but differentiated responsibility in multilateral environmental agreements. This has been particularly evident in the climate change negotiations. For instance, during the talks leading to the Kyoto Protocol, Brazil presented a calculation that the contribution to global warming by non-Annex I countries⁶⁹ would not equal that of industrial countries until approximately the year 2150.⁷⁰ Accordingly, the (historical) responsibility to mitigate global climate change will rest primarily on the developed world for still many years to come.

Actually, the principle of common but differentiated responsibility is not fundamentally different from the polluter pays principle, although of course a much broader in scope. It has been argued that the principle of CBDR seeks to bring a new dimension to the PPP by emphasizing both past contributions to causing, and future capacities to solving, given problems.⁷¹ It would seem that the developed countries have the responsibility to cut their emissions and to repair the harm they have caused in the past in line with the traditional polluter pays principle. In addition, however, the developed world should respect developing countries' right to industrialization. As this process of industrialization cannot happen in a similar manner to the way it once occurred in the North (that would be totally environmentally unsustainable); the developed world should pay for the needed adjustments, so that the economic development of the South can indeed occur without excessively burdening the environment. The idea has probably been influenced by the 'right to development' movement; where developing countries have actively campaigned against the placement of overly strict limitations on their economic growth.

⁶⁷ The principle was internationally introduced by the OECD in 1972. See OECD Council Recommendation on Guiding Principles concerning International Economic Aspects of Environmental Policies, C(72)128 (1972).

⁶⁸ Moreover, the status of the 'principle' is not firmly established in international law.

⁶⁹ Mainly developing countries; the list of non-Annex I countries is provided in Annex B of the Kyoto Protocol.

⁷⁰ UNFCCC, Ad Hoc Group on the Berlin Mandate: Implementation of the Berlin Mandate, Additional Proposals from Parties, Appendix, UN Doc. FCCC/AGBM/1997/MISC.1/Add.3 (1997), Submission by Brazil. For a good analysis of the proposal, see Emilio L. La Rovere, Laura Valente de Macedo and Kevin A. Baumert, 'The Brazilian Proposal on Relative Responsibility for Global Warming' in Kevin A. Baumert with Odile Blanchard, Silvia Llosa and James F. Perkaus (eds), *Building on the Kyoto Protocol: Options for Protecting the Climate* (World Resource Institute, 2002) 157–173.

⁷¹ Philippe Cullet, 'Equity and Flexibility in the Climate Change Regime: Conceptual and Practical Issues', 8 *Review of European Community and International Environmental Law* (1999) 168–179 at 169. For a somewhat similar view, see Mark A. Drumbl, 'Poverty, Wealth, and Obligation in International Environmental Law', 76 *Tulane Law Review* (2002) 843–960 at 911.

4.1.3 Economic burden-sharing criteria

In efforts to transform fair burden-sharing schemes into multilateral environmental agreements, economic criteria have often been at the forefront. Some often cited formulas are briefly introduced below.

According to the popular ‘ability to pay’ criterion for burden-sharing in MEAs, costs for reducing emissions, or taking other environmental actions, should be equalized amongst parties by allocating burdens to states relative to their economic circumstances (usually per capita GDP). The burden would then be increased as the ability to pay grows with the general economic development of a state. In practice, the criterion means that developed countries should take the lead in mitigating global environmental problems, and developing countries would adopt stricter commitments as they become wealthier over time. However, the practical feasibility of the ‘ability to pay’ criterion is likely to be weakened by developed country opposition: they are not likely to accept very stringent and unbalanced obligations.⁷²

In contrast to the ‘ability to pay’ criterion, which is strongly tied to the economic performance of states, the ‘willingness to pay’ approach has more than one dimension. Contributions to a common effort are, accordingly, determined by a combination of ability to pay and national benefits gained in terms of reduced environmental harm and the level of general concern about the state of the environment.⁷³ In economic terms, the ‘willingness to pay’ approach adds the benefits that a state expects from emissions limitations, and so forth, to the burden-sharing determination.

4.1.4 Ethical approaches

A rights-based allocation of burdens in international environmental agreements has gained support mostly because of the relatively strong respect it offers to state sovereignty; which respect is often seen to be somewhat lacking from the applications of common but differentiated responsibility. For instance, a rights-based ‘equal entitlements’ criterion⁷⁴ has been advocated in the negotiations on the burden-sharing of

⁷² Strictly applied, the ‘ability to pay’ would also mean that rich countries should pay irrespective of the costs. It is true that developed countries have far better economic and technological capacity to restrict their emissions, i.e. a larger selection of possible mitigation options, than developing countries, but does that mean that all action that is economically possible should be taken? It could be argued that an exclusive focus on the ‘ability to pay’ displaces other feasible factors that could be taken into account in the burden-sharing. On the other hand, the scheme seems to be in line with the polluter pays principle (richer states are usually those that have also caused more environmental harm), although at a closer look things may look a little different (for example, differentiation of burdens among developed countries).

⁷³ See, for example, Tariq Banuri, Karl-Gustav Mäler, Michael Grubb, Harold K. Jacobson and Farhana Yamin, ‘Equity and Social Considerations’ in James P. Bruce, Hoesung Lee and Erik F. Haites (eds), *Climate Change 1995. Economic and Social Dimensions, Contribution of Working Group III to the Second Assessment Report of the Intergovernmental Panel on Climate Change* (Cambridge University Press, 1996) 79–124 at 105.

⁷⁴ For more on equal entitlements, see, for example, Gunnar Fermann, ‘The Requirement of Political Legitimacy: Burden-Sharing Criteria and Competing Conceptions of Responsibility’ in Gunnar Fermann (ed.), *International Politics of Climate Change, Key Issues and Critical Actors* (Scandinavian University Press, 1997) 179–192; Malik Amin Aslam, ‘Equal Per Capita Entitlements: A Key to Global Participation on Climate Change?’ in Kevin A. Baumert with Odile Blanchard, Silvia Llosa and James F. Perkaus (eds), *Building on*

international environmental treaties. According to the formula, all human beings are entitled to an equal share in the global environmental commons; this leads to equal rights among states. The entitlements could be based either on current and future emissions, or could include also historical ones. Accordingly, developing countries could first even increase their emissions until their economies reached a certain agreed level; after which emissions reduction obligations would apply also to them. Developed countries would be required to reduce their emissions respectively (in proportion to the amount that developing countries increased theirs) for the sake of the state of the environment.

The rights-based allocation scheme is also sometimes called the ‘sovereignty principle of equity’ with regard to common but differentiated responsibility. Accordingly, the current emissions can be regarded as reflecting the specific circumstances particular countries, and differentiation is thus being realized in an acceptable manner.⁷⁵ A severe downside of a rights-based allocation is that once the idea that parties have inherent rights has been adopted, it might be very difficult to get the actors to agree to any meaningful limitations to these rights.

The various ethical approaches to burden-sharing in international environmental cooperation ultimately come down to the interesting question of the role of fairness in international law. In this regard, it needs to be asked whether the rules of international law are tools for realizing fairness in inter-state relations. Be that as it may, it is clear that justice is not an omnipotent force in international law, despite frequent efforts towards that end.

4.1.5 Fair burden-sharing

Designing international burden-sharing schemes in multilateral environmental agreements is a delicate issue: a balance should be found that will take into account states’ different contributions to the environmental problem, their different capacities to take action and their development needs while at the same time the arrangement should work towards decreasing the level of environmental degradation. It is clear that there are an almost unlimited number of possible methods and criteria that could be suggested as a basis for realizing burden-sharing under international environmental regimes. Many of the criteria remain rather narrow in scope and focus on one element of the complex questions, yet there are also models that have potential for wider application.

Even though there exists no commonly accepted definition of equity and fairness, nor is there consensus on how these should be applied in the design of the burden-sharing

the Kyoto Protocol: Options for Protecting the Climate (World Resource Institute, 2002) 175–202; and Lasse Ringius, Asbjørn Torvanger and Arild Underdal, ‘Burden Sharing and Fairness Principles in International Climate Policy’, 2 *International Agreements: Politics, Law and Economics* (2002) 1–22.

⁷⁵ Bert Metz, ‘International Equity in Climate Change Policy’, 1 *Integrated Assessment* (2000) 111–126 at 113.

rules of international environmental treaties, some general guidelines or more widely accepted norms in this regard can be distinguished. Responsibility is one important aspect. It can refer to both responsibility for historical behaviour, and also to more ethical kinds of responsibility to assist less well-equipped parties in their obligations to reduce emissions or to take other required environmental action. Other central aspects are ability, on one hand; and willingness to assume responsibility and to take action, on the other hand.

Ultimately, the aim of differentiation and burden-sharing is an acceptable distribution of mitigation costs across countries and over time.⁷⁶ A feasible formula must be based on conceptions of fairness that are widely enough shared in the international society. It is also important not to ignore the broader distributional impacts of an agreed-upon burden-sharing scheme: regressive measures can cause problems because environmental degradation and poverty are closely connected, and the relationship is not one-way.⁷⁷ Moreover, an interesting question is whether we should help those that would need it most or those that we can help most. In resolving this, truthful and accurate information on countries' circumstances and capacities is crucial. Finally, it is important to consider whether the purpose of CBDR is to remedy current inequalities; or rectify past injustices.

4.2 Promotion of sustainable development

It can be said that common but differentiated responsibility assists all states to proceed toward the goal of achieving all three aspects of sustainable development; in other words, economic, social and environmental sustainability. Firstly, general economic sustainability is promoted by cost-effective strategies for environmental protection that are based on non-universal commitments.⁷⁸ Furthermore, economic sustainability is enhanced at the country level; as the application of CBDR should ensure that the economic development prospects of (developing) countries are not destroyed by, for instance, sudden strict emissions reduction obligations. On the other hand, it is important to recognize the bases on which obligations are differentiated. Not all solutions promote economic sustainability; and it should be remembered that the cost-effectiveness or economic sustainability of a state is not the sole goal of the CBDR, anyway.

Secondly, the principle of common but differentiated responsibility is compatible with, or may actually promote, the social dimension of sustainable development. In taking into account parties' different situations and circumstances, CBDR sup-

⁷⁶ This may sound like an overly 'economistic' argument but it should be remembered that the relevant costs need not be only monetary.

⁷⁷ Graciela Chichilnisky, 'Equity and Efficiency in Global Emissions Markets' in Richard L. Revesz, Philippe Sands and Richard B. Stewart (eds), *Environmental Law, the Economy and Sustainable Development* (Cambridge University Press, 2000) 263–279 at 274.

⁷⁸ In general, strict uniformity in obligations is not a good solution from a regulatory point of view because it ignores the marginal costs of taking action.

ports justice and equity (or a sense of it) in the burden-sharing of international environmental and developmental cooperation. Developing countries are adamant in arguing that environmental concerns should not override such issues as the efforts for poverty eradication or the realization of the right to development.⁷⁹ However, sometimes the promotion of equity at the inter-state level may lead to social unsustainability ‘on the ground’ in individual countries. For example, the fact that a poor developing country is not required in a multilateral environmental agreement to control certain emissions may result in serious local or regional environmental problems from which both the local human population and the environment might suffer unreasonably. Nevertheless, it is not reasonable to claim that there is a general and persistent conflict with the CBDR principle and social sustainability.

Finally, environmental sustainability is enhanced by the common responsibility element of CBDR; which is meant eventually to bring all states under an obligation to restrict their environmentally destructive behavior. The gradual strengthening of the commitments and participation of developing countries in multilateral environmental treaties will promote environmental effectiveness and sustainability; especially when compared to a situation where no inducement or allowance is provided for less developed countries. Differentiation applied in the treaty obligations is a concrete way to ease the path of international environmental regulation for developing countries. States will be further encouraged to join regimes where they perceive that justice is advanced via rules that take the special circumstances of countries into account.

The principle of common but differentiated responsibilities may also ensure that no element of sustainable development is given dominant weight.⁸⁰ Interestingly, this issue received attention at the 2002 World Summit on Sustainable Development. Within this context, developing countries wanted to see a shift in emphasis in the sustainable development dialogue from environmental protection to social and economic development. This trend was to be complemented by making Rio Principle 7, manifesting the CBDR principle, the basis for international action with respect to all three pillars of sustainable development.⁸¹ Developed countries had a mixed attitude to the issue. In short, it was felt that the scope of the common but differentiated responsibilities should be narrower than that of sustainable development.⁸²

⁷⁹ Numerous developing countries have argued that development, by which they usually mean economic development and industrialization, is more important to the well-being of their people than a fastidious concern for the environment. See, for instance, Thomas M. Franck, *Fairness in International Law and Institutions* (Oxford University Press, 1995) 368.

⁸⁰ However, the criteria for burden-sharing and participation in MEAs are crucial. On this, see Tuula Kolari, ‘The Principle of Common But Differentiated Responsibilities as Contributing to Sustainable Development through Multilateral Environmental Agreements’ in Hans Christian Bugge – Christina Voight (eds), *Sustainable Development in National and International Law: What Did the Brundtland Report Do to Legal Thinking and Development* (Europa Law Publishing, 2008 forthcoming).

⁸¹ Rajamani, *Differential Treatment*, *supra* note 10, at 69.

⁸² See *ibid.*

It has been argued that the outcome of the WSSD, with regard to sustainable development and the principle of common but differentiated responsibilities,⁸³ would mean that the principle of CBDR is not applicable only when international environmental problems are addressed, as is explicitly done today, but the door has been left open also to the application of the principle in decision-making on social and economic issues such as the human rights, labour and trade regimes, at least when sustainable development concerns arise.⁸⁴ In any case, the WSSD outcome was a compromise the significance of which may only be seen in the coming years. As a whole, the principle of common but differentiated responsibility is doing its best in trying to accommodate the sentiments of both developed and developing countries to a balanced view of global sustainable development.

4.3 Better international regulation

4.3.1 State heterogeneity accounted for in obligations

When states come to the negotiating table to create an international environmental agreement, they might have very different starting points for the process, differing national circumstances and preferences for the negotiated outcome. This heterogeneity of states and their positions sets many challenges for the successful conclusion of international environmental agreements. For example in the context of climate change, countries are different with regard to their past, present and future contributions to the problem. In addition, there is great variance in the ease with which states can reduce emissions according to current efficiency levels, wealth and technological capabilities, as well as in the role of domestic fossil fuel resources and access to non-fossil fuel resources. Countries' differences in their vulnerability to climate change are remarkable. Furthermore, different cultures, values and experiences with nature and technological developments can cause further diversity amongst states in relation to climate change as a problem and the means available for ameliorating it. The perceived costs and benefits of an international environmental agreement might depend on how wealthy a state is, how vulnerable it is to the effects of an environmental problem, and what its possibilities are for adapting to the inevitable negative effects, and how seriously the country takes the matter and values the change that is needed. Same regulations may bring along very different implications for heterogeneous countries.

In essence, differentiation has the function of trying to reconcile the tension between the need for universal obligations in ameliorating serious environmental problems, and the need to be sensitive to individual countries' circumstances. Consequently, the CBDR principle has been argued to combine 'a universal ethical standard with a pragmatic acceptance of marked differences in the material circumstances of in-

⁸³ See section 4.2 above.

⁸⁴ Cordonier Segger et al., 'Prospects for Principles', *supra* note 25, at 60. Indeed, the doctrine of Special and Differential Treatment (SDT) within the World Trade Organization has been operative for decades already and could be seen as an application of the CBDR principle within the international trade regime.

dividual members of international society'.⁸⁵ Finding an acceptable balance for all parties is, understandably, not an easy task. Nevertheless, the principle of common but differentiated responsibility reflects one of the ways in which international law is adapting itself to the new realities facing the international community.⁸⁶

4.3.2 Effectiveness: environmental, economic, and normative

The principle of common but differentiated responsibility is often said to improve the effectiveness of international environmental regimes. In this section, this claim is briefly examined in the light of three important aspects of regime effectiveness.

The environmental effectiveness of the CBDR principle is a multi-dimensional issue. In general, it can be estimated that common but differentiated responsibility promotes global environmental protection and contributes towards making international environmental agreements effective from the problem-solving point of view. This occurs through the incentive effects that differentiated obligations have on states: they are induced to join regimes where justice is advanced via rules that take the special circumstances of countries into account. It can be assumed that the more wide the participation in a regime, the better for the environment.

The above conclusion does not, however, consider the quality of the country commitments under an environmental regime with wide participation. In fact, differentiation may also threaten the environmental effectiveness of an MEA. When a group of states is given lower obligations than others, the state of the global environment is naturally improved less than in a situation of strong and effective uniform efforts. It must be acknowledged that grace periods, exemptions, and so forth, however badly and legitimately they may be needed in MEAs, run directly against the environmental objectives of treaties; and undermine their environmental effectiveness, and possibly indirectly their political effectiveness, as well.

Of the actual international environmental regimes, environmental effectiveness has been seen as a concern – especially in the ozone and climate change contexts. Commentators have been concerned about the risk that the differentiation under the Montreal Protocol produces serious environmental harm.⁸⁷ Under the global climate change regime, concerns have also arisen concerning the longer-term incentives and environmental effects that the treaty design creates. Arguably, when developing countries are not included in an agreement now or in the near future, the comparative advantage in the production of carbon-intensive goods and services will shift outside of the coalition of the participating industrial countries. This will make develop-

⁸⁵ Oran R. Young, 'Environmental Ethics in International Society' in Jean-Marc Coicaud and Daniel Warner (eds), *Ethics and International Affairs: Extent and Limits* (United Nations University Press, 2001) 161–193 at 169. Young concludes, however, that we are, at best, at an early stage in the development of international environmental ethics; no coherent and effective ethical system yet exists in this context. *Ibid.* at 190.

⁸⁶ See also Cullet, *Differential Treatment in International Environmental Law*, *supra* note 3, at 29.

⁸⁷ Stella Pappasavva and William R. Moomaw, 'Adverse Implications of the Montreal Protocol Grace Period for Developing Countries', 9 *International Environmental Affairs* (1997) 219–231 at 222.

ing country economies more carbon-intensive than they would otherwise be.⁸⁸ The prognosis sounds believable as it is not reasonable to expect developing countries to be ready to sacrifice the prospects of fast economic development in exchange for uncertain potential long-term benefits for the global environment. Economic realities are in a determinative position. The presented scenario also sounds alarming. It is a huge task for the international community to try to make the developing world leapfrog over the carbon-intensive stage of development, and to move directly to sustainable policies. The common but differentiated responsibility principle, as presently realized under the climate change regime, may not be the most efficient way to achieve the goal.

Application of the principle of common but differential responsibility makes the implementation of an agreement more sensitive to local circumstances and needs. It is not only a fairness aspect but also one of economic effectiveness, as the opportunities and marginal costs of taking action to alleviate an environmental problem are taken into account. However, the ultimate aim of cost-effectiveness is to equalize the marginal costs across countries (and over time). In this respect, the principle of common but differentiated responsibility is not necessarily so good; because it often disregards the true marginal costs of making emissions reductions, or of taking other actions for environmental protection action. Instead of the criteria of cost-effectiveness, the applications of CBDR are currently mainly based on political bargaining, willingness to pay, or ethical approaches.

Economic effectiveness is also promoted by the fact that a system that is seen as fair induces cooperation and encourages more states to join the regime. The 'grace period' has been a significant incentive for developing countries to sign the Montreal Protocol. It has enabled them to become parties to the regime without an overtly strong need to sacrifice their economic development. The grace period has also obviously helped developing countries to stay in compliance with the provisions of the Protocol. The Kyoto Protocol's flexible mechanisms are, then, a key element of the current climate change regime – also from an efficiency point of view. In fact, the mechanisms were largely developed in order to respond to negotiating parties' concerns over the economic effectiveness of the whole international regulatory arrangement. The fundamental idea of the Kyoto mechanisms is indeed achieving cost-effectiveness: emissions reductions would be carried out where they become cheapest.

Normative effectiveness is here understood as referring in particular to justice and fairness considerations in the design and realization of regulation. This paper has emphasized how the principle of common but differentiated responsibility generally promotes fairness in multilateral environmental cooperation. However, an interesting question to think about within this context is that of whether there is a contradic-

⁸⁸ Robert N. Stavins, *Can an Effective Global Climate Treaty Be Based on Sound Science, Rational Economics, and Pragmatic Politics?*, Resources for the Future Discussion Paper 04-28 (2004), available at <<http://www.rff.org/documents/RFF-DP-04-28.pdf>> (visited 9 October 2007).

tion between environmental justice and the principle of CBDR. One could imagine conflict between the two, mainly in domestic settings within countries.⁸⁹ However, it would probably be going too far to claim that there is a general conflict between the CBDR and environmental justice. Violations of environmental justice would most likely be even greater if there were no MEAs at all.

The fairness and equity of regulation is easily seen to be in contradiction with effectiveness, especially with its economic dimension. It is true that efficiency and equity have, at the outset, very different goals: efficiency seeks improvements in the allocation of rights and resources; whilst equity, as a regulatory objective, can be defined as a normative judgment about the benefits and burdens of an activity. However, these two regulatory aims can be linked together; for example, by focusing the equity considerations of an arrangement on the impact of the efficiency measures on different parties and groups.⁹⁰ Furthermore, economic effectiveness can, in principle, also be a moral value.⁹¹

One could also mention political effectiveness in this discussion. The political effectiveness of an MEA and, directly or indirectly, of the application of the principle of common but differentiated responsibility, can be judged most importantly from the level of state participation in the regime. The rates of country signatures and ratifications of, as well as the level of implementation of and compliance with, an MEA are arguably good indicators of how acceptable the treaty generally is for the international society.

In general, differentiation of state obligations in international environmental regimes should be seen as beneficial for all parties and thus as promoting effectiveness in many sectors. For developed countries, the CBDR principle fosters greater participation in MEAs and more effective implementation of the obligations; bringing benefits as a result of the environmental, economic and political effectiveness of treaties. CBDR reduces implementation and compliance costs of MEAs for developing countries; and enables them to be part of important international cooperative efforts and, thereby, 'respectable' members of the international community. For all parties, equity and justice are being promoted; and, ideally, good values are advanced within the international society.

4.3.3 Improved prospects for compliance with MEAs

The success of differentiation is determined by the manner in which the various commitments are upheld and fulfilled in practice. It is important that all parties comply with the obligations they have accepted. Common but differentiated responsibility in

⁸⁹ See the example in section 4.2 above.

⁹⁰ Dan A. Tarlock, 'Environmental Protection: The Potential Misfit between Equity and Efficiency', 63 *University of Colorado Law Review* (1992) 871–900 at 882.

⁹¹ Jonathan Baert Wiener, 'Global Environmental Regulation: Instrument Choice in Legal Context', 108 *Yale Law Journal* (1998) 677–800 at 724.

general has a positive impact on state compliance with their obligations under MEAs. This is because differentiation, both in the form of lessened obligations and in the form of granted assistance, makes the commitments easier for countries to comply with. However, developing country compliance is often dependent on the financial aid provided and on transfer of technology. Several MEAs also explicitly make the compliance of developing countries with their treaty obligations dependent on the effective implementation of the CBDR, most often in form of provided assistance, by developed countries.⁹² It can be thought, for instance, that, if industrial countries do not pay, as promised, all of the incremental costs the developing nations face in reducing their polluting activities, developing countries need not comply with the treaty requirements for that part. For the time being, however, the legal situation is not very clear in a case where developed countries are considered not to be providing differential treatment; or, for example, sufficient assistance to developing countries on the basis of common but differentiated responsibilities.

5 Negotiating CBDR

5.1 The North–South divide in the international community

Negotiations concerning the application of the principle of common but differentiated responsibility contain challenges. Problems often come down to the North–South divide that is often perceived to exist in international cooperative efforts also in the environmental field.⁹³ It can even be said that the history of international environmental dialogue is a history of conflict between developing and industrial countries.⁹⁴ Fundamentally, the divergence between the North and the South encompasses the framework, nature, and agenda of international environmental law, but is essentially focused on who should take responsibility, in what measure, and under what conditions to contain global environmental degradation.⁹⁵ The ultimate tension is concerned with the development needs of the developing countries.

⁹² E.g. the Montreal Protocol (Art. 5(5)), UNFCCC (Art. 4(7)), Biodiversity Convention (Art. 20(4)) and the POPs Convention (Art. 13(4)).

⁹³ See, for example, Donald Kaniaru, 'International Environmental Negotiation Blocs' in Ed Couzens and Tuula Kolari (eds), *International Environmental Law-making and Diplomacy Review 2006*, University of Joensuu – UNEP Course Series 4 (University of Joensuu, 2007) 3–15; Tewolde Egziabher, 'The Cartagena Protocol on Biosafety: History, Content and Implementation' in Ed Couzens and Tuula Kolari (eds), *International Environmental Law-making and Diplomacy Review 2006*, University of Joensuu – UNEP Course Series 4 (University of Joensuu, 2007) 73–91. It should be noted that, in general, this paper uses, perhaps quite simplistically, the division between industrial and developing countries, the North and South, in the analysis. The author recognizes that the division is over-generalized but uses it while lacking a better way to discuss the current issue on a general level. Moreover, the North–South divide is quite visible and frequently referred to in the multilateral negotiation positions of countries especially in the environmental and developmental fields. However, the description 'North–South' is not completely definitive as there are developed countries that are geographically located in the south (for instance, Australia and New Zealand) as well as there are developing countries located in the 'North' (for instance, Egypt and Pakistan).

⁹⁴ Rajamani, *Differential Treatment*, *supra* note 10, at 8.

⁹⁵ See Rajamani, *Differential Treatment*, *supra* note 10, at 8.

It is important to note that the principle of common but differentiated responsibilities does not imply additional obligations for developed states *ad infinitum*. It is evident that situations and circumstances of states change over time, and this should be reflected in their international commitments. Regimes should never remain static. This issue has received a lot of attention over the years as the North–South debate has prevailed within the international community. States dispute on which states should be entitled to differentiated commitments, why, how, and for how long. There are no easy answers to these dilemmas, and a case-by-case approach appears the only viable route to be taken. In any case, the developed world will not remain the sole contributor to the solutions to persistent global environmental problems. For instance, in regard to Principle 7 of the Rio Declaration, it has been argued that the second sentence of the Principle (‘in view of the different contributions to global environmental degradation’), serving as the basic conceptual justification for differentiation, is unqualified and is, therefore, hypothetically unrelated to the North–South dichotomy.⁹⁶ Arguably, this leaves open the possibility that developing countries will be required to accept greater responsibility for environmental degradation as their contribution to the problems increase.⁹⁷ On the other hand, one may ask whether contributions to environmental degradation provide a solid basis for differentiation; as poor countries should perhaps be granted special treatment on the basis of their insufficient capacity to act, or because of the expected significant damage they might suffer from severe environmental degradation?

Developing countries’ active exercising of their bargaining power, and their active lobbyism, causes irritation within the developed countries at times. For instance, in the climate change negotiations, the industrial countries even regarded the way the developing countries operated as an attempt to revive the agenda of the New International Economic Order of the 1970s. The activism was considered by some developed countries to be simply another means through which arguments could be generated to persuade developed countries to engage in large-scale North–South transfers.⁹⁸ According to this view, a negotiation strategy under an MEA could be used as part of a larger endeavour to change the relations between the developing and developed worlds. This is not necessarily the case; as such a strategy would require, to be successful, coherent planning of positions and concerted action by the South across international regimes (environmental and others). Climate change is perhaps the only current global environmental issue around which the policies could actually create substantive changes in the traditional North–South pattern of state interaction.

However, it could also be argued that the whole practice of using sustainable development, for example (and the principle of common but differentiated responsibility too, for that matter), as a framing device in international environmental negotia-

⁹⁶ French, ‘Developing States and International Environmental Law’, *supra* note 19, at 50.

⁹⁷ *Ibid.*

⁹⁸ Matthew Paterson, *Global Warming and Global Politics* (Routledge, 1996) at 82–83.

tions replicates and sustains a two-fold distinction between sets of countries.⁹⁹ In other words, by making distinctions among groups of countries and differentiating obligations the dichotomy between developed and developing worlds would only become stronger. This argument probably has some truth value. However, it must be remembered that the distinction between developed and developing countries is intensified by numerous other factors besides the concepts of sustainable development or CBDR.

5.2 Different interests of states for differentiation

What may significantly hinder the realization of the principle of common but differentiated responsibility in multilateral environmental agreements are the different interests and motives that states often have for the application of the principle. Industrial countries are frequently possessed by international competitiveness concerns, which make them demand meaningful participation from the developing world in global environmental efforts; developing countries, for their part, often seek compensation for past wrongs and recognition of their fewer resources necessary for the taking of environmental action. The reality is that the promotion of environmental protection is not always primarily in states' intentions when MEAs are negotiated; instead, the notion of CBDR is used for countries' own purposes: developing countries emphasize their right to (economic) growth and development; while developed countries stress their acquired position of high standard of living and the need for truly global environmental protection. Furthermore, vulnerability to harmful environmental effects is more or less a motive behind *all* states' perceptions of the need to have effective international environmental cooperation; but at present it may be more visible behind industrial countries' perceptions of the urgency to take action, and their willingness to apply CBDR. In fact, the development so far has been interpreted to indicate that differentiation has only been successfully implemented where the North has also found an interest in its application.¹⁰⁰ It could be said that CBDR is often made possible or required by states' heterogeneous environmental valuations, or at least by their different emphases in the field of environment and development.

Nevertheless, developed countries often have self-interested reasons for applying the principle of differential commitments towards developing countries. This has sometimes been described as 'greenmail'; where initially rather reluctant developing countries are induced, if not bribed, to participate in the cooperative arrangements. The situation comes down to the capacities and vulnerabilities of the industrial countries. Probably equally often, however, developed countries remain rather reluctant to grant developing countries differential treatment. The principal reason is the cost burden that results from additional financing and technology transfer. Concerns over

⁹⁹ Marc Williams, 'The Third World and Global Environmental Negotiations: Interests, Institutions and Ideas', 5 *Global Environmental Politics* (2005) 48–69 at 66.

¹⁰⁰ Cullet, *Differential Treatment in International Environmental Law*, *supra* note 3, at 182.

competitiveness and even fairness have been voiced in this regard, too. It is clear that states tend to emphasize different elements of the CBDR principle; and to make interpretations that are, more often than not, favorable to themselves.

5.3 The often decisive bargaining and negotiation power of states

Thanks to the improved relative bargaining strength of developing countries, they have increasingly been viewing provisions for differential treatment, especially financial and technical assistance, as prerequisites for their participation in international environmental treaties. The subsequent outcome depends to a large extent on the relative importance of the given environmental problem to the industrial countries.

Many less developed countries have little to lose in the bargaining and so they can sometimes adopt rather impudent strategies.¹⁰¹ At the same time, in negotiations on global environmental problems, the industrial states in particular cannot really consider the option of ‘walking away’ and accepting an outcome of no agreement rather than making more substantial concessions.¹⁰² That would cause both material and symbolic costs. In this sense, the developing countries are often in stronger negotiating positions.¹⁰³

The increased bargaining strength of developing countries has been made use of in actual negotiations on international environmental treaties. For instance, within the Montreal Ozone Protocol, the developing world made it clear that unless there was preferential treatment for them, developing countries would not become parties to the Protocol. Developing countries insisted that in the absence of financial support they would be bound only by moral commitments.¹⁰⁴ The threat of refusing cooperation was credible and hit its target, as the participation of a large number of developing countries was crucial to the environmental effectiveness of the Protocol.

Common but differentiated responsibility has been a core bargaining issue in the international negotiations on climate change. To begin with, developing countries agreed to participate in the negotiation process on the condition that their development priorities were recognized and that they were guaranteed ‘new and additional’ financial and technological aid. The strategy appears to have been relatively successful as the developing world was excluded from binding emissions reduction obligations

¹⁰¹ See also Shue, ‘The Unavoidability of Justice’, *supra* note 7, at 378–379.

¹⁰² Young notes that with the negotiations of the New International Economic Order in the 1970’s and early 1980’s, developed countries could afford rejecting the making of a treaty. Oran R. Young, ‘Negotiating an International Climate Regime’ in Nazli Choucri (ed.), *Global Accord. Environmental Challenges and International Responses* (MIT Press, 1993) 431–452 at 446.

¹⁰³ As noted by Miller, the developing countries have in many cases the power to invalidate any negotiated regime. Marian A. L. Miller, *The Third World in Global Environmental Politics* (Lynne Rienner Publishers, 1995) at 79.

¹⁰⁴ See Delphine Borione and Jean Ripert, ‘Exercising Common but Differentiated Responsibility’ in Irving M. Mintzer and J. A. Leonard, *Negotiating Climate Change. The Inside Story of the Rio Convention* (Cambridge University Press, 1994) 77–96 at 84.

in the Kyoto Protocol, and various assistance mechanisms have been created into the regime. It should be noted, however, that the bargaining power of the developing countries may not be as strong, at least in theory, as it appeared to be in the ozone case. That is because it is possible, or even likely, that in the end the South will suffer from the adverse effects of climate change more than will the developed world, which limits the room of manoeuvre.

5.4 Precedents from the past as lessons for the future?

International environmental agreements are not negotiated, and nor do they work, in isolation. They draw inferences from past experience, whether this is considered desirable by the participants or not. Consequently, states are increasingly inspired by, or worried about, the possibility that, once agreed upon, a treaty rule or mechanism might become a precedent; in other words, that it will subsequently be used, or at least claims will be made for its use, in other treaty arrangements, to the discontentment of some parties.

It is not surprising that states that will incur costs, due to more favourable treatment being granted in an agreement to a group of parties, are generally very wary when such mechanisms are formulated. Such states may oppose the idea that the principle of common but differentiated responsibility would become a virtually automatically applicable rule in international environmental affairs. They do not want to create expectations to that end to which they would have to respond in every new MEA negotiation process. In contradistinction, the receivers of assistance and of concessions would be only too pleased if the arrangements held the value of precedents and, thereby, forced differentiation to become a norm in international environmental negotiations. It stands to reason that developing countries generally hope that the differentiation rules on financial resources and on technology transfers will set precedents for North–South relations also in other fields and more generally.

The fear of creating precedents has a stagnating effect in international environmental treaty negotiations. This makes the negotiation process proceed more slowly, as states cautiously consider what they can commit themselves to in the long term; and, consequently, the emergence of ambitious rules and new innovations may be hindered.

Wariness of creating a precedent has been clearly visible in the negotiation history of several global environmental regimes. For instance, within the Montreal Ozone Protocol, potential donor countries made it clear that they would not agree to an ‘open cheque’ for the receivers of the aid. Importantly, the governments of both industrial and of developing countries sensed that they could well be establishing precedents with important possible future implications for wider North–South relations.¹⁰⁵

¹⁰⁵ Richard Elliott Benedick, *Ozone Diplomacy. New Directions in Safeguarding the Planet*, (enlarged ed. Harvard University Press 1998) at 153. See also Paul G. Harris, ‘Ethics, Interests and American Foreign Policy: The Case of Ozone Depletion’, 12 *International Relations* (1995) 53–76 at 71–72.

The issue of precedents was not as visibly present at the early stages of the climate change negotiations as it had been several years earlier under the ozone regime. There may have been various reasons for this. One is that the negotiations on climate change were focused on such a variety of issues, all at the same time, that financing questions did not receive so much attention; while the fact of granting preferential treatment for developing countries was, in general, already quite clear from the beginning. In addition, experience had perhaps shown that, despite the potential precedent created under the Montreal Protocol for developing country financing, the forms of differential treatment would still be negotiated on a case-by-case basis under MEAs, leaving industrial countries with some power to influence the particular outcomes. Nevertheless, the climate change negotiation process has been reported as having given developing countries a fear of a precedent as to the formulation of their possible future commitments. The fact that the emissions reduction targets of developed countries were determined quite haphazardly (without, or with only little, *ex ante* or *ex post* equitable justification) has increased suspicions in developing countries that they will be forced to accept targets inappropriate to their social and economic capabilities, disproportionate to their historic contribution and their greater vulnerability to the adverse effects of climate change.¹⁰⁶ These fears may be quite well-founded, although perhaps not entirely due to the past experience of how the process went with the developed countries. Moreover, both the developed and developing countries have shown awareness of the potential of climate change issues to influence the wider North–South agenda.¹⁰⁷

5.5 The crucial role of information

State heterogeneity in bargaining makes the role of information crucial in negotiations toward international environmental treaties. Particularly, problems of hidden or asymmetrical information are easily present in any setting where two or more parties are attempting to create an arrangement for mutual cooperation. The risk of problems of imperfect information emerging is evident especially when states raise their special circumstances as a justification for differential treatment. Incentives often exist to exaggerate the expected costs of the treaty; and to understate expected benefits, available domestic resources, and interests for fulfilling the obligations. States are likely to behave strategically when it is evident that the burden imposed upon them will depend on their revealed willingness and capacity to pay for environmental quality.¹⁰⁸ It is clear that vast genuine differences exist in these aspects be-

¹⁰⁶ Farhana Yamin, 'Equity, Entitlements and Property Rights under the Kyoto Protocol: The Shape of 'Things' to Come', 8 *Review of European Community and International Environmental Law* (1999) 265–274 at 270.

¹⁰⁷ See, for instance, Sebenius, 'Overcoming Obstacles', *supra* note 15, at 51 and 67.

¹⁰⁸ See also Johan Eyckmans, 'Nash Implementation of a Proportional Solution to International Pollution Control Problems', 33 *Journal of Environmental Economics and Management* (1997) 314–333 at 315. It has even been claimed that states may intentionally leave their national environmental policies on a very low level as they expect to receive that way even more financial support when they become a party to an agreement. Jardena Kroeze-Gil and Henk Folmer, 'Linking Environmental and Non-Environmental Problems in an International Setting: the Interconnected Games Approach' in Nick Hanley and Henk Folmer (eds), *Game Theory and The Environment* (Edward Elgar, 1998) 165–180 at 166.

tween the North and the South, and their real extent is generally unknown. Probably equally valid is the claim that developing countries usually face far more significant opportunity costs than do developed countries, with regard to participating in an environmental treaty. As a consequence, states have different criteria for affordable action to mitigate environmental harm. That is an important point to note, since it can be said, if we rule out rare incidents of altruism, that states usually join only regimes where they consider such joining to be in their interests.

It should be remembered that misrepresentations of information in international negotiations and in regime governance are not necessarily intentional. The science behind many global environmental problems is, alone, so complicated that acquisition of correct information, no matter how many resources are invested in the relevant research, is difficult. Furthermore, national environmental governance and international negotiation capacities might be under such heavy stress in some developing countries that correct, or up-to-date, information is simply not available. The production of correct information for MEA purposes can be very difficult and costly for countries where resources are scarce or lacking altogether. This is very unfortunate; naturally such problematic circumstances should be recognized and, if possible, international aid mobilized to improve the situation. It seems, however, that at least the potential for intentionally creating information asymmetries in international environmental negotiations has been on the rise. The increasingly frequent application of the principle of common but differentiated responsibilities in MEAs has not certainly weakened, at least theoretically, the incentives to 'play' with information in order to invite preferential treatment and additional assistance.

Misstated or hidden information may be disastrous to the application of the CBDR principle in multilateral environmental agreements. Differentiation is made based on countries' often vastly differing circumstances, wealth, resources, wills, and vulnerabilities. If treaty-makers do not have correct information on these issues, the whole regime becomes flawed and probably inefficient. When there is misstated or hidden information, the true differential burden of an individual state is not immediately obvious. The problem is made worse by the obvious lack of agreed methods for ascertaining the true burden.¹⁰⁹ Under conditions of imperfect information, it may not be possible to tailor the terms of the agreement better to suit the individual characteristics of the contracting parties. Consequently, some parties will benefit undeservedly; while others will almost inevitably lose. The role of information is truly crucial for the effective realization of the CBDR principle. The availability of information can also be said to be important for the general advancement of fairness and justice in international cooperation. Reliable and adequate information gives negotiating parties a correct picture of the reality on the basis of which decisions on differential treatment are to be made and justice to be duly served.

¹⁰⁹ Timothy Swanson, 'Negotiating Effective International Environmental Agreements: Is an Objective Approach to Differential Treatment Possible?', 1 *International Environmental Agreements: Politics, Law and Economics* (2001) 125–153 at 130.

5.6 Dependence relationships

Common but differentiated responsibility quite easily raises concern over unbalanced dependence relationships between the differentiated groups of countries. It is possible that a state will gradually come to rely more and more heavily on concessions in obligations and on the available assistance; and that the state will not, consequently, develop its own environmental policies in a sufficiently independent manner. This situation is potentially aggravated by the practice adopted by some MEAs of attempting to link the duties of industrial and developing countries. This is most easily done by making compliance of the latter with their MEA obligations dependent on the effective implementation of CBDR.¹¹⁰ This would clearly form a strong counter-balance to the power of the developed countries in international environmental cooperation.

5.7 The uncertain status of the CBDR principle

Perhaps the most troubling issue with regard to the principle of common but differentiated responsibility is its legal and policy status. CBDR has developed rather rapidly during the last 15 or so years, and there has arguably been at least somewhat consistent practice in its application in international environmental agreements since the 1987 Montreal Protocol. Being thus increasingly commonly adopted and applied, it could be asked whether the principle is not developing into a customary norm of international environmental law; and what implications such a transformation might have for international environmental law.

Common but differentiated responsibility is now, arguably, an inseparable part of new international environmental treaty negotiations. Nevertheless, the language used tends to remain somewhat vague; or commitments made to be more akin to 'soft law' (for example, declarations in treaty preambles).¹¹¹ On the other hand, the practical applications of the CBDR principle have largely been adopted in a binding form; for instance, as differentiated emissions reduction targets and specific financial mechanisms. In those cases there is no question about the impact and force of the principle. Views about CBDR as a principle of customary law in the international environmental field are divided.¹¹² Moreover, negotiating parties may well have different views about the status of the CBDR principle, with such different views be-

¹¹⁰ This issue was briefly discussed earlier in section 4.3.3.

¹¹¹ Soft law, as opposed to legally binding 'hard law', comprises declarations, guidelines, codes of conduct and so forth.

¹¹² For instance, Harris posits that the principle has moved from being a soft international legal principle to 'a nascent but increasingly robust component of international law', as demonstrated by its codification in the Global Climate Change Convention. Paul G. Harris, 'International Norms of Responsibility and U.S. Climate Change Policy' in Paul G. Harris (ed.), *Climate Change and American Foreign Policy* (St. Martin's Press, 2000) 225–239 at 237. For views that the CBDR is not a principle of customary law, see e.g. Stone, 'Common but Differentiated Responsibilities', *supra* note 4, at 299 and Rajamani, *Differential Treatment*, *supra* note 10, at 124. All in all, it is probably too early to classify CBDR as a customary principle of international environmental law.

ing subsequently reflected in the treaty itself. Developed countries often regard the principle as being based on ad hoc arrangements at the international level; whereas developing countries are more eager to give differentiation the status of customary international law.

The process of shaping and defining the status of the principle of common but differentiated responsibility is multi-faceted and ongoing. CBDR is becoming an integral part of an increasing number of international legal instruments; but, at the moment, the actual content and scope of the differentiation are too difficult to define accurately.¹¹³ It is not clear, for instance, whether developing countries can actually legally rely on the principle of common but differentiated responsibilities; and effectively require differentiation in their international environmental commitments. In any case, the legal effects of the transformation of the CBDR principle into customary law would be both interesting and difficult to predict.

5.8 Categorization of countries for the purposes of differentiation

An interesting aspect in the practical realization of common but differential responsibilities is the classification of countries into categories for differentiation. Usually negotiation toward international environmental treaties is concerned with two main negotiating blocs: the developed and the developing countries. However, states often make demands for more individual treatment than merely a distinction between two of very broad groups.¹¹⁴

Categorization of countries tends to be reductionist. Especially the group of developing countries is by no means a unitary unit; indeed, such countries sometimes adopt markedly different policies, for instance the positions of the OPEC and AOSIS groups in the climate change negotiations.¹¹⁵ A crude North–South differentiation largely overlooks the diversity in national situations: countries' varying levels of development, available resources, preferences and so on. In addition to the need to distinguish more than two broad categories of countries for differentiation, there is a need for dynamic definitions of the country positions. It is important that the criteria for forming categories of countries for differential treatment in MEAs also permit certain flexibility and dynamism. This would allow, or force, a certain country that has, for example, reached a specified level of development, to move to another group (the requirements of which it would fulfil in its changed circumstances). In other words, agreed 'triggers' would actualize changes in status as relevant circumstances change.

¹¹³ See also Cullet, *Differential Treatment in International Environmental Law*, *supra* note 3, at 89–90.

¹¹⁴ Negotiations on the burden-sharing under the Kyoto Protocol is a good example.

¹¹⁵ Ian H. Rowland, 'Equity and Global Environmental Politics' in Ian H. Rowland, *The Politics of Global Atmospheric Change* (Manchester University Press, 1995) 210–219 at 212.

At present, international environmental treaty regimes usually draw from UN practice in their classification and treatment of countries, possibly supplementing that by specific guidance for the particular MEA in question. The Montreal Ozone Protocol, for instance, establishes in Art. 5(1) that only those parties which (i) are by a Meeting of the Parties classified, based on the UN scale of assessments, as 'developing countries', and (ii) have less than 0.3 kg annual per capita consumption of the controlled substances, may benefit from the positive incentives (the grace period) laid out in Article 5. In contrast, funding under the Convention is available to all developing country parties and countries with economies in transition without similar qualifications. The Montreal Protocol does not provide a definition of a developing country as such as the terms in Article 5 are too contextual to work as a definition. Thus, the Protocol has basically accepted self-definition with regard to countries eligible for funding. The calls for further and more specialized differentiation have been answered to a degree in the global climate change regime, where countries are placed into a variety of categories for the commitments.

6 Concluding Remarks

The principle of common but differentiated responsibility is of utmost importance for both the political and the environmental effectiveness of international environmental regimes. Furthermore, it fosters the development of new relations between states based on cooperation and partnership,¹¹⁶ emphasizing that substantive inequality is not to be tolerated in international environmental cooperation. It is important to remember that the CBDR principle consists of two sides: common responsibility denotes that we cannot afford to exclude countries from participating and taking action to ameliorate global environmental problems; differentiated responsibility means that not all parties need to adopt an equal burden in the effort. The aim is to bring solidarity and substantive justice into the burden-sharing of MEAs.

Common but differentiated responsibility has the key function of inducing all states to move toward sustainable development, albeit at different paces. Industrial countries are to take the lead but the gradually more stringent differentiated commitments of the developing world are ensuring that they are following suit, and assisting in the global achievement of sustainable development. In essence, CBDR works as a guiding and balancing principle seeking to ensure that action is taken internationally but that no party falls under its too heavy burden.

To determine the more specific ways of promoting equity and realizing an equitable burden-sharing in international environmental treaties, multiple criteria probably need to be used. Distributional effects of treaty commitments must, in any case, be accounted for in the arrangements. The starting point is that relatively broad, if not

¹¹⁶ Cullet, *Differential Treatment in International Environmental Law*, *supra* note 3, at 92.

universal, participation is needed in agreements that deal with global environmental deterioration. At the same time, a rather pragmatic approach to seeking solutions to international environmental problems is needed. The question to be asked is not *whether* developing countries should participate and act to ameliorate global environmental problems, but rather *how* and *when*.

In general, differentiation in states' international obligations is quite a youthful phenomenon. One might wonder why exactly it is that differentiations emerged so late; and why they do not appear more frequently than they do.¹¹⁷ Applications of the principle of common but differentiated responsibility can be found in virtually all 'modern' international environmental agreements. The influence of the principle, or approach, on multilateral environmental regimes is indisputable. It can be said that differentiation has developed from a limited practice of granting exceptions to a more or less general rule, or consistent practice, in international environmental treaty-making. The concrete application of CBDR is still highly context-based and happens from a variety of motivations; but that does not lessen the value of the principle. Common but differentiated responsibility has apparently become a permanent feature of international environmental law-making.

¹¹⁷ Stone, 'Common but Differentiated Responsibilities in International Law', *supra* note 6, at 276. (2004) p. 282. Stone lists general reasons: some conventions deal with a subject matter that is morally too unambiguous to allow exceptions; states pursue to keep up their 'good citizenship' in international politics; low bargaining power of those demanding differentiation and insufficient donor interests for that in negotiations; the use of simple side payments; and laws of universal application are probably less costly to organize and enforce. See *ibid.* at 282–283.

THE ROLE OF PUBLIC PARTICIPATION AND ETHICS IN ENVIRONMENTAL LAW IMPLEMENTATION AND DIPLOMACY

*Akpezi Ogbuigwe*¹

1 Introduction

As environmental issues and concerns have become more pervasive and complex, it has become necessary to develop a wide range of mechanisms to increase awareness about environmental activities. This is in part in recognition of the need to rely on a broader range of behavioural motivators beyond the regulatory legal system. This paper explores the role of public participation and ethics in environmental accountability; and suggests a framework in which public participation and ethics could be organized, to enable citizens to become cognizant of the important role they either play or might come to play in the overall process of environmental control.

2 Ethics and public participation in environmental law and diplomacy

One of the significant developments in education in the last decade has been the focus on values and ethics. Ethics covers concepts such as right and wrong, good and evil and responsibility. Ethics lies at the heart of all human endeavours, from the foundations of human civilisation, and the great religions, to the day-to-day decisions we all make in the course of our lives.² Ethical rules generally provide an outside boundary of permissible behaviour.³ To that end, ethical codes can affect certain conduct.

¹ Head, Environmental Education and Training, UNEP.

² Bob Jickling, Heila Lotz-Sisitka, Rob O'Donoghue, and Akpezi Ogbuigwe, *Environmental Education, Ethics and Action: A workbook to get started* (UNEP, 2006) at i.

³ See Jean Maclean Snyder, 'Against the Rules' 28 *Stetson Law Review* (1998) 299–304 at 303.

Over the past few years there has been remarkable theoretical proliferation in the field of environmental philosophy; with the development of environmental ethics, which considers the relationship between human beings and the natural environment. It explores the intellectual and moral causes for the environmentally destructive practices of the dominant industrial and economic cultures; and proposes alternatives that might avoid these consequences.⁴ In the United Nations Environmental Programme's publication: *Environmental Education, Ethics and Action*,⁵ ethics is said to be about relationships between individual and group interests – human or otherwise – around some idea about the common good. The writers proffer the suggestion that ethics is a process of inquiry and critical thinking; and that it is not about 'preaching', 'indoctrinating' or 'inducting' learners into 'rules of behaviour' or 'codes of conduct'. Seen in this way, ethics is an open-ended process with the potential to expose new challenges and generate new possibilities. It is a process of making choices that enable better ways of seeing and doing things.

Another critical element of a strategic environmental accountability system is public participation. Public participation has been defined as 'purposeful activities in which citizens take part in relation to government'.⁶ Effective public participation can bring more facts to the table, ensure more thoughtful decision-making, and increase the amount of data available to monitor compliance and enforcement of environmental law.

3 Chemicals and the environment

Chemical substances play an important role in daily life and are used in virtually every aspect of modern society; such as manufacturing, telecommunication and agriculture. Chemicals have greatly contributed to human well-being. For instance, agricultural chemicals have raised farming yields by helping to eliminate crop pests; and industrial chemicals have provided a great variety of useful products.⁷ However, once released into the natural world, chemicals can persist for years and have long-term health and ecological consequences. The associated risks are often only discovered later, when the damaging effects of certain chemicals become manifest. Today, chemicals are produced more than ever by both developed and developing countries and they are an important part of today's globalized world.⁸

⁴ See generally the joint publication of 37(1) *U.C. Davis Law Review* and 27(1) *Environs* (2003) entitled 'Symposium: Environmental Ethics and Policy: Bringing Philosophy Down to Earth'; and the article Alyson C. Flournoy, 'Building an Environmental Ethic from the Ground up', 37 *Davis Law Review* (2003) 53–80.

⁵ Jickling et al., *supra* note 2.

⁶ Stuart Langton, 'What is Citizen Participation?' in Stuart Langton (ed.), *Citizen Participation in America* (Lexington Books, 1978) 13–24 at 13.

⁷ See, for example, UNEP, *Training Manual on International Environmental Law* (UNEP, 2006), available at <http://www.unep.org/law/PDF/law_training_Manual.pdf> (visited 23 January 2008).

⁸ *Ibid.*

The industrial revolution gave birth to environmental pollution as we know it today. By changing the ratio of open fields to towns, encouraging population shifts and new social structures, the industrial revolution changed forever the face of development. Sleepy hamlets turned into thriving villages; prosperous villages became populous towns; and giant chimney stacks, releasing the gaseous by-products of coal-burning furnaces, began to dominate the skyline. The emergence of great factories and the consumption of immense quantities of coal and other fossil fuels gave rise to unprecedented air pollution; and the large volume of industrial chemical discharges added to the growing load of untreated human waste.

Since the 1972 UN Conference on the Human Environment,⁹ the world has witnessed unprecedented development in environmental law-making. In the space of one generation, through both national legislation and international agreements, nations have established norms and a framework for environmental stewardship of the Earth. Early international efforts to tackle environmental and public health problems were generally devoted to improving the availability of information about such substances.¹⁰ In response to the dramatic growth in chemicals production and trade, the United Nations Environmental Programme (UNEP) and the Food and Agriculture Organisation (FAO) started developing and promoting voluntary information exchange programmes in the mid-1980s. The International Code of Conduct on the Distribution and Use of Pesticides¹¹ was adopted in 1985 by FAO with the objective of setting forth responsibilities and establishing voluntary standards of conduct for all private and public entities engaged in, or affecting the distribution and use of pesticides. The London Guidelines for the Exchange of Information on Chemicals in International Trade¹² were adopted by the Governing Council of UNEP in 1987. The Guidelines were for use by governments with a view to promoting chemical safety in all countries through the exchange of scientific, technical, economic and legal information on chemicals. Both of these instruments were integrated into a legally binding agreement in 1998 in the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International

⁹ The UN Conference on the Human Environment was held in Stockholm, Sweden, in 1972. It was the first time that the United Nations and the foreign ministries of the States Members of the United Nations considered environmental protection to be a geo-political priority. On 16 June, 1972, the Conference adopted the Declaration of Principles on the Human Environment. Stockholm Declaration, Report of the United Nations Conference on the Human Environment, UN Doc. A/CONF/48/14/Rev.1 (1972). On its recommendation, the UN General Assembly established the United Nations Environment Programme (UNEP). See, generally, Donald Kaniaru 'The Stockholm Conference and the Birth of the United Nations Environment Programme' in Marko Berglund (ed.), *International Environmental Law-making and Diplomacy Review 2005*, University of Joensuu – UNEP Course Series 2, (University of Joensuu, 2006), 3–22 at 3.

¹⁰ In 1976, UNEP established the International Register of Potentially Toxic Chemicals (IRPTC) to compile and circulate information on chemical hazards.

¹¹ Adopted 28 November 1985, Annex to Resolution 10/85; Revised Version adopted by the 123rd Session of the FAO Council in November 2002.

¹² See UNEP, London Guidelines for the Exchange of Information on Chemicals in International Trade, available at <<http://www.chem.unep.ch/ethics/english/longuien.htm>> (visited 23 January 2008).

Trade ('PIC Convention').¹³ The other instrument currently of great significance is the Stockholm Convention on Persistent Organic Pollutants ('POPs Convention'),¹⁴ which bans or restricts trade in and use of some of the most dangerous chemical substances known.

Furthermore, the International Labour Organisation (ILO) concluded international agreements relating to safety at work and the prevention of chemical accidents, in 1990 and 1993 respectively, in the Convention Concerning Safety in the Use of Chemicals at Work¹⁵ and the Convention Concerning Major Industrial Accidents.¹⁶ In addition, the Vienna Convention for the Protection of the Ozone Layer¹⁷ and its Montreal Protocol (1987)¹⁸ provide control mechanisms to halt the depletion of the ozone layer. The United Nations Framework Convention on Climate Change¹⁹ and its Kyoto Protocol²⁰ target substances known to cause global warming. Some other air pollutants were addressed by the 1979 Geneva Convention on Long-Range Transboundary Air Pollution²¹ and its Protocols.²²

As demonstrated above, chemicals are regulated in relation to different aspects and stages of their life cycle by a great number of agreements adopted by different organizations. Chapter 19 of Agenda 21,²³ on 'Environmentally Sound Management of Toxic and Dangerous Products' called for the creation of a forum for intergovernmental bodies dealing with chemical risk assessment and management.²⁴ Accordingly, the Intergovernmental Forum on Chemical Safety (IFCS)²⁵ was established in 1993.

¹³ Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, Rotterdam, 11 September, 1998, in force 24 February, 38 *International Legal Materials* (1999) 1.

¹⁴ Convention on Persistent Organic Pollutants, Stockholm, 22 May 2001, in force 17 May 2004, 40 *International Legal Materials* (2001) 532, <<http://www.pops.int>>.

¹⁵ ILO Convention No. 170 Concerning Safety in the Use of Chemicals at Work, Geneva, 25 June 1990, into force 4 November 1993.

¹⁶ ILO Convention No. 174 on the Prevention of Major Industrial Accidents Convention, Geneva, 22 June 1993, into force 3 January 1997.

¹⁷ Convention on the Protection of the Ozone Layer, Vienna, 22 March 1985, in force 22 September 1988, 26 *International Legal Materials* (1985) 1529.

¹⁸ Montreal Protocol on Substances that Deplete the Ozone Layer, Montreal, 16 September 1987, in force 1 January 1989, 26 *International Legal Materials* (1987) 154, <<http://www.unep.org/ozone/>>.

¹⁹ United Nations Framework Convention on Climate Change, New York, 9 May 1992, in force 21 March 1994, 31 *International Legal Materials* (1992) 849, <<http://unfccc.int>>. It has near universal participation with 192 Parties as of 22 August 2007.

²⁰ Kyoto Protocol to the United Nations Framework Convention on Climate Change, Kyoto, 11 December 1997, in force 16 February 2005, 37 *International Legal Materials* (1998) 22. As of 12 December 2007, there were 177 Parties to the Kyoto Protocol.

²¹ Convention on Long-Range Transboundary Air Pollution, Geneva, November 13 1979, in force 16 March 1983, 18 *International Legal Materials* (1979) 1442, <<http://www.unece.org/env/lrtap/>>.

²² The Convention has adopted eight Protocols, dealing with, inter alia, nitrogen and sulphur emissions, heavy metals and persistent organic pollutants.

²³ Agenda 21, UN Conference on Environment and Development, Rio de Janeiro, 13 June 1992, UN Doc. A/CONF.151/26/Rev.1 (1992).

²⁴ Para. 19.76.

²⁵ For more information, see <<http://www.who.int/ifcs/en/>>.

Chapter 19 of Agenda 21 advocated the expansion of programmes on chemical risk assessment,²⁶ such as the International Programme on Chemical Safety²⁷ run by UNEP, ILO and the World Health Organisation. Thus, the Inter-Organisation Programme on the Sound Management of Chemicals (IOMC)²⁸ was established to promote coordination among international organizations involved in implementing Chapter 19. Priorities set out in chapter 19 of Agenda 21 are the:

- expansion and acceleration of international assessments of chemicals risks;
- harmonization of classification or labelling of chemicals;
- information exchange on toxic chemicals and chemical risks;
- establishment of risk reduction programmes;
- strengthening of national capabilities and capacities management of chemicals; and the
- prevention of illegal international traffic in toxic and dangerous products.²⁹

In 2002, the World Summit on Sustainable Development agreed to a comprehensive strategic approach for the international management of chemicals. Following this decision, the UNEP Governing Council adopted a plan to develop a Strategic Approach to International Chemicals Management (SAICM) by 2005.³⁰ SAICM aims at ensuring that chemicals are used and produced in ways that lead to the minimization of significant adverse effects on human health and the environment.

4 Ethics and public participation in environmental law implementation: the missing link?

4.1 Introduction

The question must be asked whether the international legal system, which is supposedly consensual in nature, is able to resolve the environmental issues raised by chemicals. Despite the existence of a wide array of global and regional legal instruments governing chemicals, they still remain a threat to the environment and to human health. Enforcement of environmental laws is essential to attaining the international objective of sustainable development. To be effective, however, this enforcement must be routine, reasonably resourced and predictable. It is time that these laws and policies were translated into pragmatic results. We need to move from theory into action; we need to ‘walk the talk’. This raises an important question: to what extent do ethics and involvement of the public have a practical impact on environmental law and policy? Without a doubt, public participation and ethics are indeed key

²⁶ Para. 19.14.

²⁷ For further information, see <<http://www.who.int/ipcs/en/>> (visited 6 February 2008).

²⁸ For further information, see <<http://www.who.int/iomc/en/>> (visited 6 February 2008).

²⁹ Para. 19.4.

³⁰ Decision SS.VII/3 (2002) of the UNEP Governing Council. For further information on SAICM, see <<http://www.chem.unep.ch/saicm/>> (visited 6 February 2008).

ingredients of sustainable development. Unfortunately, the principal public participation methods and ethics used today by states often do not allow for effective implementation of environmental law.

4.2 The Concept of Ethics

In his essay 'The Land Ethic',³¹ Aldo Leopold writes of the concept of a community that:

[a]ll ethics so far evolved rest upon a single premise: that the individual is a member of a community of interdependent parts. His instincts prompt him to compete for his place in that community, but his ethics prompt him also to cooperate (perhaps in order that there may be a place to compete for). The land ethic simply enlarges the boundaries of the community to include soils, waters, plants, and animals, or collectively: the land.³²

In the progressive development of social moral norms about nature, Leopold identifies a parallel to the development of social norms. He argues that '[l]and-use ethics are still governed wholly by economic self-interest, just as social ethics were a century ago'. He continues to explain why a 'land ethic' must be the basis for human decision-making about natural resources; suggesting that:

a system of conservation based solely on economic self-interest is hopelessly lopsided. It tends to ignore, and thus eventually to eliminate, many elements in the land community that lack commercial value, but are (as far as we know) essential to its healthy functioning. It assumes, falsely, that the economic parts of the biotic clock will function without the uneconomic parts. It tends to relegate to government many functions eventually too large, too complex, or too widely dispersed to be performed by government.³³

These conclusions support Leopold's articulation of a norm for human conduct, a golden rule, based on ecological knowledge. 'A thing', he suggested, 'is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise'.³⁴ Bob Jickling et al. suggest that:

[o]ne way to start this process is to ask philosophical questions: What is a good way to live? Or, what is a good way live in a given context? What are good relations between people and societies? What about good relationships between people and animals, species, ecosystems, or the more-than-human world?³⁵

³¹ Aldo Leopold, *A Sand County Almanac, and Sketches Here and There* (Oxford University Press, 1949) at 203.

³² *Ibid.*

³³ *Ibid.* at 204.

³⁴ *Ibid.*

³⁵ Jickling et al., *Environmental Education, Ethics and Action*, *supra* note 2.

The norms reflected in environmental law may not yet fully embrace Aldo Leopold's 'Land Ethic' as a rule of law, but they have established the juridical framework from which the Land Ethic may emerge and come to be acknowledged. Environmental norms are observed because they are norms about how people respect each other and the natural systems that sustain human communities. Environmental norms are basic to human well-being and arise out of the human condition; emerging from the fact that humans exist within ecosystems and that human society is embedded in the natural systems in which they have evolved.

The environmental norms fundamental to sustainable development have been stated in a soft law instrument, known as the 'Earth Charter', which was in 2003 endorsed by the Council of the International Union for the Conservation of Nature and Natural Resources (IUCN).³⁶ Many local authorities, and some States, have endorsed the Earth Charter.³⁷ The importance of these developments was underscored by the adoption of the Johannesburg Plan of Implementation by the UN World Summit on Sustainable Development (WSSD), which states that ethics is fundamental to sustainable development.³⁸

When discussing enforcement of environmental norms, the Earth Charter may be considered to be a statement of the collective environmental norms, as these are variously reflected in the environmental laws that nations have adopted over the past three decades. Each of the treaties and statutes and decisions comprising environmental law in some way reflects aspects of the norms restated in the Earth Charter. Each of the norms expressed in several clauses of the Earth Charter is more than just what its words express. These norms do not exist because they are expressed in the Earth Charter; rather, they reflect norms that derive from experience about humanity's relationship with Earth's natural systems. It cannot be contended that the status of the Earth Charter is presently greater than that of 'soft law', but it arguably contains the jurisprudential foundation for all environmental law. The Earth Charter makes plain why environmental law enforcement is essential, and why it needs to be accorded a priority as one of the bases for sustaining life on Earth. The enforcement of these norms is essential for attaining and maintaining a high quality of life on Earth. Ultimately, the long-term solution to environmental issues is to give people a chance to gain awareness of the consequences of their actions. This can be a reference to determine everyday choices on environmental management.

³⁶ 58th Meeting of the IUCN Council, Decision C/58/46 (2003).

³⁷ See the Earth Charter's web site for the current roster of endorsements at various governmental and non-governmental levels, available at <<http://www.earthcharter.org/>> (visited 14 August 2007).

³⁸ Plan of Implementation of the World Summit on Sustainable Development, UN Doc. A/CONF.199/20 (2002) para. 6.

4.3 Implications of involving the public in implementing environmental law

Today's environmental law implementation invites extensive public participation. Even more recent is the notion that the public should play an integral role in developing and enforcing an environmental regulatory scheme designed to alleviate environmental degradation. This is, however, a notion that has yet to take firm root in many areas of the world.

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

Through public participation, stakeholders could raise a wide range of environmental values. It places the citizen alongside the issue as citizens are central and directly related to the issue; and ought to have immediate and equal opportunities to influence the processes and the outcomes. However, the administrative structures and processes remain the bridge between the two. The administrators' influence comes from their relationship with the citizenry, as well as from their expertise and position. The ultimate goal of participation programmes is to democratize the decision-making process by increasing the quantity and quality of public influence. The many goals, suggestions, and strategies detailed thus far demonstrate that the public's opportunities to participate in this process exist at three levels: the law-making level, where national environmental policy is determined; the policy implementation level, where agencies develop programs to implement laws on a national and regional basis; and the local level, where smaller projects are undertaken. These three levels, in turn, suggest a hierarchy of public influence in environmental decision-making. Specifically, public participants can inject values into national environmental policy; provide input in decisions that incorporate ecosystem concerns; and can bring community interests to bear in local decisions which will, in turn, facilitate public action.

When citizens feel that their voices do not really make a difference in the decision-making of leaders, they become less inclined to participate in the future. Participation should not, therefore, be a mere technicality or a way to gain approval. Participation should rather be a way productively to involve the community in implementing environmental law.

Although the public may not at present fully recognize the role it might take in shaping a national participation program, it would seem that with only limited effort countries could modify their agendas to address such important environmental mat-

ters. Thus, public participation is a mechanism to inject public values into environmental lawmaking and implementation through integration of input from members, allowing public values to inform legislative positions and policy implementation. This will, in turn, promote voluntary public action in the interest of protecting the environment.

5 Conclusion

This paper has highlighted the importance of ethics and public participation in environmental law implementation. As promising as these concepts may appear, it is clear that participation strategies must be systematically devised by governments, agencies and participants alike. Participation programs will also fail to reach their highest potential, if these strategies operate in isolation from ethics. Imagining ethics and public participation programs as spheres of public influence that are coordinated with, and constructed around, one another, is one way to begin designing environmental law implementation for the next century. According to Jickling et al.:

[e]xercising our ethical abilities is part of being human. It is an ability that should be built into our lives such that it becomes 'simply normal behaviour'. Ethics should not be an exotic activity performed by heroes, saints, and experts that reside elsewhere – it is a matter for everyone. It is the stuff of everyday activity.³⁹

³⁹ Jickling et al., *Environmental Education, Ethics and Action*, *supra* note 2.

THE NEW EUROPEAN UNION REFORM TREATY: WHAT'S IN IT FOR EU ENVIRONMENT NEGOTIATORS?

*Nicola Notaro*¹

1 Introduction

On 18 October 2007, an Inter-Governmental Conference (IGC) gathering the 27 Member States (MS) of the European Union (EU) in Lisbon concluded its work and agreed a new treaty called the 'Reform Treaty' (RT)² aimed at modernizing and increasing the efficiency of the EU after the biggest enlargement in its history.³ The IGC had been given this task on the basis of a long and detailed mandate agreed by the European Council of 21–22 June 2007 under the German Presidency of the EU. The Reform Treaty has undergone linguistic checks and renumbering and was signed on 12 December 2007, in Lisbon.

The Reform Treaty takes a different approach to that of the now defunct European Constitution,⁴ as it does not *replace* the existing treaties but *amends* them as had

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² The text of the RT is available at <http://www.consilium.europa.eu/cms3_fo/showPage.asp?id=1317&clang=en&mode=g> (visited 10 December 2007).

³ On 1 May 2004, Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia and Slovenia became EU members. They were joined on 1 January 2007 by Bulgaria and Romania, bringing the total number of EU members to 27.

⁴ OJ 2004 No. C 310/01. In 2004, a new and significant overhaul of the EC/EU Treaties was decided upon by the European Heads of State and government. This was aimed at turning the original Treaty of Rome, as modified and developed over the years, into the European Constitution by integrating into it the European Charter of Human Rights and some important institutional changes. The Constitution could only enter into force after ratification by the then twenty-five Member States; but the ratification process slowed down considerably after the French and Dutch citizens voted against the Constitution in national referenda. This originated an impasse which was only solved by the above mentioned European Council meeting in June 2007.

been the case with previous amendments of the original European Community and European Union Treaties.⁵ The Reform Treaty will modify the Treaty on the European Union (TEU), which will retain its name; and will also modify the Treaty establishing the European Community (TEC), which will be renamed the Treaty on the Functioning of the European Union (TFEU).

The Reform Treaty brings about many structural and substantive changes to the existing TEU and TEC. Their analysis would go beyond the scope of the present paper, which will only address those changes introduced by the Reform Treaty – either general or specific to the environment provisions – that are likely to have an impact on the way the EU acts as a negotiating bloc in international environmental negotiations.

At this early stage, it is clear that any attempt to analyze the impact of the Reform Treaty has to be understood as preliminary and subject to further elaboration. In fact, the analysis is difficult and complex not only because of the intrinsic lack of experience with the new provisions; but also because the Reform Treaty is at present very difficult to read. This is because the text is comprised of a long list of amendments which are not easy to understand if not put in the context of the present treaties. Only a consolidated text putting together the Reform Treaty and the TEU and TEC will make the text understandable. It is to be hoped that the European and/or academic institutions involved will start this work as soon as possible; without waiting for the ratification of the Reform Treaty by the 27 Member States and for its entry into force, expected by 1 January 2009.

2 The TEU: legal personality and external representation of the EU

To clarify the new set-up originated by the Reform Treaty, it is worth pointing out a major structural change: the revised Treaty on the European Union will contain all of the basic rules on EU competence and institutions. There will be six Titles: Title I on common provisions, Title II on democratic provisions, Title III on the institutions, Title IV on flexibility, Title V on general provisions on the Union's External Action and specific provisions on the common foreign and security policy (CFSP), and Title VI containing final provisions.

It will always be necessary, therefore, when reading the Treaty on the Functioning of the European Union, to refer back to the TEU. Similarly, the general and final provisions of the TFEU will apply also to the matters currently in the second and third

⁵ For a consolidated version of the EEC (European Economic Community) Treaty see OJ 2002 No. C 325/33. See also <http://europa.eu/scadplus/treaties/eec_en.htm> (visited 10 December 2007). For electronic access to the original Treaties and all their amendments see <<http://eur-lex.europa.eu/en/treaties/index.htm>> (visited 10 December 2007).

pillars.⁶ The two treaties will have the same legal value. This seems to be a departure from the present Article 47 of the TEU, in terms of which nothing in that Treaty shall affect the Treaty establishing the European Community. However, it is hard to anticipate the full practical impact of this new provision at this stage.⁷

One major substantive change introduced by the Reform Treaty is the elimination of the EU pillars structure⁸ and the conferral of single and express legal personality to the EU.⁹ In other words the EC will disappear; to be replaced by its successor, the EU, in all international contexts. From the entry into force of the Reform Treaty, it will be the EU (and no longer the EC) which will be a Party to Multilateral Environmental Agreements; and which will hold observer/full participant/member (whichever is relevant) status in international organizations and conferences, where this status is currently attributed to the EC. The implementation of this change may require more or less complex formalities to be completed, depending on which forum is taken into consideration. This may give the EU an opportunity to obtain an enhanced status when compared to the EC; for example, within United Nation contexts such as the UN General Assembly and various committees thereunder.

Importantly, the external representation of the EU will be the responsibility, in the field of common foreign and security policy, of the newly established permanent President of the Council¹⁰ and the High Representative for Foreign Affairs and Security Policy at their respective levels.¹¹ For matters (such as the environment) which are not part of foreign and security policy; the EU external representation will be a task for the Commission, unless otherwise provided for by the Treaty.

In practice, under the Treaty establishing the European Community, the Commission already is the institution that represents the EC externally on matters covered by Community competence; be these matters exclusive or shared. For instance, all EC delegations taking part in MEA meetings are headed by the Commission; which makes interventions during the meetings from behind the EC flag, even though the EC delegation may also comprise staff of the Council Secretariat and members of the European Parliament. However, the explicit recognition in the Treaty of the role of

⁶ TFEU, part 7. See note 8 below on the 'pillars'.

⁷ A potential conflict might arise in case of conclusion by the EU of a Treaty covering both the foreign and security policy (in the TEU) and an area of exclusive or shared competence (in the TFEU). At present, when choosing the applicable procedure, the above mentioned Art. 47 has to be respected. In the future, there would be perfect equality between the two treaties and a balance respectful of both would need to be found.

⁸ The three pillars concern Community policies in the TEC (I pillar); Common Foreign and Security Policy in the TEU (II pillar); Justice and Home Affairs in the TEU (III pillar). On the pillars structure, see more in Nicola Notaro, 'International Environmental Negotiations and the EU: A Practical Viewpoint', in Ed Couzens and Tuula Kolari (eds.), *International Environmental Law-making and Diplomacy Review 2006*, University of Joensuu – UNEP course Series 4 (University of Joensuu, 2007), 17–26 at 19.

⁹ TEU Arts 1 and 32.

¹⁰ He/she will have a mandate of 2-and-a-half-years, renewable once, TEU Art. 9b.

¹¹ TEU Art 9(e).

the Commission¹² is likely at least to protect the Commission's role in international environmental negotiations from MS' attempts to 'take over' the negotiations.¹³ The Commission's role might even be enhanced. This is even more likely as the Reform Treaty, while confirming the EU Presidency rotation every six months for all non-CFSP matters, also establishes 'team Presidencies'. This means that three successive Presidencies are to develop joint programmes to cover their 18 month time spans. The danger exists that a team Presidency might be tempted, in matters of shared competence like that of the environment, to marginalize the Commission by distributing responsibilities for negotiations only within its own team. However, if all players behave wisely and in accordance with the Treaty, the team Presidency and the Commission could share the external representation of the EU on matters of shared competence; on the basis of the concept of 'predominant competence'. This would mean that when an issue to be negotiated internationally is covered to a large or considerable extent by EU law, the Commission would take the leading seat. When this is not the case, the leadership would be with the team Presidency. This arrangement would also in practice allow for some flexibility to take into account the issue of where the best human resources might be in particular matters.

The Reform Treaty therefore provides an opportunity to improve the consistency of EU Presidencies' plans and agendas over longer periods of time; to contribute to making EU negotiating teams more professional; and, perhaps after a first adjustment phase, to contribute also to reducing conflicts between the Commission and the Council over competence issues.

3 The TEU: objectives, competence and voting rules

The revised list of objectives¹⁴ introduced by the Revised Treaty substantially maintains the references in the TEU and TEC to 'sustainable development' both within the EU and globally; and to a high level of protection and improvement of the environment. These principles are also confirmed by the new chapter of the TEU on the general provisions of the Union's external actions.¹⁵ Ensuring the overall consistency of EU external action will be a shared task for the Council, the Commission and the High Representative.

New provisions will also be introduced by the Reform Treaty in the Treaty on the European Union with regards to the relations between the Union and the Member States; and on fundamental principles governing competence.¹⁶ These provisions

¹² TEU Art 9(d).

¹³ Some Member States are, unfortunately, very prone to limit EC competence and to reject the role of the Commission in international negotiations as they wish to continue to ensure a role for themselves in that context.

¹⁴ TEU Art. 3.

¹⁵ TEU Arts 10(a) and 10(b).

¹⁶ TEU Arts 4 and 5.

contain hardly any substantive new elements. The principle of loyal co-operation between the Union and the MS in the present Article 10 of the TEC is maintained; and it is made explicit that this applies also to the Union, and not only to the Member States. The principle of ‘conferral’ is also maintained; so that the EU can act only within the limits of the competencies conferred upon it by the treaties. Also, the principles of ‘subsidiarity’ and ‘proportionality’¹⁷ are confirmed; but a new Protocol confers a role on national parliaments in the control of the application of the principle of subsidiarity through an early warning system that allows them to raise their concerns on Commission proposals that they perceive to be in violation of subsidiarity. This could lead the Commission to modify or withdraw its proposals if it so decides.

New rules have also been agreed on the calculation of qualified majority voting (QMV) for the Council.¹⁸ These will, of course, have an influence on the Council’s capacity to take decisions in all fields where QMV is applicable; including that of the environment. From 1 November 2014, QM will be reached with the positive vote of at least 55% of the Member States; where these MS represent 65% of the population of the EU. A blocking minority will have to include at least four Member States; otherwise the population criteria will be considered as achieved even it is not.

However, until 31 March 2017 a Member State will still be able to request the calculation of the Qualified Majority on the basis of the present rules.¹⁹ One would have expected that this long transitional period for the new system to display its effects fully, and yet to facilitate decision-making in the Council, would have been a sufficient guarantee for all Member States. However, this is not the case; as the Reform Treaty also resuscitates the ‘Ioannina compromise’²⁰ which allows a group of MS, constituting only 75% of the number of States or of the population necessary to reach a blocking minority, to delay a vote and to continue to debate during a ‘reasonable delay’. From 1 April 2017 this threshold will be lowered to 55%.

¹⁷ According to TEC Art. 5, ‘[i]n areas which do not fall within its exclusive competence, the Community shall take action, in accordance with the principle of subsidiarity, only if and in so far as the objectives of the proposed action cannot be sufficiently achieved by the Member States and can therefore, by reason of the scale or effects of the proposed action, be better achieved by the Community’ (subsidiarity). Moreover, ‘[a]ny action by the Community shall not go beyond what is necessary to achieve the objectives of this Treaty’ (proportionality).

¹⁸ TEU Art. 9(c).

¹⁹ *Ibid.*

²⁰ The Ioannina compromise takes its name from an informal meeting of foreign ministers in the Greek city of Ioannina on 29 March 1994. Among the decisions taken at the meeting was a Council decision concerning the specific question of qualified majority voting in an enlarged 16-member Community. The decision was later adjusted in the light of Norway’s decision not to join. The resulting compromise lays down that if members of the Council representing between 23 votes (the old blocking minority threshold) and 26 votes (the new threshold) express their intention of opposing the taking of a decision by the Council by qualified majority, the Council will do all within its power, within a reasonable space of time, to reach a satisfactory solution that can be adopted by at least 68 votes out of 87. Following the re-weighting of votes in the Council of Ministers, the Treaty of Nice in 2000 put an end to the Ioannina compromise.

The extent to which the new rules will constitute an improvement will depend on how often the above-mentioned two exceptions will be resorted to. One must hope that their use will be limited to exceptional and rare cases concerning major national interests.

4 The TFEU: competence and environment provisions

Provisions on competence have also been added to the Treaty on the Functioning of the European Union,²¹ which describes exclusive and shared competence; and, for the latter, states that MS shall exercise their competence to the extent that the Union has not exercised its competence or has decided to cease exercising it. More interestingly, the TFEU lists the matters that fall, respectively, under exclusive and under shared competence.²²

It is noticeable that common commercial policy becomes exclusive competence in its entirety; whilst at present this applies only to trade in goods.²³ The Union will also have exclusive competence over the conclusion of an international agreement; when such conclusion is provided for by a legislative act of the Union or is necessary to enable the Union to exercise its internal competence, or insofar as its conclusion may affect common rules or alter their scope.²⁴ This latter clarification, while codifying existing case law, may have an impact in the environment field; since in this field common rules exist in many areas. In such cases, the Union would not be acting on the basis of shared, but of exclusive, competence; to the extent that a field is covered by common rules.

The TFEU also lists matters falling under shared competence and environment is, of course, one of these. In relation to environmental provisions, the Reform Treaty singles out 'combating climate change' as a priority amongst the objectives of environment policy in the current Article 174 of the TEC. This change is not likely to have any substantial impact as the fight against climate change was already covered under the existing objectives. The purpose of this addition seems merely to be a highlighting of the political importance of the matter. In paragraph 4 of Article 174, the Reform Treaty operates to delete the reference to Article 300 as being the legal base for the negotiation by the Union of agreements with third parties. The reason for this change is unclear; as Article 300 remains, after renumbering, the only suitable legal base for these agreements.²⁵

²¹ TFEU Art. 2.

²² TFEU Arts 3 and 4.

²³ TFEU Art. 3.

²⁴ *Ibid.*

²⁵ On Art. 300, see next section.

5 The TFEU: external relations

The Treaty on the Functioning of the European Union states that the Union's actions on the international scene shall be guided by the principles, shall pursue the objectives, and shall be conducted in accordance with, the general provisions on the Union's external action; which are laid down in Title V of the Treaty on the European Union.²⁶ This new clause links the TFEU external policies with the clauses on the general principles of EU external relations; and seems aimed at achieving greater consistency in all areas of EU external action.

The TFEU clarifies that the Union may conclude agreements with one or more third countries or international organizations.²⁷ This is possible where the Treaties so provide; or where the conclusion of an agreement is necessary in order to achieve, within the framework of the Union's policies, one of the objectives referred to in the Treaties; or where such conclusion is provided for in a legally binding Union act; or is likely to affect common rules or alter their scope. Agreements concluded by the Union are binding upon the institutions of the Union and on its Member States. These clauses apparently represent an attempt to summarize the current case law regarding the existence of external competence within EC law (the first pillar). These principles will now apply to all three pillars, including foreign policy. None of these changes is likely to have a great impact on environmental negotiations.

The Treaty on the Functioning of the European Union also amends Article 300 TEC – the key provision for the negotiation, signature and conclusion of international (environmental) agreements – as this provision will apply to what used to be three different pillars. The most important change concerns the right to recommend to the Council a mandate to open international negotiations.²⁸ This will no longer be the exclusive prerogative of the Commission, as at present, but also of the High Representative where the agreement relates exclusively or principally to the common foreign and security policy. The Council, depending on the subject of the agreement envisaged, will nominate the Union negotiator or the head of the Union's negotiating team.

The extension to the High Representative of the right to recommend to the Council the adoption of a mandate is merely a logical consequence of the fact that Article 300 will apply also to common foreign and security policy. This extension may create problems where agreements concerning CFSP also encompass areas falling within other external policies of the EU. In those cases, it will be necessary to determine whether an agreement falls 'principally' within CFSP and this might not be an easy exercise. However, as the High Representative is also going to be the vice-president of the Commission, it is fair to expect that these types of potential conflicts will already

²⁶ TEU Arts 10(a) and 10(b).

²⁷ TFEU Art. 188(l).

²⁸ TFEU Art. 188(n).

be addressed within the Commission; in order to avoid two parallel recommendations for a mandate for the same agreement, one from the Commission and another one from the High Representative.

An ambiguous element in the amended Article 300 is the notion of Union negotiator, or head of the Union's negotiating team. It seems rational to assume that the Union negotiator will be either the Commission or the High Representative; depending on whether the agreement to negotiate falls within or outside of the common foreign and security policy. An additional possibility for the CFSP would be the President of the Council when negotiations take place 'at his level' as per Article 9(b) of the TEU. This would also be in line with the rules, described above,²⁹ on the external representation of the Union.

The notion of 'head of the Union's negotiating team' is even less clear. It seems that, in line with the Reform Treaty rules on the external representation of the Union, by such 'head' can only be meant the Commission or the High Representative/President – depending again on the field involved. However, either of them could be supported by a team; for example, a Member State group designated by the Council for a particular reason, such as special expertise, specific national interest, and so forth. Designating (somebody within) the team Presidency as the head of the EU negotiating team, for areas outside the common foreign and security policy, would be against the Reform Treaty and, therefore, does not seem to be a plausible alternative.

Finally, thanks to another amendment of Article 300, the European Parliament (EP) would have assent power whenever the co-decision procedure or assent procedure apply to internal legislation; instead of applying only where legislation adopted by co-decision would have to be amended, as is the case at present. Due to the expansion of co-decision as regards internal EU policies, the assent power of the EP to conclude EU agreements will also increase.

In relation to the practical implementation of the external aspects of EU policies; it is worth noting that the present Commission delegations which represent the Community, and which are subject to the Commission's authority, will become Union delegations and will represent the Union.³⁰ Union delegations will be placed under the authority of the High Representative/Vice-President of the Commission; who will act under either of his or her roles, depending on the field involved. The delegations shall act in close cooperation with Member States' diplomatic missions; and will be staffed with personnel from the Commission, the Council Secretariat and the diplomatic services of the Member States.

²⁹ See *supra*, section 2.

³⁰ TFEU Art. 188(q).

6 Declarations and protocols

6.1 The Declaration

It appears that the issue of competence must have been high on the agenda of the Member States when negotiating the Revised Treaty. In addition to the provisions mentioned above in the TEU and in the TFEU, they signed up also to a Declaration³¹ and to a Protocol³² on the same issue.

The ‘Declaration in relation to the delimitation of competencies’ reiterates the Member States’ mantra on the conferral of competence i.e. the fact that competence not conferred upon the Union in the Treaties remains with the Member States. The Declaration states also that in cases of shared competence Member States ‘shall exercise their competence to the extent that the Union has not exercised, or has decided to cease exercising, its competence’; for example, when a legislative act has been repealed. The Declaration emphasizes also that the Council may request the Commission to submit proposals for repealing an act; and the Commission shall devote particular attention to these requests. Finally, the Declaration states that an IGC which gathers the Member States to amend the Treaties may increase or reduce the competencies of the Union.

This Declaration is largely redundant, given the provisions on competence in the Treaty on the Functioning of the European Union, and could therefore be cynically described as psychological comfort for ‘Euro-sceptics’. Firstly, declarations only have a political value; and, where they contradict the Treaties, cannot prevail. Secondly, the Council may already request the Commission to repeal legislation; and it is then up to the Commission, in line with its right of initiative, to decide whether to submit a proposal or not. Thirdly, Member States are of course already allowed to exercise their competence when the Union has not exercised it or has ceased exercising it. Finally, it is obvious, although unlikely, that an Inter-Governmental Conference *may* reduce the EU competences if there is an agreement to this effect.

6.2 The Protocol

The obsession of (some) Member States with the need to protect national sovereignty and to limit EU competence went even further with the adoption of a peculiar single article Protocol to the Reform Treaty; on the exercise of shared competence. This Protocol cross-refers to the provision of the Treaty on the Functioning of the European Union listing matters under shared competence; and states that when the Union has taken action in a certain area, the scope of this exercise of competence covers only those elements covered by the Union act and not the whole area.

³¹ Available at <http://www.consilium.europa.eu/cms3_fo/showPage.asp?id=1317&clang=en&mode=g> (visited 10 December 2007).

³² *Ibid.*

This Protocol could be seen as a reaction by some Member States to recent case law of the European Court of Justice (ECJ) in the environment field;³³ which has recognized the existence of EC competence in the absence of secondary legislation. A number of EU Member States have in fact consistently argued in the Council that EC competence is based on the adoption of secondary legislation; and not on the Treaty alone. The Commission has, predictably, argued the reverse; stating that, in accordance with the above mentioned principle of conferral, competence stems from the Treaty. If it was not the case, this argument runs, the Community could simply create a new competence in a certain field by making a legislative proposal; since the exercise would 'create' the competence.

The Protocol focuses on the exercise of the competence, and not on its existence, by limiting the Union's role when an area is not exhaustively covered by legislation. In other words, according to the Protocol even when a shared competence exists, since it has been conferred on the EU by the Treaty (for environment, for example) and it has been exercised as legislation has been enacted, Member States still hold margins of manoeuvre both at national and international level where the matter is not fully regulated under EU law.

This approach could open the door to justifying unilateral Member State initiatives in international fora. It is clear that difficult debates can be expected in the Council on the exact scope of EU legislative acts; to establish the extent of Member States margins of manoeuvre. However, one should not forget that the principle of loyal cooperation³⁴ will continue to apply to the Member States, including at the international level; as well as the principle of unity of the external representation of the EU.³⁵ In this respect, possible clarifications by the ECJ on whether these principles impose an obligation of means or of results would be important: it is important to know whether Member States are bound only to try to find a common position within the EU; or whether they have also, in the absence of an agreement, a duty to abstain from taking unilateral action.

³³ See the *Etang de Berre* case C-239/03, *Commission v. France* ECR [2004] I-9325; and the *Mox* case C-459/03 *Commission v. Ireland* ECR [2006] I-4635.

³⁴ This principle is reflected in TEC art. 10 as follows: 'Member States shall take all appropriate measures, whether general or particular, to ensure fulfilment of the obligations arising out of this Treaty or resulting from action taken by the institutions of the Community. They shall facilitate the achievement of the Community's tasks. They shall abstain from any measure which could jeopardise the attainment of the objectives of this Treaty'.

³⁵ When it appears that the subject-matter of an international convention falls within the shared competence of the Community and of the Member States, the requirement of unity in the international representation of the Community makes it necessary to ensure close cooperation between the Community institutions and the Member States both in the process of negotiation and conclusion and in the fulfillment of the obligations entered into. See in this sense, *inter alia*, ECJ Opinion 2/91 [1993] ECR I-1061, para. 36.

7 Conclusions

It is difficult to draw clear conclusions on the impacts which the Reform Treaty might have on the existing EU arrangements for international environment negotiation. It is clear that the spirit of the Reform Treaty was largely oriented towards putting borders, or fences, around Community competences and Community institutions. However, this was not a spirit common to all Member States present at the Inter-Governmental Conference; and the basis for the discussion was in any event the text of the Constitution which has, arguably, a tacit federalist approach.³⁶ The result of this is a very mixed text which deepens European integration overall; and – in the environmental field – largely preserves the role of the Commission in international negotiations whilst, possibly, reinforcing it slightly by recognizing its role as the external representative of the EU.

The main worry for ‘Euro-enthusiasts’ in relation to the Reform Treaty is that the merging of the three pillars may contaminate the Community method;³⁷ bringing into it the intergovernmental approach of the common foreign and security policy. This risk clearly exists also for the external aspects of environment policy; but, on the basis of the analysis above, the risk does not appear as great as one might have feared. However, as in the past, the interpretation of the new provisions by the ECJ will play a key role. Moreover, the choice of the first individual who will be at the same time High Representative and Vice-President of the Commission is fundamental; as this person will shape his/her role and create practices that may remain in place for some time, particularly concerning the demarcation line between the common foreign and security policy and other external policies.

It remains to be seen whether the Reform Treaty will indeed enter into force in 2009; after requisite ratification by all Member States.³⁸ All in all, the Reform Treaty may well be the most significant step taken towards the building of a European confederation since the 1987 Single European Act;³⁹ despite what the objectives of some of the Inter-Governmental Conference negotiators from the Member States might have been.

³⁶ While never using the words ‘federalist’, the Constitution did deepen European integration moving it closer to the model of a federal State. The extension of the powers of the European Parliament, the modalities for the designation of the European Commission and the attempts to introduce qualified majority voting in the field of foreign policy are all indications in this sense.

³⁷ The ‘Community method’ refers to the way the Community institutions and the MS interact with each other in accordance with well defined procedures in the TEC that attribute specific roles to these institutions. The intergovernmental approach – typical of the TEU – gives a much more limited role to the European institutions and is very similar to the classic interaction between sovereign States under international law.

³⁸ See section 1 *supra*. Only one MS (Ireland) is required by its Constitution to hold a referendum on the ratification of the RT. However, one cannot exclude the possibility that other MS will decide to hold referenda for political rather than legal reasons.

³⁹ For electronic access to the original Treaties and all their amendments see <<http://eur-lex.europa.eu/en/treaties/index.htm>> (visited 10 December 2007).

PART II

GLOBAL AND REGIONAL CHEMICALS
AND WASTE GOVERNANCE

GLOBAL GOVERNANCE: CHEMICALS

Shafqat Kakakhel¹

1 Introduction

Global governance has been described as ‘the complex of formal and informal institutions, mechanisms, relationships, and processes between and among states, markets, citizens and organizations, both inter- and non-governmental, through which collective interests on the global plane are articulated, rights and obligations are established, and differences are mediated’.² International cooperation to address the impacts of chemicals on human health and the environment offers a case study for global governance.

Chemicals are pervasive in modern societies and economies and are inseparable from our daily lives. About 100 000 chemicals are available for use. Chemicals are used in all economic sectors and in the manufacture of almost all consumer products. Most chemicals are produced intentionally, but some are created as unintentional pollutants.

Chemicals have contributed immensely to advances in living standards; and to improvements in fields such as agriculture, sanitation, water quality and medicine. However, there can be risks to human health and the environment if chemicals are not managed soundly. Some of these risks call for governance responses on a global scale.

There has been a growing recognition of the potential risks posed by chemicals to the environment and human health, following greatly increased production and use; better scientific understanding; a shift in production and use to developing countries

¹ Deputy Executive Director, UNEP.

² Thomas G. Weiss and Ramesh Thakur, *The UN and Global Governance: An Idea and its Prospects* (Indiana University Press, forthcoming).

where chemicals management capacity may be weaker; and greater awareness of prominent accidents and adverse incidents.³

2 The architecture of governance for sound management of chemicals: multilateral environmental agreements

If there is to be sound management of chemicals, then legally-binding international treaties and their institutional structures need to be placed at the heart of global governance arrangements. Recent multilateral environment agreements on chemicals which have been facilitated by the United Nations Environment Programme (UNEP) include the Montreal Protocol on Substances that Deplete the Ozone Layer (1987);⁴ the Basel Convention on the Control of Trans-boundary Movements of Hazardous Wastes and Disposal (1989);⁵ the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade (1998);⁶ and the Stockholm Convention on Persistent Organic Pollutants (2001).⁷

The Montreal Protocol is a protocol of the Vienna Convention on the Protection of the Ozone Layer (1985).⁸ It sets time-bound targets to reduce global emissions of ozone-depleting substances (ODS); taking into account developments in scientific knowledge, technical and economic considerations, and developmental needs. The Protocol's governing body is the Meeting of the Parties, which has an Open-ended Working Group and an Implementation Committee as subsidiary bodies. A special Multilateral Fund assists developing countries with implementation. There were 191 Parties to the Protocol as at November 2007.⁹ The Secretariat is provided by UNEP; in Nairobi. The Montreal Protocol is arguably one of the success stories of global governance efforts in the field of chemicals; with Parties having, it seems, managed to

³ For example, mercury poisoning in Minamata, Japan in the 1950s; factory disasters in Seveso, Italy, in 1976, in Bhopal, India, in 1984, and in Toulouse, France, in 2001; contamination of the Songhua River in China in 2005, and of the Hudson River in the United States in the mid-twentieth century; and toxic waste dumping in Côte d'Ivoire in 2006.

⁴ Montreal Protocol on Substances that Deplete the Ozone Layer, Montreal, 16 September 1987, in force 1 January 1989, 26 *International Legal Materials* (1987) 154, <<http://www.unep.org/ozone/>>.

⁵ Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, Basel, 22 March 1989, in force 5 May 1992, 28 *International Legal Materials* (1989) 657, <<http://www.basel.int>>.

⁶ Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, Rotterdam, 11 September, 1998, in force 24 February, 38 *International Legal Materials* (1999) 1, <<http://www.pic.int>>.

⁷ Convention on Persistent Organic Pollutants, Stockholm, 22 May 2001, in force 17 May 2004, 40 *International Legal Materials* (2001) 532, <<http://www.pops.int>>.

⁸ Convention on the Protection of the Ozone Layer, Vienna, 22 March 1985, in force 22 September 1988, 26 *International Legal Materials* (1985) 1529.

⁹ Ozone Secretariat, Status of ratification, available at <http://ozone.unep.org/Ratification_status/> (visited 23 January 2008).

phase out 95% of production and consumption of the listed substances, as at 2005.¹⁰ Global observations have verified that atmospheric levels of key ozone-depleting substances are decreasing.¹¹

The Basel Convention provides for a system of prior informed consent for the import or transit of hazardous wastes; and requires wastes to be managed in an environmentally sound manner. The Convention's governing body is the Conference of the Parties; which has an Open-ended Working Group, an Expanded Bureau, and a Compliance Committee as subsidiary bodies. Implementation of the Convention is supported through a network of 14 regional centres.¹² As of July 2007, there were 170 Parties to the Convention.¹³ The Secretariat is provided by UNEP; in Geneva. Related agreements not yet in force are the Convention's so called 'Ban Amendment';¹⁴ which would ban the trade in hazardous wastes from Parties which are member States of the European Union and the Organisation of Economic Cooperation and Development (OECD), and from Liechtenstein, to all other Parties. The Convention also has a Protocol on Liability and Compensation; which was adopted at the fifth meeting of the Conference of Parties in 1999.¹⁵

The Rotterdam Convention was preceded by the voluntary International Code of Conduct on the Distribution and Use of Pesticides;¹⁶ and the London Guidelines for the Exchange of Information on Chemicals in International Trade.¹⁷ The objective of the Convention is to promote shared responsibility and cooperative efforts among Parties in the international trade of certain hazardous chemicals, in order to protect human health and the environment from potential harm. Furthermore, the Convention aims to contribute to the environmentally sound use of the controlled hazardous chemicals; by facilitating information exchange about their characteristics, providing

¹⁰ See e.g. Ozone Secretariat, 'Key Achievements of the Montreal Protocol to Date', available at <http://ozone.unep.org/Publications/MP_Key_Achievements-E.pdf> (visited 23 January 2008).

¹¹ *Ibid.* See also the 2006 Assessment of the Scientific Assessment Panel of the Protocol, available at <http://ozone.unep.org/Assessment_Panels/SAP/Scientific_Assessment_2006/index.shtml> (visited 23 January 2008).

¹² The Regional Centres are located in Argentina, China, Egypt, El Salvador, Indonesia, Islamic Republic of Iran, Nigeria, Russian Federation, Senegal, Slovak Republic, South Pacific Regional Environment Programme (Samoa), South Africa, Trinidad and Tobago, and Uruguay. Each Centre services several countries in its respective region. For further information, see for example, Secretariat of the Basel Convention, 'The Basel Convention Regional and Coordinating Centres At A Glance...', available at <<http://www.basel.int/centers/description/BCRCataGlance.pdf>> (visited 23 January 2008).

¹³ See Secretariat of the Basel Convention, 'Parties to the Convention', available at <<http://www.basel.int/ratif/convention.htm>> (visited 23 January 2008).

¹⁴ Third Conference of the Parties, UN Doc. UNEP/CHW.3/35 (1995), Decision III/I.

¹⁵ Protocol on Liability and Compensation for Damage Resulting from Transboundary Movements of Hazardous Wastes and Their Disposal, Basel, 10 December 1999, not yet in force, available at <<http://www.basel.int/meetings/cop/cop5/docs/prot-e.pdf>> (visited 23 January 2008).

¹⁶ Developed under the auspices of the United Nations Food and Agriculture Organization (FAO) in 1985. FAO, the International Code of Conduct on the Distribution and Use of Pesticides (FAO, revised version, 2002), available at <<ftp://ftp.fao.org/docrep/fao/009/a0220e/a0220e00.pdf>> (visited 31 December 2007).

¹⁷ Guidelines for the Exchange of Information on Chemicals in International Trade, adopted by UNEP Governing Council Res. 15/30 (1989).

for a national decision-making process on their import and export, and by disseminating these decisions to Parties. The Convention is intended to provide importing Parties with the power to make informed decisions on which chemicals they want to receive or not to receive. The Convention's governing body is the Conference of the Parties, which has a Chemical Review Committee as its subsidiary body. There were 110 Parties to the Convention as of end of 2007.¹⁸ A joint Secretariat is provided by UNEP and FAO in Geneva and Rome respectively.

The Stockholm Convention is intended to protect human health and the environment from persistent organic pollutants (POPs).¹⁹ The Convention is governed by the Conference of the Parties, the subsidiary bodies of which include the POPs Review Committee; the Open-ended ad hoc working group on non-compliance; the Technical Working Group for the Global Monitoring Plan for POPs; the Expert Group on DDT;²⁰ the Expert Group on Best Available Technologies and Best Environmental Practices; and the Standardized Toolkit for Identification and Quantification of Dioxin and Furan Releases. The Global Environment Facility (GEF) serves as the financial mechanism of the Convention. As at the end of 2007, there were 150 Parties to the Convention.²¹ The Secretariat is provided by UNEP in Geneva.

Some other relevant legal instruments that contribute to global governance of chemicals include: the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matters (1972)²² and its Protocol (1996);²³ the Convention on Long-range Transboundary Air Pollution (1979),²⁴ and its POPs Protocol (1998);²⁵ International Labour Organization (ILO) Convention 170 on Safety in the Use of Chemicals at Work (1990);²⁶ and the Convention on the Prohibition of the Develop-

¹⁸ Rotterdam Convention, 'Ratifications', available at <<http://www.pic.int/home.php?type=t&id=63&sid=17>> (visited 23 January 2008).

¹⁹ POPs are persistent, bio-accumulating, toxic and globally transported through the environment. See Preamble to the Convention.

²⁰ See the paper by Michael Kidd, 'DDT, Malaria Control and the Stockholm Convention on Persistent Organic Pollutants', in Part III of the present *Review*.

²¹ Stockholm Convention, 'List of Signatories and Parties to the Stockholm Convention', available at <<http://www.pops.int/reports/StatusOfRatifications.aspx>> (visited 23 January 2008).

²² Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, London, 13 November 1972, in force 30 August 1975, 11 *International Legal Materials* (1972) 1294, <<http://www.londonconvention.org/>>. The Convention was negotiated under the auspices of the International Maritime Organization (IMO) and is generally known as the London Dumping Convention.

²³ Protocol to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, London, 17 November 1996, in force 24 March 2006, 36 *International Legal Materials* (2006) 1. The Protocol is to replace the Convention upon entering into force.

²⁴ Convention on Long-Range Transboundary Air Pollution, Geneva, November 13 1979, in force 16 March 1983, 18 *International Legal Materials* (1979) 1442, <<http://www.unece.org/env/lrtap/>>. The Convention was negotiated under the auspices of the United Nations Economic Commission for Europe.

²⁵ Protocol to the 1979 Convention on Long-Range Transboundary Air Pollution on Persistent Organic Pollutants, Aarhus, 24 June (1998), in force 23 October 2003, 37 *International Legal Materials* (1998) 505, <<http://www.unece.org/env/pp/>>.

²⁶ Convention concerning Safety in the use of Chemicals at Work, Geneva, 25 June 1990, into force 4 November 1993.

ment, Production, Stockpiling and Use of Chemical Weapons and their Destruction (1993).²⁷

3 The architecture of governance for sound management of chemicals: overarching frameworks

In addition to legally-binding instruments, the global governance architecture for the sound management of chemicals includes several policy frameworks such as Agenda 21 (1992);²⁸ the Johannesburg Plan of Implementation (2002)²⁹ and the Strategic Approach to International Chemicals Management (2006).³⁰

Chapter 19 of Agenda 21, a global blueprint for sustainable development adopted at the United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro in 1992, led to heightened international activity on chemicals. Chapter 19 covered expansion and acceleration of international assessment of chemical risks; harmonization of classification and labelling of chemicals; information exchange on toxic chemicals and chemical risks; establishment of risk reduction programmes; strengthening of national capabilities and capacities for management of chemicals; and prevention of illegal international traffic in toxic and dangerous products.

The Johannesburg Plan of Implementation adopted by the World Summit on Sustainable Development in 2002 set a target of ensuring that 'by 2020-- chemicals are used and produced in ways that lead to the minimization of significant adverse effects on human health and the environment'.³¹

Since the mid-1990s, the UNEP Governing Council has devoted increasing attention to governance arrangements for international action on hazardous chemicals. In 1995 and 1997 UNEP initiated development of, respectively, the Rotterdam and Stockholm Conventions.³² In 1997 the Governing Council called for a report on enhanced coherence and efficiency among international activities related to chemicals;³³ and, in 2001–2002, it included clustering of chemicals and hazardous wastes agreements in the discussions of its Open-ended Intergovernmental Group on International Environmental Governance. Action by the Governing Council on mercury

²⁷ Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and their Destruction, Paris, 13 January 1993, into force 29 April 1997, 32 *International Legal Materials* (1993) 800.

²⁸ Agenda 21, UN Conference on Environment and Development, UN Doc. A/CONF.151/26/Rev.1 (1992).

²⁹ Plan of Implementation of the World Summit on Sustainable Development, UN Doc. A/CONF.199/20 (2002).

³⁰ For further information, see <<http://www.chem.unep.ch/saicm/>> (visited 23 January 2008).

³¹ Plan of Implementation, *supra* note 29, at chap. I, resolution 2, annex.

³² UNEP Governing Council Decisions 18/12 and 19/13C.

³³ UNEP Governing Council Decision 19/13D.

included the commissioning of a Global Mercury Assessment in 2001;³⁴ a call for partnerships to address mercury and for a review of scientific information on lead and cadmium in 2005;³⁵ and in 2007 the establishment of an ad hoc open-ended working group to assess options for international action on mercury.³⁶ In 2002 the Governing Council decided that there was a need to develop a strategic approach to international chemicals management,³⁷ and in 2006 endorsed the outcome.³⁸

The Strategic Approach to International Chemicals Management (SAICM) is a non-binding policy framework, which is intended to assist efforts to achieve the Johannesburg Plan of Implementation's goal of achieving the sound management of chemicals by 2020. It was adopted by the International Conference on Chemicals Management (ICCM)³⁹ in February 2006; and has, subsequently, been endorsed or formally noted by, the governing bodies of, so far (as at June 2007), FAO, the International Labour Organization (ILO), UNEP, the United Nations Institute for Training and Research (UNITAR), and the World Health Organization (WHO). The development of SAICM was notable for its multi-stakeholder and multi-sectoral engagement; drawing in representatives of Governments, intergovernmental organizations and non-governmental organizations from sectors such as agriculture, environment, health, labour, industry and science. The comprehensive objectives of SAICM are grouped under the headings of 'risk reduction', 'knowledge and information', 'governance', 'capacity-building' and 'illegal traffic'. The SAICM Quick Start Programme (QSP)⁴⁰ comprises a trust fund and other forms of cooperation, aiming to support initial SAICM with enabling activities in developing and transition economy countries. As at January 2008, 139 Governments had designated SAICM national focal points.⁴¹ The governing body of SAICM is the ICCM. The Secretariat is provided by UNEP and WHO in Geneva.

The non-binding global policy frameworks are complemented by two institutional arrangements. The Intergovernmental Forum on Chemical Safety (IFCS)⁴² develops and promotes strategies and partnerships among national governments and intergovernmental and non-governmental organizations. The Inter-Organization Programme for the Sound Management of Chemicals (IOMC)⁴³ coordinates efforts among relevant intergovernmental organizations.⁴⁴

³⁴ UNEP Governing Council Decision 21/5.

³⁵ UNEP Governing Council Decision 23/9.

³⁶ UNEP Governing Council Decision 24/3.

³⁷ UNEP Governing Council Decision SSVII/3.

³⁸ UNEP Governing Council Decisions SS.VII/3 and SS.IX/1, respectively.

³⁹ For further information, see <<http://www.chem.unep.ch/ICCM/ICCM.htm>> (visited 23 January 2008).

⁴⁰ For further information, see <<http://www.chem.unep.ch/saicm/qsp.htm>> (visited 23 January 2008).

⁴¹ See SAICM Secretariat, 'List of SAICM National Focal Points', available at <<http://www.chem.unep.ch/saicm/List%20of%20SAICM%20National%20Focal%20Points%20web.doc>> (visited 23 January 2008).

⁴² For further information, see <<http://www.who.int/ifcs/en/>> (visited 23 January 2008).

⁴³ For further information, see <<http://www.who.int/iomc/en/>> (visited 23 January 2008).

⁴⁴ FAO, ILO, OECD, UNEP, the United Nations Industrial Development Organization, UNITAR and WHO are participating organizations in the IOMC. The United Nations Development Programme and the World Bank are observers.

4 Governance challenges

The governance architecture for global chemicals management efforts described above has worked well in some areas while in others work remains to be done. These challenges are briefly explored below, under the following themes: coordination and synergies, compliance, liability and compensation, illegal traffic, and precaution.

Compared to other international policy fields such as human rights, labour and trade, the governance architecture for the environment – including chemicals management – is fragmented. There are multiple individual conventions; each with its own governing bodies, secretariats and meetings. This diversity allows for each instrument to focus on specific complex issues; but risks inefficiencies arising. As a response to this problem, an Ad Hoc Joint Working Group of the Basel, Rotterdam and Stockholm Conventions is preparing recommendations on enhanced cooperation and coordination among the three conventions for submission to their Conferences of the Parties in 2008–2009.⁴⁵

It might be argued that the development of the chemicals-related conventions has not been accompanied by effective arrangements to ensure compliance with their obligations. Agreement on such arrangements remains an ongoing challenge. Conventions can avoid non-compliance if they have adequate monitoring and enforcement mechanisms, and also provisions to assist developing countries in fulfilling their obligations.⁴⁶

The chemicals-related conventions have addressed compliance issues in a variety of ways. Compliance with the Montreal Protocol is overseen by the Implementation Committee which makes recommendations to the Meeting of the Parties. Action by the Meeting of the Parties on non-compliance may include assistance to the Party concerned, warnings, or suspension of rights and privileges under the Convention. The parent Vienna Convention also contains a dispute settlement provision.⁴⁷ The Conference of the Parties to the Basel Convention adopted, in 2002, a ‘Mechanism for Promoting Implementation and Compliance’ which is administered by a committee with a facilitative role. If further measures are needed, the committee can recommend that the Conference of the Parties consider additional assistance to the Party concerned or a cautionary statement and advice on future compliance. The Rotterdam and Stockholm Conventions both call for procedures and mechanisms to address non-compliance; but neither Convention’s Conference of the Parties has

⁴⁵ See the paper by Kerstin Stendahl, ‘Enhancing Cooperation and Coordination among the Basel, Rotterdam and Stockholm Conventions’, in Part II of the present *Review*.

⁴⁶ See the paper by Tuula Kolari, ‘The Principle of Common but Differentiated Responsibility in Multilateral Environmental Agreements’, in Part I of the present *Review*.

⁴⁷ Article 11, ‘Settlement of disputes’, which provides in para. 1 that ‘[i]n the event of a dispute between parties concerning the interpretation or application of this Convention, the parties concerned shall seek solution by negotiation’.

yet managed to reach agreement on these.⁴⁸ Apart from, arguably, the International Court of Justice, there is no international body with an overarching adjudicatory or enforcement power in relation to the environmental obligations of States. This might be contrasted with the authority of the World Trade Organization in trade matters.

Providing for liability and compensation for damage to the environment and to human health caused by chemicals is another challenging policy and legal issue. While developed countries might rely on well-developed domestic legal regimes, commercial insurance policies, and bilateral dispute resolution mechanisms; some developing countries might rely instead on international legal regimes and funding mechanisms to provide for liability and compensation. Several international liability and compensation regimes have been established in the maritime context, including the International Convention on Civil Liability for Oil Pollution Damage (updated 1992)⁴⁹ and the Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage (updated 1992).⁵⁰ The UNEP-administered chemicals conventions do not include provisions for liability and compensation; except that the Conference of the Parties to the Basel Convention adopted, in 1999, a Protocol on Liability and Compensation for Damage Resulting from Transboundary Movement of Hazardous Wastes and their Disposal.⁵¹ However, this Protocol has not yet entered into force.⁵² While negotiators reached no consensus on the inclusion of liability and compensation provisions in the 2001 Stockholm Convention; they agreed to the holding of a workshop to consider the issues in 2002.

The persistence of illegal traffic in hazardous chemicals and wastes, despite the development of conventions, has long been of concern to developing countries; and is seen as arguably undermining effective global governance. Illegal traffic is that carried out in contravention either of a country's laws or of relevant international legal instruments. Its apparent persistence is largely an issue of capacity to implement and enforce such instruments. The issue has been addressed internationally in the Basel Convention and also in related regional agreements, such as the Bamako Convention on the Ban on the Import into Africa and the Control of Transboundary

⁴⁸ See the paper by Tammy de Wright, 'The Lessons from Montreal and Basel for Rotterdam and Stockholm: Ongoing Developments in (Non-)Compliance Mechanisms', in Part V of the present *Review*.

⁴⁹ International Convention on Civil Liability for Oil Pollution Damage, Brussels, 29 November 1969, in force 19 June 1975, 9 *International Legal Materials* (1969) 45. The Convention is being replaced by its 1992 Protocol (Protocol of 1992 to amend the International Convention on Civil Liability for Oil Pollution Damage, 27 November 1992, into force 30 May 1996) as amended in 2000 (Limitation Amounts in the Protocol of 1992 to amend the International Convention on Civil Liability for Oil Pollution Damage, 18 October 2000, into force 1 November 2003). See, generally, <<http://www.imo.org>>.

⁵⁰ International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, Brussels, 18 December 1971, into force 16 October 1978, 11 *International Legal Materials* (1972) 284; the 1992 Protocol (London, 27 November 1992, into force 30 May 1996) replaces the Convention. See, generally, <<http://www.imo.org>>.

⁵¹ Protocol on Liability and Compensation for Damage Resulting from Transboundary Movements of Hazardous Wastes and Their Disposal, Basel, 10 December 1999; <<http://www.basel.int>>.

⁵² There should be 20 ratifications before the Protocol can enter into force; as of January 2008, 13 countries had ratified the instrument.

Movement and Management of Hazardous Wastes within Africa (1991);⁵³ and the Waigani Convention to Ban the Importation into Forum Island Countries of Hazardous and Radioactive Wastes and to Control the Transboundary Movement and Management of Hazardous Wastes within the South Pacific Region (1995).⁵⁴ Illegal trafficking concerns have also featured prominently in Agenda 21 and in the SAICM Overarching Policy Strategy. Other initiatives to address the issue have included the 1995 appointment by the United Nations Human Rights Commission of a Special Rapporteur on toxic wastes;⁵⁵ and UNEP's launch, in 2001, of the Green Customs initiative with the World Customs Organization and other partners.⁵⁶

The concept of precaution, or the taking of control measures before there is scientific certainty, when applied to the risks posed by certain chemicals has been the subject of debate among policy makers for many years. Principle 15 of the Rio Declaration on Environment and Development⁵⁷ states that

in order to protect the environment, the precautionary approach shall be widely applied by states according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradations.

There have been disagreements over the precise meaning of 'precaution' and its legal status, and also concern that it may be misused for trade-protectionist purposes.

5 The Future

Looking to the future of global governance for the sound management of chemicals, it should be stressed that international treaties are living documents which can be amended to take account of emerging issues and new challenges. Already the Montreal Protocol has accelerated and expanded, through several amendments, its programmes for the phasing out of ozone-depleting substances. The Rotterdam and Stockholm Conventions both have review committees whose roles are to consider recommending the addition of further substances to the conventions.

⁵³ The Bamako Convention on the Ban of the Import Into Africa and the Control of Transboundary Movement and Management of Hazardous Wastes Within Africa, Bamako, 30 January 1991, in force 22 April 1998, 30 *International Legal Materials* (1991) 773.

⁵⁴ Convention to Ban the Importation into Forum Island Countries of Hazardous and Radio Active Waste and to Control the Transboundary Movement of Harzardous Waste within the South Pacific Region, Waigani, 16 September 1995, in force 21 October 2001.

⁵⁵ For further information, see Office of the High Commissioner for Human Rights, 'Documents on Special Rapporteur of the Commission on Human Rights on the adverse effects of the illicit movement and dumping of toxic and dangerous products and wastes on the enjoyment of human rights', available at <<http://www.unhchr.ch/huridocda/huridoca.nsf/FramePage/toxicwastes+En?OpenDocument>> (visited 23 January 2008).

⁵⁶ For further information, see <<http://www.greencustoms.org/>> (visited 23 January 2008).

⁵⁷ UN Declaration on Environment and Development, UN Doc. A/CONF.151/5/Rev.1 (1992).

Mercury is increasingly recognized as being of global concern due to its long-range transport; and its effects on health and the environment.⁵⁸ The UNEP *Global Mercury Assessment*,⁵⁹ published in 2002, provides information on emissions, hazards and risks. The latest development in ongoing consideration of the issue has been UNEP Governing Council's above mentioned decision in 2007⁶⁰ to establish an ad hoc open-ended working group to consider options for international action (possibly including a legally binding instrument); and that work should continue on reducing mercury emissions on a voluntary basis. Lead and cadmium have also been initially reviewed through a UNEP process;⁶¹ although consensus has not been reached on the question of whether problems associated with these substances are problems that are global in nature.

SAICM will provide an opportunity to keep global chemicals management issues under continuous review until 2020. Its governing body, the International Conference on Chemicals Management, will provide a high-level forum every three years to review progress in implementing SAICM; will address emerging hopefully issues and forge consensus on cooperative action; and will work to ensure that the necessary financial and technical resources are available for implementation. As a non-binding policy framework, SAICM does not replace or direct existing governance structures such as the Convention Conferences of the Parties or the governing bodies of inter-governmental organizations. Rather, it seeks to coordinate, facilitate and catalyze effective global actions to ensure the sound management of chemicals.

6 Conclusion

In the last quarter of a century, the international community has put in place a substantial web of global governance arrangements for the sound management of chemicals; with this web comprising both legally-binding instruments and non-binding policy frameworks. Some of these elements, such as the Montreal Protocol in relation to the ozone layer, have already achieved significant success. The effectiveness of other, more recent, instruments, such as the Rotterdam and Stockholm Conventions, remains to be tested. Several ongoing thematic challenges are common to the whole governance architectural structure; including how to achieve coherence and synergies, ensure compliance with obligations, make provision for liability and compensation, and to control illegal traffic. Global governance for chemicals management will continue to evolve; addressing new issues as they emerge, such as

⁵⁸ See the paper by Sheila Logan, Brenda Koekoek, Desiree Narvaez and Maged Younes, 'Mercury – Searching for Solutions to a Global Problem', in Part IV of the present *Review*.

⁵⁹ The Global Mercury Assessment is available on the UNEP Chemicals website at <<http://www.chem.unep.ch/mercury/Report/Final%20Assessment%20report.htm>> (visited 20 January 2008).

⁶⁰ UNEP Governing Council Decision 24/3, available at <http://www.unep.org/gc/gc24/docs/GC24_decisions.pdf> (visited 21 April 2008).

⁶¹ See *supra* note 35.

those related to mercury, and utilizing new review and support mechanisms such as SAICM. The target set by Heads of State and Government at the WSSD in Johannesburg in 2002, of sound chemicals management being in place by 2020, provides a key reference point for all such efforts.⁶²

⁶² Suggested further readings include: John Buccini, *Global Pursuit of the Sound Management of Chemicals* (World Bank, 2003), available at <www.unitar.org/cwm/publications/cbl/synergy/pdf/cat2/global_mgmt_chem.pdf> (visited 14 November 2007); Lydia Swart and Estelle Perry (eds), *Global Environmental Governance: Perspectives on the Current Debate* (Center for UN Reform Education, 2007), available at <<http://www.centerforunreform.org/node/251>> (visited 14 November 2007).

THE BASEL CONVENTION ON HAZARDOUS WASTES – PROBLEMS, NEGOTIATIONS AND SOLUTIONS

*Iwona Rummel-Bulska*¹

1 Introduction

During the course of a mere 18 months, from October 1987 through March 1989, a series of intense negotiating sessions were able to achieve, from first steps to the signing into existence, the establishment of an international agreement to regulate the transport and disposal of hazardous wastes: the Basel Convention.² The Convention came into force in May 1992.

The adoption of the Cairo Guidelines and Principles for the Environmentally Sound Management of Hazardous Wastes³ provides a useful example of how non-binding guidelines and principles, prefacing a later legally binding agreement, can help states to deal with a common problem. This document, adopted in 1987 by the Governing Council of the United Nations Environment Programme (UNEP), became the basis for the Basel Convention on the Transboundary Movement of Hazardous Wastes and their Disposal. The Cairo Guidelines included four important principles covering transfer of technology; capacity building; public access to information; and liability and compensation. The Guidelines recognized developing countries' need for technical assistance from the industrialized world to ensure the environmentally sound management of hazardous waste; pointed out the need for the public to have

¹ Dr.; Chief Lawyer of UNEP; former Executive Secretary of the negotiations leading to the adoption of the Basel Convention and, from 1991 till 1999, Executive Secretary of the Secretariat of the Basel Convention. The paper is based on UNEP documentation drafted mainly by the author personally as well as on the book Mustafa K. Tolba and Iwona Rummel-Bulska, *Global Environmental Diplomacy* (MIT Press, 1998).

² Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, Basel, 22 March 1989, in force 5 May 1992, 28 *International Legal Materials* (1989) 657; <<http://www.basel.int>>.

³ UNEP Governing Council decision 14/30 of 17 June 1987.

access to all information concerning this activity; and established a requirement for national laws governing liability and compensation for damages in case of accident or mismanagement.

Negotiating sessions leading to the adoption of the Basel Convention highlighted the extent of disagreement on environmental issues between developed and developing nations; and the determination of the latter to avoid future exploitation or control by the former. The main method used to achieve the agreement, apart from official meetings, was the holding of private, informal meetings at which the delegates could examine the issues away from the glare of the negotiations spotlight and special pains taken by the chief negotiators to accommodate the concerns of those delegates who felt their countries to be most at risk.

2 The problem of hazardous wastes

Many developing countries, particularly those termed ‘threshold’ countries (fast industrializing developing countries), in their determination to overcome their economic difficulties and problems of population growth, have ignored the build-up of wastes generated (probably inevitably) by industrial development, even as the industrialized nations have struggled to manage their own waste streams. The sound disposal of hazardous wastes was one of the most pressing problems on the international environmental agenda in the late 1970s and the 1980s. Well-publicized accidents,⁴ although they attracted worldwide media coverage, were only isolated examples of the ongoing problem.

At the time of the negotiations toward the Basel Convention, a globally accepted definition of the term ‘hazardous waste’ did not exist. This compounded the problem of estimating how much hazardous waste was being generated, and where this was happening. Statistics on wastes generated in different countries were difficult to compare and were often misleading. Although there was a wide exchange of technical and policy information on hazardous waste management among the industrialized nations, very little information was available on the situation of waste disposal and hazardous waste management in developing countries. In those countries, regional organizations in the field of waste management had only relatively recently become active; and often they relied upon scattered and highly unreliable information. Furthermore, hazardous waste management programs had yet to be developed. Many of the threshold countries had already experienced the results of careless industrialization and were, thus, more aware of the problems connected with negligent disposal of

⁴ Such as, to give just two examples, the evacuation of residents from the town of Love Canal in the United States following the 1978 exposure of its contamination with hazardous chemicals dumped by local factories (see, for example, <http://www.health.state.ny.us/environmental/investigations/love_canal/lctimbmb.htm> (visited 7 May 2008)); and the disappearance of contaminated waste from an industrial accident in Seveso, Italy, in 1976 (see, for example, <<http://www.bhopal.net/oldsite/oldwebsite/similar.html>> (visited 7 May 2008)).

its by-products. Although a number of developing countries had established legislation and institutions to control industrial wastes, including public health legislation, these had limited relevance to hazardous waste management, where administrative and legislative powers were often non-existent or available only on a regional or even local level. There was also the problem of financing hazardous waste management systems; which problem was, and remains, a very costly matter and often considered an impediment to development.

Public and governmental concern over the problem was, however, growing. Many developing countries were in the process of establishing proper waste disposal practices, particularly with regard to municipal waste disposal for congested areas. When thorough planning was undertaken for this purpose, the question of the disposal of industrial and hazardous waste arose automatically.

Considerable advances have been made in hazardous waste disposal technologies, including incineration and controlled disposal on land. Nevertheless, between one-half and three-quarters of the waste stream continues to be dumped on land. This proportion is expected to increase, despite growing reuse of and recycling of materials. Although landfill waste management has improved greatly, major obstacles remain. Thousands of landfill sites and surface impoundments have been found to be inadequate: corrosive acids, persistent organic chemicals, and toxic metals have accumulated in these sites for decades; sometimes leaking into groundwater and other media, posing serious health threats. In the United States, the Environment Protection Agency has identified 32 000 potentially hazardous sites, of which some 1 200 needed immediate remedial action. In Europe, 4 000 unsatisfactory sites have been identified in the Netherlands; 3 200 in Denmark; and a large number in Germany. Cleanup costs have been estimated at US\$30 billion in the western part of Germany, \$6 billion in the Netherlands, and about \$100 billion in the United States.⁵

Costs of new landfills have been spiraling. Local opposition to waste management facilities has become more vocal; existing disposal nightmares and ever increasing paperwork and costs have induced practitioners in some countries to send their hazardous waste overseas, and the international movement of hazardous waste has become big business. The majority of these shipments have been legal, but with the tightening of the controls over transport and disposal, illegal dumping and traffic have increased to become a global issue.

Most waste exports used to move from one industrialized country to another, with a consignment of hazardous waste crossing an OECD frontier on average every five minutes, for a total of more than 100 000 border crossings each year. In 1988, between 2 and 2.5 million metric tons of hazardous waste crossed European frontiers:

⁵ Tolba and Rummel-Bulska, *Global Environmental Diplomacy*, *supra* note 1, at 98–99.

annually some 200 000 to 300 000 metric tons moved from western to eastern European countries.⁶

Although at the time of the Basel Convention many industrialized countries had well-developed hazardous waste management systems, and had enacted legislation to cover this issue, their import regulations were, in general, more comprehensive than their export rules. Some of these nations had established a special licensing programme that provided information on waste imports and that permitted refusal of such shipments. This left developing countries vulnerable because of their lack of such protections; and because of the unlikelihood that they would soon acquire environmentally sound facilities. A large number of unscrupulous – indeed, criminal – ‘waste brokers’ have exploited the price and regulation differences between developed and developing countries. The problem has been particularly acute in Africa, where waste disposal costs were at the most US\$40 per ton; whereas disposal in Europe costs 4–25 times as much, and in the United 12–36 times that figure.⁷ Thus, the world has several times witnessed the spectacle of waste-laden ships sailing the seas in search of unsuspecting ports in the South, abandoning leaking drums of toxic waste at dockside in developing countries, or dumping it under cover of night.⁸

It is generally agreed that, in accordance with international law, every country has the sovereign right to prevent unwanted waste imports. Control, however, may be difficult without internationally agreed principles regarding notification and labelling. These controls are generally left to customs authorities, who may not be aware of the specific problems and may have no special powers with regard to hazardous wastes.

3 Development of the Basel Convention

3.1 Introduction

By 1987, as the international traffic in wastes continued to increase, it had become clear that the problem demanded global solutions backed by rigorous national responses. In addition, the prospect of South-South traffic, as developing countries pushed toward industrialization, underlined the urgent need for prompt and effective action. Several journals of science and technology reported on the problem, and the

⁶ *Ibid.* at 99.

⁷ *Ibid.* at 100.

⁸ When, on 19 August 2006, a Panamanian-flagged ship called *Probo Koala* offloaded some 500 tonnes of toxic waste for disposal in the Ivory Coast it was acting – through an intermediary in somewhat uncertain circumstances – for international petroleum products company Trafigura. It has been alleged that the *Probo Koala*'s load had initially been offloaded in Amsterdam for proper disposal; but reloaded due to the high cost of disposal in that city. See, for instance, <www.greenpeace.org/international/news/ivory-coast-toxic-dumping/toxic-waste-in-abidjan-green> (visited April 2008). For a brief account of the incident in the Ivory Coast, see Maged Younes, ‘Chemicals: The Global Context’ in Part II of the present *Review*; at note 7.

media and non-governmental organizations (NGOs) took an active part in exposing the improper transfer of hazardous waste.

The widely varying levels of development of environmental law as well as the different disposal practices of different countries, highlighted by numerous incidents involving hazardous wastes, made obvious a need for the development of guidelines and common international measures for tracing and regulating the flows of hazardous wastes between countries. This led to the negotiation of the Cairo Guidelines and Principles for the Environmentally Sound Management of Hazardous Waste adopted by the UNEP Governing Council in June, 1987.⁹

While the world was absorbed in the negotiations toward the 1987 Montreal Protocol;¹⁰ growing international concern, especially in developing countries, led the UNEP Governing Council to adopt a proposal by Hungary and Switzerland that the Executive Director convene a Working Group of legal and technical experts. The proposal was that this Working Group would prepare a global Convention text on the control of transboundary movements of hazardous wastes, drawing on the Cairo Guidelines, and that the work of the Working Group be expedited with the aim of finalizing the preparation of the Convention as soon as possible. The Council also requested the Executive Director to convene, in early 1989, a Diplomatic Conference to adopt and sign the resulting Convention, a clear sign of the urgency governments assigned to dealing with the problem.

The organizational meeting was held in Budapest, Hungary, in October 1987, followed by six negotiating sessions in Geneva, Caracas, Luxembourg, and Basel from the beginning of February 1988 to March 1989.

3.2 The first negotiating Session: Geneva, February 1988

A Draft Convention, prepared within UNEP and based on the document prepared by the organizational meeting of the Working Group in Budapest, was presented to the Working Group meeting in Geneva. UNEP made it clear that, in accordance with the Governing Council decision regarding the Working Group assignment, the Draft Convention was not expected to be only a framework convention but that it should have direct practicable implications for the transboundary movement of hazardous wastes. This would be done by specifying clearly the responsibilities of the country of export, the country of import, and any transit country. The Working Group was expected to give special consideration to the situation of developing countries and to these countries' need to receive technical assistance from developed countries. In particular, assistance would be needed regarding developing countries' lack of capacity in assessing information received through notification about haz-

⁹ See *supra*, note 3.

¹⁰ Montreal Protocol on Substances that Deplete the Ozone Layer, Montreal, 16 September 1987, in force 1 January 1989, 26 *International Legal Materials* (1987) 154; <<http://www.unep.org/ozone/>>.

ardous wastes; and their lack of capacity for the safe handling and/or managing of hazardous wastes received.

At the February meeting the following points were emphasized:

- The first revised Draft Convention prepared by the UNEP Secretariat was a useful starting point for the discussions.
- The Convention should contain provisions for adequate notification procedures for importing and transit countries.
- The problem of the definition of hazardous wastes should be addressed as well as that of disposal.
- It should be determined whether wastes destined for recycling should be included in the convention.
- The industrialized countries have a special responsibility to help the developing countries implement the convention.

At its first session, the Working Group elected its Bureau with a Swiss as Chair, two vice-Chairs, from Hungary and Venezuela, and a rapporteur from Finland; this Bureau was maintained throughout the negotiations. All five United Nations regional groupings were represented at the first negotiating session; 33 countries being present, of which 12 were developing countries, as well as a number of delegations from international governmental and non-governmental organizations.

Something of the complexity of the negotiations can arguably be seen in the fact that the revised draft which emerged from the Working Group contained some 50 words, phrases, paragraphs, or whole articles which were bracketed for later discussion.¹¹

3.3 The second negotiating Session: Caracas, June 1988

When the Working Group met for its second session, 40 governments attended; with 22 of these being from developing countries, which must be seen as an indication of the growing concern in the ‘Third World’ on the issue of the transboundary movement of hazardous wastes. During the review of the second revised Draft Convention, a number of issues emerged on which governments had diametrically opposing views. These issues included the definitions of the terms ‘area under the national jurisdiction’, ‘territory’ and ‘generator’; the question of whether radioactive waste should be included in the convention; and the question of the impact of the convention on national legislation and on existing bilateral agreements.

¹¹ Square brackets are often used in draft texts to ‘connote a lack of agreement about the text they contain, possibly including when a text has simply not been discussed.-- When used well, brackets help to focus discussion on points of concern and allow for inclusion of alternatives in brackets for negotiators to consider at subsequent sessions or meetings’. Cam Carruthers (ed.), *Multilateral Environmental Agreement Negotiator’s Handbook*, University of Joensuu – UNEP Course Series 5 (2nd ed. 2007, University of Joensuu) at 3-56/7.

Experts from member states of the Group of 77¹² present at the session requested the secretariat to include in the report the following five points, which were among their major concerns:

1. The interests of transit countries, both from the point of view of environmental protection and with regard to the health of their inhabitants, should be considered at the same level as those of the countries of import in the convention.
2. In order to ensure transparency in the transboundary movement of hazardous waste and to provide support to developing countries with a view to increasing their hazardous-waste management capacity, it is essential to have an effective and functional secretariat.
3. Although the role of the exporter and the producer has to be taken into account, the transboundary movement of hazardous waste must engage the responsibility of the country of import.
4. The territorial waters of countries concerned by the transboundary movement of hazardous wastes should be considered as an integral part of their territory.
5. Governments should cooperate closely to prevent clandestine and illegal transboundary movements of hazardous waste.

The observers from Greenpeace International¹³ expressed a concern that the Convention as drafted could establish a mechanism for the export of hazardous waste from developed to developing countries. The NGO called therefore for a worldwide ban on all exports of hazardous waste as the only guarantee of the protection of the global environment. This remained Greenpeace's position throughout the negotiations; in lobbying vigorously for it, the organization convinced some African representatives who later blocked the rest of the African states from signing the Convention when it was finally adopted. Following the approval and signature of the Treaty, Greenpeace continued its attack, bringing forward these same arguments during the final press conference.¹⁴

The third revised Draft that emerged from the second session contained 50 bracketed items, some of them still unsolved from the second Draft. It was obvious that progress on the Convention would continue to be slow and that new issues would continue to come up as a result of the open and frank discussions that prevailed.

¹² Established in 1964, the Group of 77 is the largest intergovernmental organization of developing countries within the United Nations. For more information, see <<http://www.g77.org>>.

¹³ See <<http://www.greenpeace.org>>.

¹⁴ Tolba and Rummel-Bulska, *Global Environmental Diplomacy*, *supra* note 1, at 103.

3.4 The third negotiating Session: Geneva, November 1988

Early in August 1988, in preparation for the third negotiating session, UNEP had circulated two Notes to governments, giving concrete proposals regarding the Convention. The Notes included the following four points:

1. The UNEP proceeds from three premises: (a) that all governments have an interest in finding a clear solution to this problem that is creating friction and embarrassment among them, when the actions involved are mostly illegal movements of hazardous waste by small companies and individuals and not by governments themselves; (b) that hazardous waste should be disposed of close to the place of its generation in the country of origin and that trans-frontier movements of hazardous waste should be allowed only under very strict conditions; and (c) that the UNEP was not concerned primarily with the transport of hazardous waste per se but rather the end purpose of this transport, its disposal, which must be environmentally sound. (Up until that time the convention had dealt only with the transboundary movement of hazardous waste and had not touched on its disposal.)
2. The following elements should be considered for inclusion in the preamble to the Convention: (a) the most effective way of protecting human and environmental health from hazards posed by toxic waste is the complete banning of the movement of such waste away from its origin; (b) hazardous waste should be disposed of as close as possible to the place of their origin, and transboundary movements of such waste from the country of generation to any other country, in particular developing countries, whether or not contracting parties to the convention, should be kept to a minimum; and (c) such restrictions on movement of hazardous waste would act as an incentive for reducing the generation of such waste and also for disposing of it close to the place of generation.
3. The definition of hazardous waste produced by the Working Group at its meeting in Caracas was a big step forward. However, two points needed to be taken into consideration: (a) developing countries rarely have standards or regulations to define what they consider hazardous waste; and (b) substances or materials that may not be considered hazardous in a developed country may be hazardous in a developing country, where the people are much less informed about, or trained in, the handling of waste.
4. In the body of the Convention, under appropriate articles, the following points needed to be considered:
 - The issue of export of hazardous waste from offshore territory.
 - The shipment of hazardous waste under flags of convenience or on board ships registered offshore.
 - The obligation of the exporter to prove whether or not the waste possesses the hazardous waste characteristics listed in annex II to the Draft Convention,

and the obligation of the government of the country from which the waste is exported in this respect.

- The role of the governments of export in ensuring that the notifications to countries concerned are prepared in conformity with the requirements of the convention.
- All practicable steps should be undertaken by the contracting parties to ensure that hazardous waste is disposed of close to its origin within the territory of the country where it was generated. When there are compelling reasons to dispose of it outside the country of origin, the parties should ensure that the transboundary movements and ultimate disposal of hazardous waste are conducted in a manner that will protect human health and the environment against the adverse effects that may result from such movements and disposal.
- The assurance of the establishment of adequate treatment and disposal facilities by the countries in which hazardous waste is generated, in order to manage their hazardous waste close to the point of generation.
- The assurance that the transboundary movement of hazardous waste is permitted only under compelling conditions and that it should be kept to a minimum, regardless of economic benefits.
- The continuous reduction of the amount of hazardous waste exported to other countries, in particular developing countries, whether or not contracting parties to the convention, with the aim of completely eliminating the export of waste, and the monitoring and reporting by each contracting party to the secretariat of the convention on the total yearly amount of hazardous waste exported from its territory, as well as the provision of information to the secretariat about its efforts to achieve a significant reduction of the amount of hazardous waste exported.
- The further development of the format and nature of information to be included in the notification from exporter to the countries concerned, which format could be annexed to the convention.
- The further development of the details of the nature and modalities of implementation of assistance to be given to the countries concerned that need such assistance, in particular developing countries, in reviewing the notification received and in certifying that shipments of hazardous waste received by or transmitted through countries concerned, in particular developing countries, are identical to the material described in the corresponding notification.
- The obligation for contracting parties to cooperate in the case of illegal transboundary movements, that is, movements not in conformity with the convention, ought to be addressed separately, as should consideration of the feasibility of setting harsh penalties and fines against those who practice illegal dumping of hazardous waste, of the role of the governments of the exporters in checking hazardous waste leaving their territories, and of the issue of the temptation of financial benefits involved both for business people dealing with hazardous waste and for the developing countries receiving it.

- The meaning of the following phrases needs to be clarified unambiguously: ‘accepted and recognized international rules’, ‘standards or practices concerning environmental protection’, ‘adequate proof’, ‘transport safety aspects’, and ‘tacit consent’.
- There must be cooperation in the environmentally sound disposal of hazardous waste.
- Consultation on liability and compensation should refer to the damage resulting from transboundary movements of waste as well as its disposal.
- Should information on accidents also cover information on accidents during the disposal operation?
- There should be a stipulation that the convention be reviewed in the light of experience to be gained during its implementation, after a certain period of time after its entry into force.
- There should be clarification of the meaning of ‘a water body except seas/oceans’, and whether this should include man-made freshwater lakes and marine lakes.
- Incentives are needed for countries to become parties to the convention.
- There must be unambiguous clarification that the convention does not cover radioactive waste.
- Procedures and institutional mechanisms should be devised for determining noncompliance with; the provisions of the convention and treatment of parties found to be in noncompliance.
- Contradiction should be avoided in the article dealing with bilateral, multi-lateral, and regional agreements.
- Who will determine whether a hazardous waste does or does not possess any of the characteristics contained in annex II to the draft convention?
- Which country’s legislation or consideration will determine whether the operations mentioned in the convention will be included or exempted from the definition of disposal?

Governments commented extensively on the two Notes. 21 governments – 11 of them from developing countries – responded with detailed comments on various proposals in the notes. The responses were collected and presented to the Working Group at its third meeting in November, together with the results of informal personal consultations with a small group of governmental experts and with high-level representatives of pre-shipment inspection companies, some major industries, and a number of important NGOs. These informal consultations focused on the following ten issues:

- Specific waste products to be covered by the Convention.
- Issues of the responsibility of states, liability and compensation, and non-compliance with the provisions of the convention.
- Modalities of assistance offered to developing countries in checking notifications and testing shipments.

- Means of ensuring that receiving sites or facilities are environmentally sound;
- Action in cases of emergency.
- Illegal traffic in hazardous waste.
- Issues of offshore territories and ships carrying flags of convenience.
- Criteria for allowing transboundary movement of hazardous waste and for approving waste disposal sites and facilities.
- Financial arrangements required for the implementation of the Convention.
- The issue of the lack of the required infrastructure, especially in developing countries.

In these consultations the UNEP Secretariat, once again, took an active position, taking stands on the issues on behalf of the environment and of the poorer and weaker countries. New elements were introduced into the debate, particularly the issue of the disposal of hazardous waste, and active consideration began on the specifics in the negotiations.

The realization of the wide divergence of the views of countries and groups of countries showed the need for further informal consultations with individuals or small groups of government representatives. The negotiators agreed and began their own informal discussions. Here a group of young, active government representatives, some of whom became friends over time during the negotiations, worked together to find compromise formulations. In fact, the need to give the meetings an informal status required that some of them were chaired by the UNEP Secretariat rather than by the Group Chair.

The Executive Director of UNEP urged the group to work expeditiously to reach agreement in time for the signature of the Convention in March 1989. The aim of the Convention was to establish control measures that would lead to major reductions in the generation of hazardous waste, and thus eliminate the need for their movement. Furthermore, the convention should ideally make it very difficult to obtain approval for the movement of hazardous wastes; with the goals being to reduce to a minimum their transboundary movement, and to ensure that such movement is permitted only when it is more environmentally sound to dispose of waste farther afield, rather than close to where it is generated.

50 governments attended the third negotiating session in Geneva; with 30 of these being from developing countries. Time was running short before the date set for a Plenipotentiary Conference to adopt the Convention; and governments were becoming more interested and more concerned, while negotiations were becoming much more difficult. 12 very strong international NGOs, representing both environmentalists and industrialists, attended the meeting and were both active and vocal – with each lobbying in a different direction. This made it necessary to hold informal consultations with each group: with, for instance, governments, shipping companies, and industrial and environmental NGOs.

Unavoidably, with the inclusion of new issues and the UNEP proposals (outlined above) which had been supported by so many governments during the negotiations, the eventual text of the fourth Draft Convention had 200 bracketed items instead of the previous 50. This was a depressing development in view of the short period left until March 1989; the scheduled final meeting in Basel being barely four months away.

3.5 The fourth negotiating Session: Geneva, January 1989; and the Dakar Meeting of 1988

The number and intensity of the informal consultations increased. The UNEP Secretariat circulated a Note entitled 'Points Identified by the Executive Director for Further Consideration at the Informal negotiations on Hazardous Wastes, 4–6 January, 1989, Geneva'. This Note proposed changes in the title of the Convention to include the words 'management of waste' in the five preambular paragraphs and the 18 articles, and suggested an additional article. The proposals covered the issues of the responsibility of the waste exporter and the generator of the waste, of offshore territories, and the obligations of flag States and registration states; criteria for managing hazardous waste; the sovereign right of a State to ban the disposal of foreign hazardous waste in its territories; the duty to re-import; control of illegal traffic; Protocols on liability and compensation; non-compliance; financial arrangements; technology transfer; and amendment of the Convention, its Protocols and Annexes. Most of these issues had been bracketed in the fourth Draft.

By this time it was clear that the African states, where most of the high-profile dumping incidents reported by the media had occurred, were determined to achieve a regional Protocol banning the importation of hazardous wastes into Africa. This was a collective action that was essentially a political move to ensure that no African country would independently accept hazardous waste. There arose serious concerns that this group of countries might opt to block an agreement on a Convention. Switzerland, which had been the prime mover of the UNEP Governing Council's decision to start negotiations on the Convention and which was chairing the negotiating Group, stayed in close touch with developments. Switzerland had already offered Basel as host of the Ministerial Conference planned to adopt the Convention, which was now due to be held in less than three months, and had set aside enough financial resources to enable developing countries to be strongly represented.

As time went by with seemingly little progress, both UNEP and Switzerland became concerned. Late in 1988, the advisability of having a meeting, as was proposed by Senegal, with a specific focus on Africa was considered. This meeting could allow African delegates to air their concerns and to see if some middle ground could be reached. Barely two months before the date of the Basel Conference, in January 1989, Senegal convened this special meeting in Dakar. All African states were invited

and nearly all of them attended at the Ministerial level. A large number of environment ministers from the OECD¹⁵ countries also participated.

From the outset the meeting was tense, largely because of the actions of a small group of delegates who, far from observing the usual civilities, used confrontational tactics and angry, undiplomatic language to make their positions known. The OECD ministers were taken aback but did not lose sight of the fact that they were all working for the benefit of the environment everywhere. This made it possible for the Chairman from Senegal and representatives of UNEP and Switzerland to work out and get approval for a position statement which, as it required no commitment from the Africans, did not threaten to derail the negotiations. It was a very difficult, very embarrassing, and very frustrating meeting; but at the same time was a much-needed one.

What the dissenting delegates demanded was that, in the place of a global Convention, Africa would make a regional arrangement that would not bind anyone but themselves. Many other delegates considered this to be, at best, unclear logic by a few African Ministers; but, rather than risk derailing the effort entirely, it was agreed to let the demand stand.

Based on the results of the Dakar Conference, the Geneva consultations in January, and an earlier meeting (December 1988) of a technical sub-group; the UNEP Secretariat prepared a formal Note to the Working Group for its fourth session, in Luxembourg in January–February 1989, entitled ‘Proposals by the Executive Director for consideration by the Ad Hoc Working Group at its Fifth Session’. The proposals covered all the points presented in the Note to the Geneva informal consultations; with some additions, including the title, the preamble and 26 articles, as well as many of the bracketed articles, paragraphs, sentences, phrases, or words in the fourth Draft.

3.6 The fifth negotiating Session: Luxembourg, January-February 1989

Representatives of 50 governments and a large number of intergovernmental organizations, NGOs, and representatives of the private sector, attended the fifth negotiating Session. The Meeting was nearly disastrous. In spite of careful preparations and continued informal consultations during the Meeting itself, only the preamble and 12 articles out of the then 30 articles constituting the Draft Convention were discussed; and reservations were expressed by various governments on almost every one of these. The anxiety, bordering on despair, of some of the government representa-

¹⁵ Organisation for Economic Cooperation and Development, see <<http://www.oecd.org/>>. Member countries are largely European; with Australia, Canada, Japan and the United States also belonging. Significant non-members include Brazil, China, India, and Russia – see <http://www.oecd.org/countrieslist/0,3351,en_33873108_33844430_1_1_1_1_1,00.html> (visited April 2008).

tives may be sensed in parts of the Report that was issued at the end of the Session; for example the following extract:

The delegations of Finland, Sweden, France, the Federal Republic of Germany, and Norway while emphasizing the importance of the global convention, expressed their concern over the number of crucial issues which have yet to be discussed. In order to prepare proper documents for full powers of signature for their ministers, they stressed the importance for them to know where they stand on matters of substance and to have a clear picture of the different positions on the remaining substantive issues. The delegations urged that the discussion on the remaining issues be kept focused on the point of substance. The expert from Lebanon stated that it is the understanding of his delegation that the statement made by Norway on behalf of several countries does not mean that a specific group or groups are hindering the proceedings of this working group. It is the responsibility of every participant in this exercise to bring the Convention through. The legal and technical experts of the Latin American countries present at the meeting stated that they are deeply concerned that no significant progress has been made in the discussions, owing basically to the fact that there is a tendency to ignore the consensus about the concept of territory already enshrined in the Cairo Guidelines for the Environmentally Sound Management of Hazardous Wastes, which served as the basis for these negotiations. This concept is of particular importance for determining the scope of the Convention. Consequently, in order to bring to a successful conclusion the process of preparing an international legal instrument which will be effective in controlling transboundary movements of hazardous wastes, they urged that the progress made in this area in Cairo be maintained.

This was the state of affairs as of 3 February 1989, exactly 45 days before the opening date established for the Basel conference, which was expected to adopt an agreed Convention and to open it for signature. The Swiss government felt very uncomfortable, and the Executive Secretary of the negotiations (UNEP) was near panic. The meeting ended at close to midnight, and the two UNEP leaders left early the next morning, driving to the UNEP office in Geneva because the airports were closed by heavy fog. A small group of government representatives, who took varying positions but were anxious to come to an agreement, also drove to Geneva, and upon arrival at around 16h00, two days of non-stop informal consultations began during which the government experts were sounded out in their personal capacities as to the proposed compromise formulations and asked for their suggestions. Another informal consultation was held in Geneva on March 8–10, one week before the last meeting of the Working Group.

3.7 The sixth negotiating Session: Basel, March 1989

When the Working Group met for the sixth negotiating Session in Basel on 13 March 1989 there were still three major difficulties: the position of Africa, or rather that of the small group of African governments who were leading resistance to the signature of the Convention and even to its adoption; the position of the United States, especially regarding the relation of municipal wastes to hazardous wastes, as well as the problem of national legislation and regulations that might be difficult to change if they contradicted the text of the Convention; and a number of reservations on issues that needed final clarification by various countries, including definitions of areas under national jurisdiction, transit countries, illegal traffic, and so forth.

On the basis of the earlier informal consultations, a 'Note by the Executive Director on some Points of the Hazardous Wastes Convention Which Were Not Resolved at the Fifth Session of the Ad Hoc Working Group' was circulated, covering a number of very significant issues: transit countries; offshore territories; flags of convenience; State responsibility; illegal traffic; and bilateral, multilateral, and regional agreements. And yet the situation on March 13 was very delicate. In opening remarks to the Working Group, several proposals based on the informal negotiations held in Geneva from March 8–10 were presented by the UNEP Secretariat; also, a number of unresolved issues, with proposed compromise formulations, were presented by the UNEP Secretariat in the Note to the Governments (mentioned above).

Compromise formulations or proposals for changes or deletions were accepted for all bracketed words, phrases, sentences, or articles. The two issues that had created difficulties for the United States were resolved by introducing the term 'hazardous wastes and other wastes', the latter covering municipal wastes. The issue of national laws and regulations was included in the relevant articles. It was agreed that a number of other observations and queries were to appear as Declarations by the concerned States at the time of the adoption of the Convention.

By the time the government representatives met in Basel on the 13th of March; there had been, in addition to the organizational session, six negotiating Sessions over a period of 18 months or less. 96 states had participated in one or more of the formal and informal negotiating Sessions; with 66 of these being developing countries, a very clear indication of their concern on the subject. 14 UN bodies, eight intergovernmental organizations, and 24 NGOs and industrial associations had participated. 76 governments were represented at the meeting in March.

3.8 Plenipotentiary Conference: Basel, 20–22 March 1989

The Plenipotentiary Conference was convened at the Ministerial level in Basel on 20 March. The problem of the African delegates' intransigence hung heavy in the air. The African Ministers, several of whom in fact had authorizations from their capitals

not only to adopt the Convention but also to sign it, held long caucuses, during which the half-dozen Ministers opposed to the Convention blocked other members from signing by shouting and screaming.

The Meeting at large began with a few amendments, additions, and deletions to the fourth Draft proposed from the floor, which could probably have been dealt within the Meeting. The position of Africa was then put forward, presented by the Minister of Environment of Mali, which was at that time at the head of the Organization of African Unity (OAU).¹⁶ He reminded the Conference that the presence of African delegations in Basel reflected their awareness of the gravity of the problem and the importance of addressing it. He further emphasized the conviction of African nations that the dumping of toxic wastes on the African continent is a morally reprehensible and criminal act. Recalling efforts made by the OAU to address this problem, he mentioned in particular the discussions at the 48th Ordinary Session of the Council of Ministers of Africa and the subsequent Summit of its Heads of State, which had led to the adoption of a 'Resolution That Condemns the Dumping of Nuclear and Industrial Wastes in Africa as a Crime against Africa and the African People'.¹⁷ The Resolution called on African states to prohibit the import of such wastes and requested the Secretary-General of the OAU to cooperate with the relevant international organizations to assist African countries in establishing appropriate control mechanisms. He also recalled the Resolution adopted by the Council of Ministers of the OAU at its 49th Ordinary Session, which called upon African States to adopt a common position in the negotiating process toward the Basel Convention.¹⁸ Although expressing appreciation for the efforts of the international community to adopt a global legal instrument addressing the problem, the Minister stated that African countries were not prepared to sign the Convention at this stage. In particular, he expressed concern that, because of the limited technical capabilities of developing countries, it would be difficult for them to use the Basel Convention to prevent unscrupulous individuals from engaging in illegal dumping activities, and that African countries could still be used as dumping grounds for foreign wastes, despite the efforts of the OAU.

African Ministers then presented some 24 different amendments to the Draft Convention. The President of the Conference (Switzerland), the Secretary General and the Executive Secretary (UNEP) agreed that it was imperative to resort to informal consultations with all Ministers who proposed changes. This developed into a ten-hour marathon session, informal and open, in which the Conference leadership was able to explain what parts of the proposals were actually included in the Draft Convention; and how some of the proposed changes could be included. By the end

¹⁶ The predecessor to the current African Union (AU); see <<http://www.africa-union.org/root/au/index/index.htm>> (visited 7 May 2008).

¹⁷ Council of Ministers of the Organization of African Unity, Resolution CM/Res. 1153 on Dumping of Nuclear and Industrial Wastes in Africa, 25 May 1988.

¹⁸ Council of Ministers of the Organization of African Unity, Resolution CM/RES. 1225, July 1989.

of the day all issues were resolved, guaranteeing that the African States present would not object to the adoption of the Convention.

On 22 March the results of the previous day's consultation were announced to the Conference and the Convention was adopted by consensus of the 116 States present; 105 of these and the European Community (EEC) signed the Final Act, including the decision to adopt the Convention. After the Declarations and the closing remarks, the Convention was opened for signature. 35 of the States present and the EEC signed the Convention. To the disappointment of most delegates, the handful of African Ministers in opposition prevailed: the other African Ministers, even those whose credentials carried the authorization to sign, abstained, seemingly in the name of solidarity with those in opposition.

4 The Basel Convention

In short, the main provisions of the Basel Convention are as follows:

- Every country has the sovereign right to ban the import of hazardous waste.
- The control system provided by the Basel Convention ensures that no hazardous waste is shipped to a country that has banned its import.
- Exports of hazardous waste to nonparties and imports from nonparties are prohibited, unless subject to a bilateral, multilateral or regional agreement, the provisions of which are no less stringent than those of the Basel Convention.
- Every country has the obligation to reduce the generation of hazardous waste to a minimum and to dispose of it as close as possible to the source of generation. Transboundary movements of hazardous waste may take place only as an exception, if they present the most environmentally sound solution, and if they are carried out in accordance with the strict control system provided by the Convention.
- Transboundary movements of hazardous waste carried out in contravention of the provisions of the Convention are considered illegal traffic.
- The Convention states that illegal traffic is a criminal act, and obliges states to introduce national legislation to prevent and punish it. A state responsible for an illegal movement has to ensure the environmentally sound disposal of the waste in question.
- Industrialized countries have an obligation to assist developing countries in technical matters related to the management of hazardous waste.
- The Convention also calls for exchange of information and international cooperation.
- It enshrines the principles of notification and prior informed consent (the importing country must advise the exporter in writing of its willingness to accept a shipment on the basis of detailed information of what it contains).
- It requires that the exporting country be assured that the shipment will be disposed of correctly, something that few national laws demanded until recently.

- Developed countries that signed the Convention agreed to provide technical assistance to developing countries, so that they could acquire facilities for handling and disposing of hazardous waste in an environmentally sound manner. The Convention Secretariat monitors and coordinates these activities.

The Resolutions adopted by the Basel Conference requested further action in connection with enforcing and strengthening the provisions of the Convention, including cooperation with other organizations to harmonize the Basel Convention with other international legal instruments, development of elements for inclusion in a Protocol on liability, and development of technical guidelines for the environmentally sound management of hazardous waste.

The Basel Convention is the only existing global legal instrument regulating transboundary movements of hazardous waste. Its provisions ensure protection of countries against uncontrolled dumping of toxic waste and promote environmentally sound waste disposal and minimization of waste generation. The control system ensures that the Convention does not remain a mere declaration of intentions, but that the rights of countries are respected.

The Basel Convention entered into force in May 1992, and represents a significant and ‘durable’ step toward more effective action for global environmental protection. Like the Montreal Protocol on Substances that Deplete the Ozone Layer, it was designed to be strengthened in the future. This has always been the policy advocated by UNEP in developing international treaties; to resort to framework Conventions when they can be easily and quickly supplemented by Protocols, or to develop Conventions that contain most of the detailed actions needed, but certainly not to press an ‘all or nothing’ approach. The UNEP Secretariat believed, after the Basel Convention was concluded, that a reasonable goal had been achieved: a flexible treaty that could be further amended or adjusted to cater for new facts or new information. As stated earlier, a bone of contention during the whole negotiation process was the issue of banning the transfer of hazardous waste from North to South. This was one of the reasons why all African countries refused to sign the Convention; they wanted first a collective ban on imports, and a ban on exports by developed countries.

In January 1991 the OAU adopted an African Regional Convention, the Bamako Convention,¹⁹ which banned the import of all forms of hazardous waste, including nuclear waste, into Africa; and which is designed to control the transboundary movement of such waste generated in Africa.

¹⁹ The Bamako Convention on the Ban of the Import Into Africa and the Control of Transboundary Movement and Management of Hazardous Wastes Within Africa, Bamako, 30 January 1991, in force 22 April 1998, 30 *International Legal Materials* (1991) 773.

5 Early implementation of the Basel Convention

5.1 First Meeting of the Contracting Parties: Uruguay, 1992

The Parties to the Basel Convention first met, as Parties to a Convention in force, in December 1992 in Periapolis, Uruguay. The question of a ban on waste exports from developed countries was again raised very forcefully by developing countries; and also by a number of NGOs, especially Greenpeace which insisted on a complete ban. At that time most of the developed countries (the United States, Japan, and all EEC countries except France: in other words, the major producers of hazardous waste) were still in the process of ratification of the Treaty and were not ready to consider the issue. It was obvious that without their becoming parties to the Convention, it would be worthless. Three days of continuous separate informal meetings were held by the Secretariat with both developed and developing countries, conveying the views of one group to the other on the language proposed by the Secretariat team. At the same time, the main official meeting continued, Chaired by the Conference President, the Vice-Minister of Environment of Uruguay, to consider other important issues such as a budget for the Convention Secretariat and a fund for assistance to developing countries. Hard bargaining on the budget led the Conference to establish a Working Group headed by the Vice-President of the Conference, from Finland. The stalemate on the movement of waste from North to South caused a great deal of tension. On the last day of the meeting, however, an agreement was reached on language that would separate the issue into the general movement of hazardous waste and the movement of hazardous waste destined for recovery operations. The issue of recyclables has been, and still is, extremely sensitive to a number of countries, some of whose industries rely to a large extent on the movement of such waste.

The Conference was then presented with two Draft Decisions, which were adopted. Decision I/16, entitled 'Transboundary Movements of Hazardous Wastes Destined for Recovery Operations',²⁰ requested its Technical Working Group to review the issue and consider the views submitted by states and interested organizations, giving consideration to criteria that determine whether such wastes are suitable for recovery operations. The Technical Working Group was requested to present its recommendations on guidelines, procedures, or other matters within the framework of the Basel Convention to the Second Meeting of the Conference of the Parties for its consideration.

²⁰ Included in the Report of the First Meeting of the Parties to the Basel Convention, UN Doc. UNEP/CHW.1/24 (1992).

The second draft decision, Decision I/22,²¹ as originally presented, read as follows:

Recalling that the aim of the Basel Convention is to reduce to a minimum the generation of hazardous wastes and other wastes and ensure that whatever is produced is disposed of in an environmentally sound manner as close to the point of generation as possible;

Recalling also the fourth ACP/EEC Convention of 15 December 1989 Lome IV and the Bamako Convention on the Ban of the Import into Africa and the Control of Transboundary Movements of Hazardous Wastes Within Africa of 30 January 1991, which prohibit transboundary movements of hazardous wastes to developing countries;

Recalling further that the Lome Convention requires ACP States to prohibit the direct or indirect import of hazardous wastes into their territory from the Community or from any other country;

Conscious that, during the negotiations leading to the United Nations Conference on Environment and Development (UNCED), developing countries called for the prohibition of hazardous waste shipments from industrialized to developing countries;

Requests the industrialized countries to prohibit all transboundary movements of hazardous wastes and other wastes for disposal/final disposal to developing countries;

Requests further industrialized countries to inform the Secretariat on measures undertaken in order to implement paragraph 1;

requests developing countries to prohibit the import of hazardous wastes from industrialized countries;

Further requests the developing countries to inform the Secretariat on the measures undertaken in order to implement paragraph 3;

Requests the Secretariat to report to the second meeting of the Conference of the Parties on the information received pursuant to paragraphs 2 and 4 above.

What resulted from the marathon of informal consultations reveals how the concerns of developed countries came to be understood and finally accepted by developing countries. With changes underlined, the final text read as follows:

Recalling the aims of the Basel Convention to reduce to a minimum the generation of hazardous wastes and to prevent the transboundary movement of such wastes if there is reason to believe that the wastes in question will not be managed in an environmentally sound manner;

Recalling decision I/14 regarding the transboundary movements of hazardous wastes destined for recovery operations;

²¹ Included in the Report of the First Meeting of the Parties to the Basel Convention, UN Doc. UNEP/CHW.1/24 (1992).

Reaffirming the obligations of all parties, including industrialized countries, as provided for in the Convention, to prohibit the export of hazardous wastes and other wastes to parties which have prohibited their import and to non-parties; Requests the industrialized countries without prejudice to paragraph 2 to prohibit all transboundary movements of hazardous wastes and other wastes for disposal/final disposal to developing countries;
Notes that until the Conference of parties receives and acts upon the report of the Technical Working Group referred to in Decision I/14 and until appropriate measures are taken pursuant to paragraph 7 of article 15, transboundary movements of hazardous and other wastes destined for recovery and recycling operations take place in accordance with the provisions of the convention and in particular the requirement that the waste be handled in an environmentally sound manner.

The issue of North-South movement of hazardous waste was so sensitive that a title for the Draft Decision could not be agreed on in the informal consultations, and it alone was left untitled amongst the 22 other decisions.

5.2 Second Meeting of the Contracting Parties: Geneva, March 1994

The issue of North-South movement of hazardous waste was revisited at the second meeting, barely 15 months later. Again, out of 27 decisions adopted at that session, this issue was the sole decision left untitled. This time the developed countries, a sizeable number of which had meanwhile become parties to the Convention, reluctantly accepted the position of the developing countries and adopted Decision II/12:²²

To prohibit immediately all transboundary movements of hazardous wastes which are destined for final disposal from OECD to non-OECD states; and Also to phase out by 31 December 1997, and prohibit as of that date, all transboundary movements of hazardous wastes which are destined for recycling or recovery operations from OECD to non-OECD states.

This affirmed the wisdom of the policy of seeking to craft a Treaty that meets some of the ultimate goals or objectives of dealing with the specified environmental issue; while providing that such a treaty has the flexibility to allow for its adjustment as information becomes more concrete, technological developments improve, and public pressure becomes stronger. This approach has worked well with both the Montreal Protocol and the Basel Convention.

²² Included in Report of the First Meeting of the Parties to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, UN Doc. UNEP/CHW.2/30 (1994).

6 Some General Remarks on the Negotiations toward the Basel Convention

During the process of negotiating the Basel Convention it became clear, particularly in the later stages of the negotiations, that one of the most difficult tasks was that of bridging the gap in confidence. Developing countries believed that developed countries wanted only a legal act that would amount to ‘lip service or window dressing’ and would have no real effect on the dumping of hazardous waste in developing countries’ territories. This feeling manifested itself particularly whenever developed countries referred to the OECD Draft Convention that they had tried to develop; or when some of the developed countries referred to their own laws as sacrosanct. The two main sources of conflict and sensitivity within developing countries were illegal traffic in hazardous waste; and the liability and responsibility of the state of export. Ultimately both were resolved.

A second difficulty was that an environmental agreement cannot be reached in a vacuum. As had been found in earlier negotiations, particularly those toward the Montreal Protocol, the environmental problem is relatively easy to identify; but, once negotiators begin to agree, concerns arise almost immediately as to how to handle the agreement’s potential effects on trade and economy. On the trade side was the issue of hazardous waste destined for recycling or recovery; on the economic side was the price to be paid, essentially by developed countries. It became clear that technical assistance must be provided; illegal traffic must be stopped and hazardous waste taken back by the states of export if it cannot be disposed of in an environmentally sound manner; and the issues of liability and responsibility, including state responsibility, must be put on the negotiating table.

Another issue which was a major issue to transit countries, although of marginal importance for this Convention, suddenly emerged. This was the definition of the area under national jurisdiction as it is connected to the principle of innocent passage. The complexity of these issues could have destroyed the fragile agreement that was reached, and the problem was solved only at the last minute, through intensive informal consultations.

At certain moments some delegations seemed to feel that the UNEP Secretariat was taking the side of developing countries, particularly on the issue of illegal traffic. In all such cases, however, UNEP adhered to what it considered to be the approach of the international organization under whose auspices the negotiations were carried out. UNEP remained convinced that if such support had not been forthcoming, several developing countries, in particular African countries, would have walked away from the negotiating table and the negotiations would have failed. An example of the emotional climate that accompanied some of the negotiations is the January 1989 Meeting in Dakar;²³ where in order to move as far as they did toward agreement, parties needed to have the confidence that they were receiving a fair hearing.

²³ Described above under 2.5.

7 Protocol on Liability and Compensation

A critical component of the Basel Convention, particularly for countries that have been, and continue to be, victimized by illegal traffic, is the redress of damages incurred by transboundary hazardous waste shipments and disposal. In Basel, governments called for the early adoption of a Liability Protocol. The UN General Assembly attached particular importance to Resolution 3 of the Basel Conference dealing with that subject; and requested that the Executive Director of UNEP brief the summer 1990 meeting of the Preparatory Committee of the UN Conference on Environment and Development²⁴ on the progress made on the issue. The General Assembly further requested the Executive Director to report on progress to the UNEP's Governing Council and to the UN General Assembly.

The broad support for the Liability Protocol should not be allowed to mask the very complex issues involved. The Working Group established by UNEP in 1990 to negotiate such a treaty was facing familiar challenges. 13 years before, in the mid-1970s, UNEP had established another Working Group to consider liability for transboundary pollution damage; similar work was being undertaken by UNEP to review liability and compensation related to offshore mining and drilling and natural resources shared by two or more States. None of these efforts had gone very far.

UNEP has built up experience in this field, in which other international organizations including the Council of Europe, and the OECD, continue to make progress. The International Atomic Energy Agency (IAEA) has been considering a joint Protocol on liability under the Vienna²⁵ and Paris Conventions on nuclear damage.²⁶ The International Law Commission (ILC)²⁷ continues to make major contributions to international liability and compensation issues. The UN Economic Commission for Europe (UNECE) has created a number of instruments to deal with civil liability for damage caused during the carriage of dangerous goods;²⁸ the European Community has elaborated a Directive on Civil Liability for damage caused by waste²⁹ but it has been difficult to put in place.

²⁴ The United Nations Rio Conference on Environment and Development (UNCED) of 1992; see e.g. <http://www.un.org/esa/sustdev/documents/docs_unced.htm> (visited May 2008).

²⁵ Convention on Nuclear Safety, Vienna, 20 September 1994, in force 24 October 1996, 33 *International Legal Materials* (1994) 153.

²⁶ (OECD) Convention on Third Party Liability in the Field of Nuclear Energy, Paris, 29 July 1960, in force 1 April 1968, available at <http://www.nea.fr/html/law/nlparis_conv.html> (visited 29 April 2008).

²⁷ The Commission works under the United Nations with an objective to 'the promotion of the progressive development of international law and its codification' (Statute of the ILC). For more information, see <<http://www.un.org/law/ilc/>>.

²⁸ For more information, see UNECE, 'dangerous goods' at <<http://www.unece.org/trans/danger/danger.htm>> (visited 29 April 2008).

²⁹ See Proposal for a Council Directive on Civil Liability for Damage Caused by Waste, COM (89) 282 final, 15 September 1989. On the EU waste policy, see <<http://europa.eu/scadplus/leg/en/s15002.htm>> (visited 29 April 2008).

Of particular relevance was the International Maritime Organization's (IMO) assessment of a separate Liability Convention, examining such critical questions as the desirability of a two-tier liability system, whereby public-sector finance would meet costs not covered by insurance and other markets; liability ceilings; and the concept of loss of profit, regarded either as an extension of property damage or assessed under a separate category. To help focus discussion, questionnaires were sent out to governments on the existence, scope, and coverage of provisions for liability and compensation in bilateral treaties to which they were party; and on the existence and nature of national legislation related to the transboundary movement and disposal of hazardous waste.³⁰ Their responses, which were useful in putting the issue in focus, may be summarized as follows:

- Of all the responses, only three indicated the existence of bilateral agreements of which two have liability causes.
- Roughly half of the replies affirmed the existence of national provisions for liability for inter-territory disposal regulations.
- The base for exoneration from liability is very diverse.
- The concept of damage is extended to the environment, or is unlimited, in four replies.
- In all replies except three, liability amounts are not capped.
- Time limits for claim submissions vary, from one year to no time limits.
- In two replies, compensation mechanisms included a compensation fund.
- The majority of replies showed recovery procedures based on definitions of pure economic loss for damages.
- Liability extensions beyond national jurisdictions were present with some limitations in five of the replies.

In another effort to facilitate the work of the negotiating Group, a small representative group of legal experts was convened to give advice on possible elements to be included in a Protocol. On the basis of this consultation, several areas seemed to require consideration, including channeling of liability; financial and time limits to and exoneration from liability; financial guarantees such as insurance; the need for a fund, its source and disbursement; claims; procedures; and finally the jurisdiction of domestic courts and applicable laws.

8 Conclusion

We do not know the exact amount of hazardous wastes generated globally. However, even conservative estimates presented in the early 1990s indicated an annual and steadily growing generation of these materials in the amount of at least 400 million

³⁰ Tolba and Rummel-Bulska, *Global Environmental Diplomacy*, *supra* note 1, at 121–122.

tons.³¹ Until a Protocol on liability and compensation is established and existing clean technologies and production methods are universally applied, industry will continue to produce increasing quantities of hazardous wastes, and greedy, unscrupulous operators will continue to thrive.

The petrochemical and chemical industries of Europe and North America are currently responsible for nearly 70 percent of all hazardous waste generation; worldwide production of chemicals is surging ahead. In 1950, the world produced 7 million tons of synthetic organic chemicals per year; today that figure is well over 250 million.³² Already, close to 100 000 chemicals are in common use, and each year sees a vast array of new formulations appear. All of these activities results in more waste and, unfortunately, more hazardous wastes. No State wants these materials contaminating its 'own backyard'; clearly, their transboundary shipment threatens to become an important concern during the next decades. The process is well under way. Legislative controls in the industrialized countries, which appeared during the 1970s, were directed toward disposal, not recycling; and these, combined with economic interests, have had the perverse effect of causing a dramatic increase in the volume of traffic in wastes.

The transport of such wastes to developing countries is still a cause for grave concern. As the cost of waste disposal in developed countries escalates, having now reached more than \$2 500 per ton,³³ in some African countries, where debt ridden governments struggle to exist, exporters have been able to negotiate deals for 'disposal' at a mere few dollars per ton despite the lack of proper treatment facilities. We know the potential consequences of these activities. Reports, figures, and even evidence are available. A clear recent example of this is the incident of illegal disposal of hazardous wastes in the Ivory Coast.³⁴ Unfortunately, it is likely that this was not the only incident of dumping of toxic wastes, merely one that reached the world's attention; and there seems still to be a veil of silence over both the generation and the disposal of hazardous wastes. This is a situation that cannot be allowed to persist.

Appendum: a list of documents relevant to this article

UNEP, Ad Hoc Working Group of Legal and Technical Experts with a Mandate to Prepare a Global Convention on the Control of Transboundary Movements of Hazardous Wastes, Report of the Ad Hoc Working Group on the Work of Its Third Session, UN Doc. UNEP/WG.189/3. (1988).

³¹ Tolba and Rummel-Bulska, *Global Environmental Diplomacy*, *supra* note 1, at 122.

³² *Ibid.* at 123.

³³ *Ibid.*

³⁴ See *supra* note 8.

UNEP, Ad Hoc Working Group of Legal and Technical Experts with a Mandate to prepare a Global Convention on the Control of Transboundary Movements of Hazardous Wastes, Proposals by the Executive Director for Consideration by the Ad Hoc Working Group at Its Fourth Session, UN Doc. UNEP/WG.190/3 (1989).

UNEP, Ad Hoc Working Group of Legal and Technical Experts with a Mandate to Prepare a Global Convention on the Control of Transboundary Movements of Hazardous Wastes, Report of the Ad Hoc Working Group on the Work of its Fourth Session, UN Doc. UNEP/WG.190/4 (1989).

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CHEMICALS: THE GLOBAL CONTEXT

Maged Younes^{1}*

1 The context

1.1 Chemicals generally

Chemicals are encountered everywhere. They form an integral part of everyday life. Chemicals are found in a multitude of products, and have a wide variety of uses. While chemicals play a fundamental role in society due to the increasing dependence on chemicals of many products, services and processes, and while they are integral to the development of most sectors, they may, if improperly or inadequately managed, pose serious threats to environmental integrity and human health.

Releases of chemicals, both intentional and accidental, occur into all environmental media, resulting in their presence in air, soil, as well as ground and surface water. A number of these chemicals are subject to long-range transboundary transport. Consequently, ecosystems are faced with potential contamination, partly through chemicals that are persistent and non-biodegradable, that may affect particular species and result in an overall imbalance. Chemical use may lead to harmful effects on human health due to exposure via the air we breathe and the food and water we consume, as well as through professional and recreational activities.

Economic trends demonstrate a close link between development and the increased production and use of chemicals in various sectors, such as industry, agriculture, transport, energy, telecommunications and informatics, infrastructure and construction, and health care, to name only a few areas. The Organisation for Economic Co-operation and Development (OECD) estimated in 2001 that the chemical industry accounted for 7% of the global income and 9% of international trade, and that it

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employed more than 10 million people around the world.² The growth in the world's chemicals output between 1970 and 1998 was almost nine-fold (from US\$171 billion to US\$1.5 trillion), and this trend continues.³ In this respect an important shift is being observed: chemical production continues to grow faster in non-OECD countries, and this trend is expected to continue and even to accelerate.⁴ The OECD has estimated that non-OECD countries, which produced around 17% of chemicals globally in 1970, will be producing 31 % of a larger world production of chemicals by 2020,⁵ with, eventually, older and bulk-type chemicals being primarily produced in developing countries, and more 'specialized' chemicals being produced mostly in OECD countries.

1.2 The need for international action

Chemicals, while requiring attention worldwide, are of particular concern for developing countries, largely because these house the majority of the world's poor people and because they are more likely to have weaker regulatory frameworks, and, therefore, to be more vulnerable to disempowerment, environmental disease and natural resource degradation. Both of the fundamental dependence on chemicals for economic development, and the potential risks from improper management of chemicals are clearly recognized. This is why a clear goal was agreed to at the UN World Summit on Sustainable Development (WSSD) in 2002. The Summit called for efforts to achieve sound management of chemicals so that, by 2020, chemicals are used and produced in ways that lead to the minimization of significant adverse effects on human health and the environment.⁶ This goal requires international cooperation in a globalized world to ensure sound management of chemicals throughout their life-cycle (production, transport, distribution, use and disposal).

There are many reasons why we need international work in the field of the management of chemicals. Firstly, with the number of chemicals in commerce requiring assessment and identification of risk management options, there is a clear benefit from sharing the burden and, thus, accelerating the process. This would require a mechanism to enable us mutually to understand and to accept risk assessment outcomes across the world. International collaboration on sound management of chemicals can also help in reducing trade barriers. With transboundary movements of chemicals, international cooperation is a prerequisite to identifying and implementing global

² OECD, Environmental Outlook for the Chemicals Industry (OECD, 2001), available at <<http://www.oecd.org/dataoecd/7/45/2375538.pdf>> (visited 1 January 2007), at 10. The member countries of the OECD are largely European; with Australia, Canada, Japan and the United States also belonging. Significant non-members include Brazil, China, India, and Russia – see <http://www.oecd.org/countrieslist/0,3351,en_33873108_33844430_1_1_1_1_1,00.html> (visited 21 April 2008).

³ *Ibid.* at 28.

⁴ *Ibid.* at 11.

⁵ *Ibid.* at 28 and 36.

⁶ Plan of Implementation of the World Summit on Sustainable Development, Un Doc. A/CONF.199/20 (2002), para. 23.

solutions. Finally, in an increasingly globalized world, there is a need to harmonize legal frameworks and to ensure that management of chemicals is carried out with the same levels of scrutiny around the world.

International work in the field of sound management of chemicals is, as in other areas, multidimensional. Collaboration could be pursued at the political and/or technical level. Besides, outcomes of international work could be advisory/voluntary or legally binding. It could be carried out at the global, regional, sub-regional or bilateral levels.

The toxic waste pollution crisis that occurred in the Ivory Coast in 2006⁷ has, once again, demonstrated the need for international cooperation and action to ensure sound management of chemicals from ‘cradle to grave’.⁸ It has also highlighted the need to tackle difficult issues such as illegal trafficking of hazardous chemicals, and, more importantly, the need to better use existing international instruments, both legally binding and voluntary, in a coordinated and synergistic manner.

2 International actions

The need for international action to be taken in the area of chemicals was recognized early on within the context of international work on environmental protection. Chemicals featured prominently at the United Nations Conference on the Human Environment (UNCHE), held in Stockholm, Sweden, in 1972.⁹ Since the estab-

⁷ On 19 August 2006 a Panamanian-flagged ship called *Probo Koala* offloaded some 500 tonnes of toxic waste for disposal in the Ivory Coast. The waste ended up untreated in a local dumpsite, which caused several deaths and severe health problems for thousands of people. For news coverage on the incident see, for example, <<http://news.bbc.co.uk/2/hi/africa/5323222.stm>> (visited 1 January 2008). It seems that the ship had been chartered by Trafigura, an international petroleum products trader, and was transported to the Ivory Coast after first being unloaded in Amsterdam and then reloaded; see, for instance, information provided by Greenpeace, available at <<http://www.greenpeace.org/international/news/ivory-coast-toxic-dumping/toxic-waste-in-abidjan-green>> (visited 21 April 2008). The waste was actually disposed of in Abidjan by a local entity which had contracted with Trafigura. Trafigura paid the Ivory Coast a substantial sum (in excess of £100-million) after the incident, and the Ivory Coast agreed to waive any claim for damages, but Trafigura denies any liability for the incident; see Trafigura website at <http://www.trafigura.com/trafigura_news/probo_koala_updates.aspx> (visited 21 April 2008).

⁸ According to the ‘cradle to grave’ principle, the total lifetime costs and impacts of a product should be taken into account. Further, it should not be considered enough simply to create a product, project or process and then leave it to run its course – care should be taken to ensure proper management through the entire life cycle of the created thing. It has been suggested that ‘[a]pplying the principle-- means evaluating a product on the basis of its total properties during the whole of its life cycle, from extraction as raw material until it ends up as waste. The principle also includes the environmental impacts associated with use of input factors, production process, transport and use at all stages’; see IISD, ‘Sustainable Consumption and Production’, available at <<http://www.iisd.ca/consume/norpro.html>> (visited February 2008). In international law the ‘principle’ can probably not be said at this stage of the development of international environmental law to have greater status than that of ‘soft law’ – as a non-binding guideline; albeit a guideline that it is expected might eventually harden into binding customary law.

⁹ The Conference resulted in two key documents: the Stockholm Declaration and Action Plan for the Human Environment (Report of the United Nations Conference on the Human Environment, UN Doc. A/CONF/48/14/Rev.1 (1972)).

lishment of the United Nations Environment Programme (UNEP)¹⁰ following this Conference, there has been a focus on collecting necessary data on chemical risks and management options. Recognizing the need for cross-sectoral collaboration on chemicals at the international level, UNEP joined forces with the International Labour Organization (ILO) and the World Health Organization (WHO) to establish the International Programme on Chemical Safety (IPCS)¹¹ in 1980, with the Secretariat being hosted by WHO.

Sound management of chemicals received significant attention at the 1992 United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro, Brazil. In Agenda 21,¹² the ‘blueprint for global action for sustainable development’, a full chapter was devoted to chemicals, namely ‘Chapter 19: Environmentally sound management of chemicals’. In Chapter 19, UNCED called for enhanced collaboration in the field of chemicals management amongst governments, NGOs and Intergovernmental Organizations (IGOs), and for the enhanced coordination of technical work amongst IGOs. To address the first issue, the Intergovernmental Forum on Chemical Safety (IFCS)¹³ was established in 1994. In 1995, IGOs working in the field of chemicals set up the Inter-Organization Programme for the Sound Management of Chemicals (IOMC)¹⁴ to address the second issue. The IOMC consists now of 7 Organizations (UNEP, UNIDO, UNITAR, FAO, ILO, WHO, and the OECD – with two associated entities, the UNDP and the World Bank).

Another major event was the World Summit on Sustainable Development, held at Johannesburg, South Africa, in 2002, which, in its Plan of Implementation, called clearly for efforts to ensure sound management of chemicals.¹⁵ To address the renewed need for international collaboration, a transparent, inclusive process was set in motion that resulted in the adoption of a clear framework for international work: the Strategic Approach for International Chemicals Management (SAICM),¹⁶ which was adopted in Dubai, United Arab Emirates, in 2006.

3 Multilateral environmental agreements

With problems of global concern, governments may agree on the need for a legally binding instrument to frame actions needed to address such problems in adequate,

¹⁰ For an account of the history of the UNEP see, for example, Donald Kaniaru, ‘The Stockholm Conference and the Birth of the United Nations Environment Programme’, in Marko Berglund (ed.), *International Environmental Lawmaking and Diplomacy Review 2005*, University of Joensuu – UNEP Course Series 2 (University of Joensuu, 2006), 3–22.

¹¹ For further information, see <<http://www.who.int/ipcs/en/>> (visited 1 January 2008).

¹² Agenda 21, UN Conference on Environment and Development, Rio de Janeiro, 13 June 1992, UN Doc. A/CONF.151/26/Rev.1 (1992).

¹³ For further information, see <<http://www.who.int/ifcs/en/>> (visited 1 January 2008).

¹⁴ For further information, see <<http://www.who.int/iomc/en/>> (visited 1 January 2008).

¹⁵ Un Doc. A/CONF.199/20 (2002), para. 23.

¹⁶ For further information, see <<http://www.chem.unep.ch/saicm/>> (visited 1 January 2008).

appropriate and collaborative manners. Generally, legally binding instruments require extensive negotiations and, following signature by particular governments, ratification. Binding agreements addressing issues relevant to sound management of chemicals may include bans on, or phasing-out of, chemicals, or may assist with other control mechanisms. Among multilateral environmental agreements (MEAs) generally, those that relate to chemicals include the Stockholm Convention,¹⁷ the Basel Convention,¹⁸ the Rotterdam Convention,¹⁹ and the Montreal Protocol²⁰ to the Vienna Convention.²¹

The Stockholm Convention covers 12 specific persistent organic pollutants (POPs),²² which have been included on the basis of various criteria, including the criterions of persistence and toxicity. The Convention offers a mechanism for expansion to include other chemicals, with the requirement being that such inclusion follows a thorough evaluation and negotiation process.²³ The approaches in the Stockholm Convention to controlling POPs include bans, phasings-out, and emission reductions.

The Basel Convention regulates international movement of toxic and hazardous wastes, requiring the permission of importing and transit countries prior to movement. Consequently, the Convention aims to ensure environmentally sound management of hazardous waste, and to reduce releases of toxic and carcinogenic substances from poorly managed waste disposal.

The Rotterdam Convention on Prior Informed Consent (PIC) allows countries to prevent the import of a number of listed chemicals. It provides information on a wide range of chemicals banned or severely restricted in at least one country, and constitutes, consequently, a mechanism to reduce use/release of toxic chemicals.

Finally, the Montreal Protocol was set up to ensure the ban/phasing-out of ozone-depleting substances (ODS), aiming at a reduction in damage to the ozone layer.

Whilst not a legally binding instrument, the Strategic Approach to International Chemical Management (SAICM) is a voluntary policy framework, developed through a participatory negotiating process involving governments and civil soci-

¹⁷ Convention on Persistent Organic Pollutants, Stockholm, 22 May 2001, in force 17 May 2004, 40 *International Legal Materials* (2001) 532, <<http://www.pops.int>>.

¹⁸ Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, Basel, 22 March 1989, in force 5 May 1992, 28 *International Legal Materials* (1989) 657, <<http://www.basel.int>>.

¹⁹ Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, Rotterdam, 11 September, 1998, in force 24 February, 38 *International Legal Materials* (1999) 1, <<http://www.pic.int>>.

²⁰ Montreal Protocol on Substances that Deplete the Ozone Layer, Montreal, 16 September 1987, in force 1 January 1989, 26 *International Legal Materials* (1987) 154, <<http://www.unep.org/ozone/>>.

²¹ Convention on the Protection of the Ozone Layer, Vienna, 22 March 1985, in force 22 September 1988, 26 *International Legal Materials* (1985) 1529.

²² See Annex A of the Convention.

²³ See Art. 8 of the Convention.

ety to support the WSSD Plan of Implementation goal of ensuring that by 2020 chemicals are produced and used in way that minimize significant adverse health and environmental effects. SAICM consists of three parts:

- the Dubai Declaration on International Chemicals Management²⁴ reflecting political commitment;
- the Overarching Policy Strategy,²⁵ covering scope, needs, objectives, principles, financial and implementation arrangements; and
- a Global Plan of Action,²⁶ with a description of work areas, potential activities, actors, timeframes and targets, as well as indicators of progress.

The Dubai Declaration on International Chemicals Management, adopted by Ministers, heads of delegation and representatives of civil society and the private sector, affirmed their ‘--firm commitment to the Strategic Approach and its implementation’. The Declaration states further that

the sound management of chemicals is essential if we are to achieve sustainable development, including the eradication of poverty and disease, the improvement of human health and the environment and the elevation and maintenance of the standard of living in countries at all levels of development.²⁷

4 Challenges

Sound management of chemicals requires significant international actions to address the challenges currently facing the world. The main challenges were identified during the ‘needs assessment exercise’ conducted within the SAICM framework. This assessment revealed that the main challenges faced today are the following:

- the lack of capacity to manage chemicals at the national, sub-regional, regional and global levels;
- the widening gap in chemicals management capabilities between OECD countries and developing countries/countries with economies in transition;
- the fact that there is limited or no information available on many of the chemicals currently in use; and that access to information that already exists is often limited or non-existent;
- the current international policy framework for chemicals management is not optimal; and the implementation of established policies, including relevant MEAs, is uneven; and

²⁴ Declaration on International Chemicals Management, Dubai, 6 February 2006, Un Doc. SAICM/ICCM.1/7 (2006), Annex I.

²⁵ Overarching Policy Strategy, Un Doc. SAICM/ICCM.1/7 (2006), Annex II.

²⁶ Global Plan of Action, Un Doc. SAICM/ICCM.1/7 (2006), Annex III.

²⁷ Para. 2.

- the need to enhance and strengthen coherence and synergies between existing institutions and processes.

To meet these challenges, work is needed at various levels, all of which have been included in SAICM's Overarching Policy Strategy. They include actions to reduce risk from exposure to chemicals throughout their lifecycle; efforts to build knowledge and disseminate/share information on chemicals; approaches to enhance governance for the sound management of chemicals, through establishing appropriate infrastructures including legislation as well as enforcement and control mechanisms; building capacities for chemicals management; and developing approaches to prevent illegal international traffic in hazardous chemicals.²⁸

5 Global strategies

In developing global strategies, a number of principles apply. These include the following:

- increasing knowledge and awareness is the first step to addressing chemicals management;
- global control of chemicals is considered necessary when there are global effects. For chemicals with local/national/regional effects, local/national/regional actions are considered most effective; and
- working on sound chemicals management for all countries at the national level will decrease risks globally, and allow for sustainable chemical use.

6 Conclusion and outlook

Worldwide, chemicals have become a part of our daily lives, sustaining many of our activities, preventing and controlling diseases, and increasing agricultural productivity. They have become indispensable for development. In fact, NASA has defined 'life' as 'a self-sustained chemical system capable of undergoing Darwinian evolution'.²⁹ However, for development to be sustainable, policies and responsible approaches to chemicals management need to be in place, with these being aimed at ensuring the highest possible levels of safety and protection for humans and for the environment.

²⁸ Part IV of the Policy Strategy.

²⁹ National Aeronautics and Space Administration, <<http://www.nasa.gov>>. See also, for example, Pier Luigi Luisi, 'About Various Definitions of Life' 28 *Origins of Life and Evolution of the Biosphere* (1998) 613–622.

In the UN Millennium Declaration,³⁰ adopted in 2000, world leaders committed their nations to a global partnership to reduce poverty, improve health, and promote environmental sustainability. In 2002, in Monterrey, world leaders established a framework for global development partnership.³¹ Elements of the Monterrey Consensus, particularly the commitment to advance a fully inclusive and equitable economic system, and to address the need for a new partnership of rich and poor countries, require close international cooperation in the field of chemicals.

International work in the field of sound management of chemicals is not a luxury, but an urgent necessity. The results to date are clearly visible and arguably promising: there is declared political commitment;³² relevant conventions³³ have been negotiated and ratified by many parties; and there is an agreed political framework for further actions.³⁴ It is obvious, however, that these commitments and the creation of such instruments are not, on their own, enough, and that the success of all international efforts depends largely on the administrative and technical support provided at the national, sub-regional, regional and global levels.

The challenge before us is to demonstrate that investing in sound management of chemical is, indeed, a major element of investing in development and environmental protection.

³⁰ UNGA Res. 55/2 (2000).

³¹ Monterrey Consensus on Financing for Development, Monterrey, 22 March 2002, Report of the International Conference on Financing for Development, UN Doc. A/CONF.198/11 (2002), also available at <<http://www.un.org/esa/ffd/monterrey/MonterreyConsensus.pdf>> (visited 1 January 2008). The Monterrey Consensus aims to achieve the internationally agreed development goals by efforts to generate additional public and private financial resources. The Consensus was a result of collaboration among the United Nations, the Bretton Woods institutions (most notably the World Bank) and other major stakeholders such as the WTO. In essence, a new partnership between developed and developing countries was sought.

³² The Dubai Declaration on International Chemicals Management.

³³ Most notably the Stockholm, Basel and Rotterdam Conventions and the international ozone-regime.

³⁴ The Overarching Policy Strategy and Global Plan of Action within SAICM.

ENHANCING COOPERATION AND COORDINATION AMONG THE BASEL, ROTTERDAM AND STOCKHOLM CONVENTIONS

Kerstin Stendahl¹

1 Introduction

One of the challenges facing the development of international environmental law is the phenomenal proliferation of multilateral environmental agreements. During the last 20 years, nearly 300 new multilateral environmental agreements, or amendments to existing agreements, have been concluded. Depending on how classification and addition are done, the estimates for the current number of multilateral environmental agreements (MEAs) range from 400 to 500.² As these agreements arose out of negotiations which were sometimes very difficult, involving bargaining and trade-offs, the result has been a considerable degree of disarray and what one might term 'treaty congestion'.

This situation is characterized by inconsistencies in rules and norms, duplication of efforts and conflicting agendas, a cluttered and overwhelmed international meeting schedule and incoherent systems of solutions to international environmental problems. International environmental governance is of course not the only system

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² The UNEP register of international treaties and other agreements in the field of the environment lists some 400 international treaties and related instruments (such as amendments) on the basis of relevant information made available. A report prepared by the International Institute for Sustainable Development suggests that there are now more than 500 MEAs registered with the UN, including 61 atmosphere-related; 155 biodiversity-related; 179 related to chemicals, hazardous substances and wastes; 46 land conventions and 196 conventions that are broadly related to issues dealing with water. See Adil Najam, Mihaela Papa and Nadaa Taiyab, *Global Environmental Governance. A Reform Agenda* (IISD, 2006), available at <<http://www.iisd.org/pdf/2006/geg.pdf>> (visited 24 January 2008) at 30.

affected by disarray of this sort. Indeed, it is a problem endemic to the international governance system as a whole.³

Even if the aim of a globalized world is ultimately to achieve economic and social uniformity; the road to such a world has led, at least for the time being, to increasing fragmentation of systems of governance. With this, specialized and relatively autonomous spheres of social action and structure have emerged. Where this fragmentation of the international social world attains legal significance is that it is, in many cases, accompanied by the emergence of specialized and (relatively) autonomous rules or rule complexes, legal institutions and spheres of legal practice.

What once was governed by general international law has become the field of operation of such specialist systems as 'trade law', 'human rights law', 'environmental law', 'law of the sea', and so forth. What is more, specialized law-making and institution-building often takes place with relatively little knowledge of larger legislative and institutional activities; and with, in many instances, a high degree of ignorance of general principles and practices of international law.

We see rule-complexes or 'regimes' emerging with their own sets of principles, own forms of expertise and their own 'ethoses', all of which may be incompatible with those of other such regimes. A much cited example of this phenomenon is that of trade law and environmental law; which, whilst they affect one another in significant ways, nevertheless have highly specific and sometimes mutually exclusive objectives and are based on principles that may often 'point' in different directions.

All this is not to say that our system is a failure. Efforts aimed at solving global environmental problems and threats should be seen as part of a necessary and honourable quest. That we end up with myriad multilateral environmental agreements – and with their governing bodies being partly interlinked, partly duplicating each other's work, and being in most cases highly specific – may well be an unavoidable consequence of the intricate nature of international negotiations. In many cases the processes are driven by a genuine wish to come up with the best possible solutions and to establish, or to re-establish harmony, in a disturbed situation.

The fact that we, in international negotiations, must reach bargains and package deals because of conflicting motives and objectives inevitably leads to the conclusion of treaties and customs that are sometimes characterized by a lack of coherence and international legal consistency.

³ Fragmentation of International Law: Difficulties Arising From the Diversification and Expansion of International Law, Report of the Study Group of the International Law Commission, Finalized by Martti Koskenniemi, UN Doc. A/CN.4/L.682 (2006).

2 International environmental governance reform

2.1 Introduction

In an effort to make sense out of the complexities touched on above, the international community has established a number of processes aimed at reforming the system of international environmental governance – with the ultimate aim of making it more coherent.

Since the Seventh Special Session of the UNEP Governing Council/Global Ministerial Environment Forum, held in Cartagena, Colombia, in February 2002, there have been discussions on ways and means by which the fragmented and incoherent international environmental governance system might be addressed and redesigned. There have also been some actual attempts to redesign the system.

As an arguably cruel twist of fate, the international community has ended up with quite a number of processes to address the problem. There is, thus, a real risk of fragmenting the reform processes through which we were supposed to provide solutions to fragmentation in the first place. Reform discussions are under way within UNEP, within the realm of the United Nations General Assembly, and within a pioneer working group on a United Nations Environment Organization (UNEO).

2.2 UNEP and system-wide coherence

The United Nations Environment Programme is focusing on strengthening its existing activities, whilst also addressing its role within the framework of larger International Environmental Governance (IEG) reform.

The High-level Panel on United Nations System-wide Coherence (SWC) in the areas of Development, Humanitarian Assistance and the Environment presented its report ‘Delivering as One’ in 2006.⁴ The report put forward a series of recommendations for overcoming the fragmentation of the United Nations; intended to enable the system to deliver as one, striving for partnerships with, and serving the needs of all countries in their efforts to achieve the Millennium Development Goals⁵ and other internationally agreed development goals.

⁴ Secretary-General’s High-level Panel on UN System-wide Coherence in the Areas of Development, Humanitarian Assistance, and the Environment, ‘Delivering as One’ (2006), available at <<http://www.un.org/events/panel/resources/pdfs/HLP-SWC-FinalReport.pdf>> (visited 24 January 2008).

⁵ Road map towards the implementation of the United Nations Millennium Declaration: Report of the Secretary-General (A/56/326), annex.

As regards the environment, the SWC report concludes that:

[d]eteriorating environmental trends have far-reaching economic, social and health implications and affect the world's ability to meet the Millennium Development Goals (MDGs). Substantial gains in efficiency and effective responses can be made through enhanced coordination and improved normative and operational capacity, particularly through the integration of environment into national development strategies and UN system country operations. To improve effectiveness and targeted action of environmental activities, the system of international environmental governance should be strengthened and more coherent, featuring an upgraded UN Environment Programme with real authority as the UN's 'environment policy pillar'. Synergy needs to be pursued between the UN organizations that address environment, and multilateral environmental agreements should continue to pursue efficiencies and coordination among themselves. An independent assessment of the current UN system of international environmental governance is required to support ongoing efforts at reform.⁶

2.3 International environmental governance 'informals' and Friends of the 'United Nations Environmental Organisation'

Another process, also New York-based and running parallel to and feeding from the results of the system-wide coherence panel, is the Informal Consultative Process on the Institutional Framework for the United Nations' Environmental Activities.⁷ This process is intended to explore the possibility of a more coherent institutional framework, including a more integrated structure, for environmental activities in the United Nations system by achieving improvements in the following key areas of concern:

- enhanced coordination;
- improved policy advice and guidance;
- strengthened scientific knowledge, assessment and cooperation;
- better treaty compliance, while respecting the legal autonomy of the treaties; and
- better integration of environmental activities in the broader sustainable development framework at the operational level, including through capacity building.⁸

⁶ Secretary-General's High-level Panel, *supra* note 4, at 18–19.

⁷ 'Delivering as One', Report of the Secretary-General's High-level Panel on UN System-wide Coherence in the Areas of Development, Humanitarian Assistance, and the Environment (2006), available at <<http://www.un.org/events/panel/resources/pdfs/HLP-SWC-FinalReport.pdf>> (visited 20 February 2008).

⁸ See Co-Chairmen's Summary of the Informal Consultative Process on the Institutional Framework for the UN's Environmental Activities (2006), available at <<http://www.reformtheun.org/index.php?module=uploads&func=download&fileId=1579>> (visited 24 January 2008) at 1. For more information and related documents (2006), see <<http://www.un.org/ga/president/60/summitfollowup/enviro.html>> and (2007) <<http://www.un.org/ga/president/61/follow-up/environmentalgovernance.shtml>> (visited 24 January 2008).

Another process, focusing specifically on upgrading UNEP or transforming it into a United Nations Environment Organization, is the 'Friends of the UNEO' group,⁹ which was established at the initiative of President Jacques Chirac of France in February of 2007.

2.4 The route forward

All of these discussions and consultations presented are ongoing. The coming months will be decisive when it comes to finding a route forward. The co-Chairs of the informal consultations in New York have in their latest 'options paper' suggested that a decision should be made no later than by the end of the 62nd session of the United Nations General Assembly – 2007 – on the terms of reference for formal negotiations on a broader transformation of the IEG system which should start no later than the beginning of the 63rd session of the General Assembly. Negotiations to this end are still under way (in early 2008).

3 Synergies within different treaty regimes

3.1 The chemicals and wastes cluster

Meanwhile, enhanced cooperation and coordination within the convention clusters is being debated within the convention bodies themselves. The COPs of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal,¹⁰ the Stockholm Convention on Persistent Organic Pollutants¹¹ and the Rotterdam Convention on Prior Informed Consent¹² have established a process which is outlined in greater detail below.

3.2 The United Nations Economic Commission for Europe

The issue of synergies has also been addressed by the five United Nations Economic Commission for Europe (UN/ECE) environmental conventions: the Convention on Long-range Transboundary Air Pollution (LRTAP Convention);¹³ the Convention on

⁹ For more information, see <http://www.diplomatie.gouv.fr/en/france-priorities_1/environment-sustainable-development_1097/united-nations-environment-organization-uneo_1966/transforming-the-united-nations-environment-programme-unep-into-specialized-agency_1374.html> (visited 23 February 2008).

¹⁰ Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, Basel, 22 March 1989, in force 5 May 1992, 28 *International Legal Materials* (1989) 657, <<http://www.basel.int>>.

¹¹ Convention on Persistent Organic Pollutants, Stockholm, 22 May 2001, in force 17 May 2004, 40 *International Legal Materials* (2001) 532, <<http://www.pops.int>>.

¹² Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, Rotterdam, 11 September, 1998, in force 24 February, 38 *International Legal Materials* (1999) 1, <<http://www.pic.int>>.

¹³ Convention on Long-Range Transboundary Air Pollution, Geneva, November 13 1979, in force 16 March 1983, 18 *International Legal Materials* (1979) 1442, <<http://www.unece.org/env/lrtap/>>.

Environmental Impact Assessment in a Transboundary Context (EIA Convention);¹⁴ the Convention on the Protection and Use of Transboundary Watercourses and International Lakes (Water Convention);¹⁵ the Convention on the Transboundary Effects of Industrial Accidents (IA Convention);¹⁶ and the Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (Aarhus Convention).¹⁷

A recent report, prepared at the request of the Working Group of Senior Officials at its second meeting¹⁸ in collaboration with the Bureaux of the governing bodies of the five conventions, and the Bureau of the Committee on Environmental Policy, concludes that obstacles to national implementation of and compliance with MEAs to date include, inter alia:

- a lack of sufficient political attention to implementation;
- a lack of awareness of the obligations arising under MEAs by implementing authorities;
- a lack of technical, administrative and financial capacity;
- a lack of coordination among relevant national authorities;
- a lack of understanding of implementation issues;
- insufficient preparation (regarding, for example, laws, regulations and training);
- uncertain or inaccurate data;
- a partial or total lack of monitoring and/or review of implementation;
- unclear implementing rules/tools/regulations (for example, related to the translation and interpretation of legal terms and provisions);
- a failure to mobilize public support; and
- insufficient budget allocations, changes in economic circumstances or unforeseen costs of implementation.

3.3 Human rights

It is also of interest to note that the United Nations High Commissioner for Human Rights has initiated discussions on a proposal for a unified standing treaty body for

¹⁴ Convention on Environmental Impact Assessment in a Transboundary Context, Espoo, 25 February 1991, in force 10 September 1997, 30 *International Legal Materials* (1991) 802.

¹⁵ Convention on the Protection and Use of Transboundary Watercourses and International Lakes, Helsinki, 17 March 1992, in force 6 October 1996, 31 *International Legal Materials* (1992) 330.

¹⁶ Convention on the Transboundary Effects of Industrial Accidents, Helsinki, 17 March 1992, in force 19 April 2000, 31 *International Legal Materials* (1992) 1330.

¹⁷ Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters, Aarhus, 25 June 1998, in force 30 October 2001, 38 *International Legal Materials* (1999) 517, <<http://www.unece.org/env/pp/>>.

¹⁸ UNECE Committee on Environmental Policy, Ad Hoc Preparatory Working Group of Senior Officials 'Environment for Europe', Report of the 2nd meeting, Un Doc. ECE/CEP/AC.11/2006/2 (2006), para. 22

the seven human rights treaties as a response to the Secretary-General's 2002 reform proposals.¹⁹

4 The ad hoc joint working group

4.1 The synergy process – background

Against a backdrop of general concern over fragmentation and the inconsistencies plaguing international governance systems, it is of interest to look at a specific case in point where solutions are being sought to rectify such problems. The case is the recently launched initiative on enhancing cooperation and coordination between the Basel, Rotterdam and Stockholm Conventions.²⁰

The discussions and negotiations on cooperation and coordination among the Basel, Rotterdam and Stockholm Conventions stem from decisions made by the Governing Council of UNEP in 2002 and 2005. In 2002 the Governing Council at its 7th Special Session adopted the report on of the Open-ended Intergovernmental Group of Ministers or Their Representatives on International Environmental Governance.²¹ The report contains recommendations on improved coherence in international environmental policy-making; on strengthening the role and financial situation of UNEP; on improved coordination among and effectiveness of multilateral environmental agreements; on capacity-building, technology transfer and country level coordination for the environment pillar of sustainable development and enhanced coordination across the United Nations system.

The UNEP Governing Council requested, in a 2005 decision, that the Executive Director:

- strengthen support, within available resources, for the Basel, Rotterdam and Stockholm Conventions;
- further promote cooperation between the Montreal Protocol, the Basel, Rotterdam and Stockholm Conventions, the Chemicals Branch of UNEP and the World Customs Organization in addressing international illegal trafficking of hazardous chemicals and hazardous wastes;
- further promote cooperation with the Basel Convention regional training centres in the implementation of activities, as appropriate, of other MEAs and institutions related to hazardous wastes and chemicals;

¹⁹ See Fifth Inter-Committee Meeting of the human rights bodies, Eighteenth meeting of chairpersons of the human rights treaty bodies, 'Concept paper on the High Commissioner's proposal for a unified standing treaty body', Report by Secretariat, UN Doc. HRI/MC/2006/2 (2006).

²⁰ See section 3.1.

²¹ Available at <<http://www.unep.org/gc/GCSS-VII/Reports.htm>> (visited 20 February 2008).

- promote full cooperation and synergies between the secretariats of the Basel, Rotterdam and Stockholm Conventions and the Chemicals Branch of UNEP; and
- report on the implementation of the decision, as it relates to cooperation between UNEP, relevant MEAs and other organizations, to the Governing Council at its twenty-fourth session, in February 2007.²²

As a follow-up to the Governing Council decisions, the Conferences of the Parties and subsidiary bodies of the Basel, Rotterdam and Stockholm Conventions have addressed the issue of synergies, which they refer to as ‘cooperation and coordination’, among the three conventions.

The issue has been contentious and a difficult one to move forward as the negotiations have been tainted by a number of fears, including:

- a fear of lessening the importance of some MEAs in favour of others;
- a fear of leaving the convention secretariats, rather than parties, in a position to drive decisions on what form such cooperation might take;
- a concern that the full implications of taking immediate action on synergies are unclear and that deciding on near-term administrative cooperation would stifle debate on the substantive implications of such administrative cooperation; and
- a fears that synergistic solutions could reduce the technical and financial assistance available to developing country parties and thus in essence be a pure cost-cutting exercise instead of a genuine quest for efficiency and enhancement of national implementation.

4.2 Setting up a process to address the issue

It was not until the second meeting of the Conference of the Parties to the Stockholm Convention, in May 2006, that significant progress with respect to potential synergistic solutions was made. After a rather lengthy and at times quite heated debate, the Conference of the Parties emphasized that the issue of synergies and cooperation should be subject to a transparent and inclusive process that recognized the autonomy of the Conferences of the Parties to the Basel, Rotterdam and Stockholm conventions.²³

In order to fulfil these criteria, the Conference of the Parties requested its President, supported by the Secretariat and in consultation and cooperation with the Presidents and Secretariats of the Basel and Rotterdam Conventions, to complement existing reports and studies with an additional report. The report would explore specified

²² UNEP GC Decision 23/9 ‘Chemicals management’ (2005), part I.

²³ Report of the Conference of the Parties of the Stockholm Convention on Persistent Organic Pollutants on the work of its second meeting, UN Doc. UNEP/POPS/COP.2/30 (2006), Annex I, Decision SC-2/15 ‘Synergies’.

areas in which cooperation and coordination among the three conventions at the programmatic level would be to the mutual advantage of all three conventions and without prejudice to their autonomy.²⁴

The specified areas to be explored in the supplementary report were:

- joint training activities;
- joint field activities and capacity building;
- the use of regional centres as well as centres of excellence;
- joint planning and joint implementation of activities;
- exchange of information; and
- organization of joint meetings of subsidiary bodies and working groups and back-to-back meetings of the conferences of the parties.²⁵

According to the decision, the supplementary report was also to outline improvements in any organizational or administrative matter that might be required in order to ensure effectiveness and efficiency and to implement programme synergies; including an analysis of the need for, and implications of, a possible joint head of the Secretariats of the three conventions.²⁶

It should also be noted that due regard was to be paid to incorporating the Strategic Approach to International Chemicals Management (SAICM)²⁷ in the synergies discussion. The SAICM secretariat is co-located with the UNEP chemicals and waste cluster in Geneva;²⁸ and should therefore be in a position to make full use of existing synergies.

More importantly, the Stockholm Convention Conference of the Parties decided to take a ‘bottom-up’ approach to the issue of enhancing cooperation and coordination among the three Conventions. The process outlined in the Decision places emphasis on the role of the contracting parties to the three Conventions in developing better coordination and cooperation among the conventions. It is thus up to the parties implementing the Conventions to decide on means and mechanisms needed for more efficient, and joint, national implementation. The Decision also recognizes the Conferences of the Parties as sovereign decision-making bodies in matters pertaining to the implementation of the Conventions.

There was some concern with the perceived balance of power amongst the three Conventions and it was considered that that none of the three Conventions should

²⁴ *Ibid.* para. 2.

²⁵ *Ibid.* para. 3.

²⁶ *Ibid.* para. 5.

²⁷ Report of the International Conference on Chemicals Management on the work of its first session, UN Doc. SAICM/ICCM.1/7 (2006).

²⁸ UNEP Chemicals and the secretariats of the Basel, Rotterdam and Stockholm conventions are all housed in the same building.

be seen as pre-eminent. Decision SC-2/15 was therefore crafted in such a way that the Stockholm Convention Conference of the Parties would agree to the establishment of the working group only if the Conferences of the Parties to the Rotterdam and Basel also did so.

The Conferences of the Parties to the Basel and Rotterdam Conventions *did* agree to set up such a working group, at their eighth and third meetings²⁹ respectively; and the ad hoc joint working group on enhancing cooperation and coordination among the Rotterdam, Stockholm and Basel conventions was established half a year later, in January 2007.³⁰

4.3 The Ad Hoc Joint Working Group on enhancing cooperation and coordination among the Rotterdam, Stockholm and Basel Conventions³¹

The Ad Hoc Joint Working Group on enhancing cooperation and coordination among the Basel, Rotterdam and Stockholm conventions (AHJWG) was mandated to consider the supplementary report; and to prepare recommendations on enhanced cooperation and coordination among the three conventions for submission to the conferences of the Parties of all three conventions.

The Conference of the Parties of each of the three conventions nominated 15 members to the group, based on the principle of equitable geographical representation from the five United Nations regions. The members of the group are:

Argentina (Basel Convention), Armenia (Rotterdam Convention), Australia (Basel Convention), Austria (Stockholm Convention), Bhutan (Basel Convention), Brazil (Stockholm Convention), Canada (Stockholm Convention), China (Basel Convention), Chile (Stockholm Convention), Costa Rica (Basel Convention), Cote d'Ivoire (Basel Convention), Croatia (Basel Convention), Czech Republic (Rotterdam Convention), Dominican Republic (Rotterdam convention), Ecuador (Stockholm Convention), Egypt (Basel Convention), Ethiopia (Stockholm Convention), Finland (Rotterdam Convention), France (Basel Convention), Germany (Stockholm Convention), India (Stockholm Convention), Islamic Republic of Iran (Stockholm Convention), Jamaica (Basel Convention), Japan (Rotterdam Convention), Jordan (Rotterdam Convention) Kenya (Basel Convention), Mauritania (Rotterdam Convention), Mexico (Rotterdam Conven-

²⁹ Report of the Conference of the Parties to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal on its eighth meeting, Annex I, Decision VIII/8 (2007); and Report of the Conference of the Parties to the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade on the work of its third meeting, Decision RC-3/8 (2006).

³⁰ The website of the Group can be found at <http://ahjwg.chem.unep.ch/index.php?option=com_frontpage&Itemid=1> (visited 24 January 2008).

³¹ For more information, see <http://ahjwg.chem.unep.ch/index.php?option=com_frontpage&Itemid=1> (visited 13 May 2008).

tion), Nigeria (Stockholm Convention) Norway (Basel Convention), Republic of Moldova (Stockholm Convention), Pakistan (Basel Convention), Republic of Korea (Rotterdam Convention), Romania (Stockholm Convention), Russian Federation (Basel Convention), Slovakia (Basel Convention), Slovenia (Rotterdam Convention), South Africa (Rotterdam Convention), Sri Lanka (Stockholm Convention), Switzerland (Rotterdam Convention), United Kingdom (Rotterdam Convention), United Republic of Tanzania (Rotterdam Convention) and Uruguay (Rotterdam Convention).

The first meeting of the AHJWG was held in Helsinki in March 2007. The group's Co-chairs are Mr Osvaldo Álvarez-Pérez (Chile), Mr Yue Ruisheng (China), and Ms Kerstin Stendahl (Finland).

As a basis for its work at its first meeting, the AHJWG had before it the supplementary report prepared by Mr Nicholas Kiddle (New Zealand) as President of the second meeting of the Conference of the Parties to the Stockholm Convention COP-2,³² as well as comments from contracting parties and observers received in response thereto.³³

During its first meeting the AHJWG:³⁴

- identified a non-exhaustive list of objectives and guiding principles to be applied in its future work (Annex I of the meeting report);
- acknowledged and welcomed the important activities on cooperation and coordination already under way and encouraged the three Secretariats to continue their efforts in those areas; agreeing to revisit the issue at its next meeting;
- agreed on a list of national needs, on the understanding that it would be used to guide the Group's work and was subject to revision (annex II to the meeting report);
- agreed on a table of areas for further cooperation and coordination to provide a framework for the intersessional work of the Joint Working Group and a context for the Group's discussions at its second meeting;³⁵ and
- acknowledged broadly the value of general research into the issue of oversight and decision-making but noted that, given the complexity of the issue and the diversity of views on the exact definition of oversight, it was premature to consider it in any depth at that stage of the process.³⁶

³² Supplementary report prepared by the President of Stockholm Convention pursuant to decision SC-2/15 of the second meeting of the Conference of the Parties of the Stockholm Convention, Un Doc. BC-RC-SC /AHJWG.1/2 (2007).

³³ Comments received on the supplementary report on cooperation and coordination between these three conventions, UN Docs BC-RC-SC /AHJWG.1/3 (2007) and BC-RC-SC /AHJWG.1/3/Add.1 (2007).

³⁴ Report of the Ad Hoc Joint Working Group on Enhancing Cooperation and Coordination Among the Basel, Rotterdam and Stockholm conventions on the work of its first meeting, Un Doc. UNEP/FAO/CHW/RC/POPS/JWG.1/4 (2007).

³⁵ *Ibid.* annex III.

³⁶ *Ibid.* annex IV.

4.4 Objectives and guiding principles for the work of the AHJWG

The AHJWG, in its discussion, recognized as an overarching goal of the three Conventions the protection of human health and the environment for the promotion of sustainable development.³⁷ As regards the overall objectives of coordination and cooperation among the three Conventions; with a view to contributing to achievement of the overarching goal, the following aspects were deemed important:

- (a) strengthening the three Conventions, with particular focus on strengthening implementation at the national, regional and international levels;
- (b) coherent policy guidance, including through coherent and coordinated decision-making, taking into account relevant intergovernmentally agreed goals such as the 2020 target contained in the Plan of Implementation of the World Summit on Sustainable Development;³⁸
- (c) enhanced efficiency in the provision of support to Parties, with a view to reducing their administrative burden; and
- (d) maximizing the effective and efficient use of resources at all levels.³⁹

The principles guiding the work of the AHJWG in the achievement of the above objectives were recognized as being those of:

- (a) promoting implementation and enforcement of the three Conventions at all levels, especially at the national level;
- (b) respecting the legal autonomy of each Convention;
- (c) seeking ways to promote coherent and coordinated decision-making on cooperation and coordination;
- (d) ensuring that institutional structures are defined by functions that should be identified beforehand;
- (e) ensuring that processes for enhancing cooperation and coordination are driven by Parties and take into account global concerns (for instance, the Millennium Development Goals);
- (g) responding to the specific needs of developing countries and countries with economies in transition;
- (h) encouraging and strengthening international cooperation and partnerships;
- (i) promoting programmatic cooperation and coordination;
- (j) adopting a phased, step-by-step approach; and
- (k) avoiding additional bureaucratic layers.⁴⁰

³⁷ *Ibid.* annex I, para. 1.

³⁸ *Report of the World Summit on Sustainable Development*, Johannesburg, South Africa, 26 August-4 September 2002 (United Nations publication, Sales No. E.03.II.A.1 and corrigendum), chap. I, resolution 2, annex. A/CONF.199/20 (2002).

³⁹ UNEP/FAO/CHW/RC/POPS/JWG.1/4 (2007) Annex I, para. 2.

⁴⁰ *Ibid.* para. 3.

4.5 National needs

The AHJWG agreed that national needs to be addressed in the promotion of cooperation and coordination among the three Conventions might include the following:

1. Improvement of cooperation and coordination at the national level:
 - (a) strengthening the networking of the national focal points of the three Conventions;
 - (b) establishing or strengthening intersectoral mechanisms to address collaboration and cooperation at the national level; and
 - (c) engaging all relevant stakeholders.
2. Development and implementation of proactive environmental management tools, such as:
 - (a) a regulatory infrastructure;
 - (b) standards;
 - (c) tool kits;
 - (d) audits;
 - (e) monitoring and enforcement measures;
 - (f) policies and strategies, including national development strategies; and
 - (g) voluntary compliance, including use of economic instruments.
3. Identification, adaptation and use of environmentally sound technologies and practices:
 - (a) waste minimization and management technologies;
 - (b) best available techniques and best environmental practices;
 - (c) practices such as integrated pest management and vector control, including alternatives;
 - (d) indigenous and traditional knowledge; and
 - (e) set-up and management of production facilities.
4. Capacity-building, training, environmental education and awareness:
 - (a) institutional capacity-building, including laboratory capacity;
 - (b) training and building the capacity of enforcement and regulatory authorities such as customs officers, laboratory personnel and others, paying special attention to the needs of small island developing States and land-locked countries;
 - (c) Training of relevant personnel in meeting obligations under the Conventions, including reporting, preparation of notifications of final regulatory actions, etc.;
 - (d) capacity-building in chemicals management, including risk assessment/evaluation methodologies, risk management, etc.; and
 - (e) training of trainers in chemical safety.

5. Public education and awareness-raising:
 - (a) empowering local communities;
 - (b) informing decision and policy makers to encourage political commitment;
 - (c) educating the general population, particularly in vulnerable populations;
 - (d) developing environmental education programmes;
 - (e) disseminating information materials;
 - (f) promoting cleaner environment programmes.

6. Development of environmental information systems:
 - (a) establishment, use and maintenance of information systems;
 - (b) collection, analysis, storage and dissemination of environmental data;
 - (c) installation and application of information systems such as geographic information systems and the Chemical Information Exchange Network;
 - (d) establishment of documentation centres.

7. Mobilization of financial resources:
 - (a) mobilization of resources from national, bilateral and multilateral sources;
 - (b) development of public and private partnerships as a tool for resource mobilization;
 - (c) effective allocation of financial resources;
 - (d) development and use of cost recovery mechanisms;
 - (e) development of local capacities for effective fund-raising.⁴¹

5 The AHJWG's further work

The AHJWG held its second meeting from 10 to 13 December 2007 in Vienna. The report of that meeting summarized the group's deliberations and set out a first draft of possible elements of recommendations to the Conferences of the Parties.⁴² The Group held its third and final meeting from 25 to 28 March 2008 in Rome.⁴³

Whether some or all of the AHJWG's recommendations are in fact implemented is dependent upon the decisions taken during the next round of COPs of the three conventions.

The Group's deliberations during its second meeting focused on so-called 'thought starter' papers, which were drafted by members of the Group in the following areas:

⁴¹ UNEP/FAO/CHW/RC/POPS/JWG.1/4 (2007) Annex II.

⁴² Report of the Ad Hoc Joint Working Group on Enhancing Cooperation and Coordination Among the Basel, Rotterdam and Stockholm conventions on the work of its second meeting, Un Doc. UNEP/FAO/CHW/RC/POPS/JWG.2/18 (2008).

⁴³ See Report of the Ad hoc Joint Working Group on Enhancing Cooperation and Coordination Among the Basel, Rotterdam and Stockholm Conventions on the work of its third meeting (advance version), UN Doc. UNEP/FAO/CHW/RC/POPS/JWG.3/3 (2008).

- coordination at the national level;
- joint outreach and public awareness;
- coordinated use of regional offices, centres;
- programmatic cooperation in the field;
- national reporting;
- the potential for cooperation on compliance;
- the potential for enhancing compliance through cooperation in capacity-building;
- experiences of the Basel convention in the development of a compliance mechanism;
- information sharing among technical and scientific panels;
- pooling information on health and environmental impacts/clearing house mechanisms;
- financial management and audit functions;
- back-to-back meetings;
- resource mobilization;
- joint input into other processes; and
- general legal service arrangements – exploration of different levels of coordination, including the unification of legal services.⁴⁴

Based on the discussions during the second meeting, whereby the Group identified certain elements that could be included in its recommendations, the co-Chairs have been tasked to present an ‘options paper’ to the third meeting. The ‘options paper’ will provide the basis for the negotiations on the recommendations from the group.

⁴⁴ See UN Docs from UNEP/FAO/CHW/RC/POPS/JWG.2/2 to UNEP/FAO/CHW/RC/POPS/JWG.2/16 (2007).

MANAGING CHEMICALS AND WASTE: CHALLENGES FOR DEVELOPING COUNTRIES

*Donald Kaniaru*¹

1 Introduction

1.1 International conventions generally

The third University of Joensuu – UNEP Course on International Environmental Law-making and Diplomacy focused on biodiversity; a theme that was considered of crucial importance to the South generally,² to Africa as a whole, and to humanity at large. The theme for the fourth Course is no less important; being a subject with both positive and negative impacts on social, economic, human well being and health, as well as on ecosystems. Human input into chemical processes, technological developments and applications necessarily involve both intended and non-intended effects; which effects, both in the long and short terms, may be unknown or uncertain. In terms of trade, chemicals and waste have great consequences within and outside of the areas of their origins, and have been matters of grave concern to nations of the South for many years. The issue of illegal traffic in waste raised by Venezuela in the 1980s at the UN General Assembly may be recalled and the subsequent consolidation of the approach to transboundary movement in hazardous wastes, in the form of the Basel Convention on the same subject in 1989.³

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² The course was held in Pietermaritzburg, KwaZulu-Natal, South Africa, in June and July 2006.

³ Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, Basel, 22 March 1989, in force 5 May 1992, 28 *International Legal Materials* (1989) 657, <<http://www.basel.int>>.

Simultaneously with the negotiations toward the Stockholm Conference⁴ in the 1970s, the Inter-Governmental Maritime Consultative Organisation (IMCO) at the time, now the International Maritime Organisation (IMO), was also handling negotiations toward the London Convention for Prevention of Marine Pollution by Dumping of Wastes and Other Matter.⁵ The fear of the international community was that pollution of the oceans was accelerating rapidly and the material being dumped was detrimental to the environment and health of the oceans, as well as to marine life, the inexhaustible nature of which had been taken for granted for centuries.

Marine pollution, from whatever source, became a matter of great concern in transportation on oceans and seas, in airspace, and in the environment overall; to the extent that the Stockholm Conference was expanded, in theme, to include developmental aspects that developing countries were interested in. The same happened with oceans matters and to the subsequent third Law of the Sea Conference; which Conference, in 1982, concluded a decade of negotiations on the United Nations Convention on the Law of the Sea (UNCLOS).⁶ This Convention came into effect another decade or so later, on 16 November 1994. Part XII of the Convention addresses the Protection and Preservation of the Marine Environment.

Between 1985 and 2001, several initiatives culminated in a series of conventions in the field of chemicals: the 1985 Vienna Convention for the Protection of the Ozone Layer⁷ and, in 1987, its Montreal Protocol;⁸ the interface of chemicals with climate change in the 1992 United Nations Framework Convention on Climate Change⁹ and its Kyoto Protocol in 1997;¹⁰ the 1998 Rotterdam Prior Informed Consent Procedure (PIC) Convention;¹¹ the 2001 Stockholm Persistent Organic Pollutants (POPs) Convention;¹² and the interface of chemicals with wastes, in particular the 1989 Basel Convention on the control of Transboundary Movement of Hazardous Wastes and their Disposal. These instruments are revisited below.

⁴ The United Nations Conference on the Human Environment (UNCED), Stockholm 1972.

⁵ Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, London, 13 November 1972, in force 30 August 1975, 11 *International Legal Materials* (1972) 1294, <<http://www.londonconvention.org/>>.

⁶ United Nations Convention on the Law of the Sea (UNCLOS), Montego Bay, 10 December 1982, in force 16 November 1994, 21 *International Legal Materials* (1982) 1261.

⁷ Convention on the Protection of the Ozone Layer, Vienna, 22 March 1985, in force 22 September 1988, 26 *International Legal Materials* (1985) 1529.

⁸ Montreal Protocol on Substances that Deplete the Ozone Layer, Montreal, 16 September 1987, in force 1 January 1989, 26 *International Legal Materials* (1987) 154, <<http://www.unep.org/ozone/>>.

⁹ United Nations Framework Convention on Climate Change, New York, 9 May 1992, in force 21 March 1994, 31 *International Legal Materials* (1992) 849, <<http://unfccc.int>>.

¹⁰ Kyoto Protocol to the United Nations Framework Convention on Climate Change, Kyoto, 11 December 1997, in force 16 February 2005, 37 *International Legal Materials* (1998) 22.

¹¹ Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, Rotterdam, 11 September, 1998, in force 24 February, 38 *International Legal Materials* (1999) 1, <<http://www.pic.int>>.

¹² Convention on Persistent Organic Pollutants, Stockholm, 22 May 2001, in force 17 May 2004, 40 *International Legal Materials* (2001) 532, <<http://www.pops.int>>.

During the period 1985–2001, the United Nations Conference on Environment and Development (UNCED), held in Rio in 1992, was negotiated; following on from the World Commission on Environment and Development (the Brundtland Commission), which had, in 1987, issued its outcome in a pivotal publication – *Our Common Future*.¹³ The UNCED produced, as part of its outcome, two important instruments in the United Nations Framework Convention on Climate Change (UNFCCC) and the Convention on Biological Diversity (CBD); as well as the Rio Declaration.¹⁴ The UNCED also produced a 40-chapter global blueprint for sustainable development, Agenda 21, with several chapters being pertinent to chemicals and waste (Chapters 19–21). In order fully to bring the developing countries on board, the UNCED was predicated on two crucial pillars: transfer of technology and adequate technical and financial resources to implement the agreed Agenda geared to sustainable development. The two pillars have not been met subsequent to UNCED, and the developed world has therefore arguably lost the moral basis for challenging the application, or non-implementation, of sustainable development strategies. Indeed, implementation was to have been the focus of the World Summit on Sustainable Development (WSSD), held in Johannesburg in 2002.¹⁵ The chemicals and waste regimes did, therefore, suffer; as will become apparent under the section on national capacity challenges below.

In conclusion to these introductory remarks, another factor to be considered is the general worldwide creep of urban environments and populations and their effects on rural lands and production, and the impacts of technology through chemicals and potential adverse impacts resulting from waste. This should be appreciated in its broadest sense, including poverty tentacles, hopelessness and adverse health impacts. Urban sprawl, according to UN Habitat will strike a population of one billion in the near future. This can possibly be explained by the fact that the urban population of Asia and Africa is growing by 1 million people a week, as cited by the 2007 World State of the Population Report.¹⁶

The structure of this paper is premised on the correlation between chemicals and waste. This is because chemicals and wastes share a common nature, being similar in the adverse effects, which they have on humans and on the environment. Furthermore, chemicals almost inevitably, at some point in their life-cycles, after undergoing different processes such as expiry, contamination, obsolescence or and abandonment, come to be considered as wastes. Another reason is that developed and developing countries share almost the same challenges in managing chemicals as they do in man-

¹³ Gro Harlem Brundtland, *Our Common Future* (Oxford University Press, 1987); World Commission on Environment and Development (WCED), *Our Common Future* (the Brundtland Report), UN Doc. A/42/47 (1987).

¹⁴ UN Declaration on Environment and Development, Rio de Janeiro, 14 June 1992, A/CONF.151/5/Rev.1 (1992), 31 ILM (1992) p. 876.

¹⁵ The United Nations World Summit on Sustainable Development (WSSD), Johannesburg 2002, <<http://www.un.org/events/wssd>> (visited 31 December 2007).

¹⁶ Excerpted from *The Standard*, a Kenyan newspaper, 9 August 2007, at 27.

aging wastes. Previous international efforts have suffered as a result of addressing the issues of chemicals and wastes separately; whereas these should have been addressed together to avoid duplicity and an unnecessary large number of control measures.¹⁷ The quest should be for an integrated global and national programme to achieve sound management of both chemicals and wastes.¹⁸ Issues have arisen concerning the subject of the interrelation between toxic and hazardous chemicals management and of waste management and, as such, it is necessary to harmonize legislation on these substances either in the form of a single regime or as separate complementary instruments.¹⁹

One needs to also appreciate certain challenges that are very specific to chemical management, as there are to waste management. This paper is, therefore, an analysis of the challenges common to waste and chemicals as well as to the challenges peculiar to each of them, within a general context. It is important to give a basic outline on chemicals and waste before proceeding with the discussions.

1.2 Chemicals

1.2.1 General

A 'chemical' has been defined in international law as 'a substance whether by itself or in a mixture or preparation and whether manufactured or obtained from nature, but does not include any living organism'.²⁰ It is critical to note that, whilst a significant number of chemicals are intentionally produced for commercial purposes, some chemicals are unintentionally produced as by-products in industrial, manu-

¹⁷ The three main conventions specific to toxic and hazardous chemicals and hazardous wastes respectively cover intrinsically the same scope and contain certain bridging elements that warrant coordinated implementation. The Basel Convention covers all hazardous wastes, except nuclear, chemical waste or other waste which are explosive, flammable, poisonous, infectious, corrosive, toxic or ecotoxic. The Rotterdam Convention covers twenty-two pesticides and certain formulations of other pesticides as well as five chemicals whilst the Stockholm Convention covers eight pesticides, two industrial chemicals and two unintentionally produced by-products. All three conventions are said to cover POPs, promote life-cycle, cradle-to-grave management of hazardous chemicals or waste and deal with evaluating and regulating new and existing chemicals or waste for future inclusion. Makhiba Tjela, *Findings Report on Toxic and Hazardous Chemicals* (Department of Environment, Kingdom of Lesotho, 2004) at 6.

¹⁸ *Searching for Synergies: Linking Waste Management to an Integrated National Programme for Sound Chemicals Management*, Guidance Note (January 2004 ed.), prepared through collaboration of UNITAR with UNEP, ILO, FAO, WHO, UNIDO and OECD, and the Secretariats of the OPCW, the Basel Convention and IFCS, at 1–2.

¹⁹ Gracian Banda, *Development and Harmonization of Environmental Laws and Institutions in SADC sub-region: Botswana, Lesotho, Malawi and Swaziland*, a draft analytical report discussed at the Botswana Harmonization Meeting (2006) at 32.

²⁰ Art. 2(a) of the Rotterdam PIC Convention. The chemicals covered in the Rotterdam Convention are divided into 2 categories: industrial chemicals and severely hazardous pesticide formulations. This definition does not really explain by itself what a chemical is. According to this definition, in fact, a brick would be a chemical. Art. 2(a) goes on to make it clear that a chemical can be either 'a pesticide' or 'industrial' – and Art's 2(b), (c) and (d) make it clear that a chemical is something that has a special place in law as a potentially hazardous manufactured substance. The very vagueness of the definition arguably reflects the difficulty in international law of obtaining consensus.

facturing and combustion processes.²¹ The output of the chemicals industry may be divided into the following four categories: ‘basic’ (or ‘commodity’) chemicals – typically produced in large quantities at major facilities for consumption in downstream processing and manufacturing facilities in the production of other basic and specialty chemicals or finished products and articles (for example, ethylene, methanol, sulphuric acid, chlorine gas); ‘specialty’ chemicals – high value-added chemicals that are produced in relatively small quantities for specific applications (for example, paints, adhesives, dyes); ‘life science’ chemicals – types of specialty chemicals that include pharmaceuticals, crop protection chemicals and products of biotechnology; and ‘consumer care’ chemicals – produced, in some cases in large volumes, for use in formulations in consumer products (for example, soaps, detergents, cleaners, shampoos).²²

The chemicals industry is, thus, considered by some to be the first high-technology industry, since it has played a key role in enabling technological transition in society since the mid-19th century. It has transformed raw materials into commodity and specialty chemicals; and has made possible the development of countless products, many of which have become commonplace and which are now viewed as being essential in elevating and/or maintaining the quality of life in modern society in both developed and developing countries.²³ This truth is particularly perceptible in developing countries²⁴ which have, in some cases, become overly dependent on chemicals to sustain their fledgling economies and, most importantly, their peoples’ livelihoods.²⁵

Globally, and especially so in the developed countries, intentionally-produced chemicals have come to form an integral part of everyday life and have continued to grow in significance and use, more than ever in today’s technological era.²⁶ These chemi-

²¹ John Buccini, *Global Pursuit for the Sound Management of Chemicals*, report done on behalf of the International Bank for Reconstruction and Development/World Bank (World Bank, 2004) at 2.

²² *Ibid.* at 9–10.

²³ *Ibid.* at 8.

²⁴ The International Monetary Fund (IMF) in its statistical studies breaks the world down into three groups: industrial countries, developing countries, and countries in transition. This paper borrows the IMF’s classification according to which there are 132 developing countries including the whole of Africa. See IMF, *World Economic Outlook* (IMF, 1996) at 156, as quoted by Jane A. Dwasi, ‘Regulation of Pesticides in Developing Countries’, 32 *Environmental Law Reporter* (2002) 10038, 10058–10060, at 10045 footnote 1.

²⁵ Agriculture is the primary economic activity in many developing countries and, as a result, many of these countries depend on it for their subsistence/domestic needs and trade. They therefore rely heavily on pesticide use to ensure sustained good harvests. *Ibid.* Equally, in some countries, the chemicals industry has grown to become a significant economic sector such as some countries in Asia where the chemicals industry accounted for 30% of manufacturing in 1996 vs. 10% in the US and Western Europe. See Buccini, *Global Pursuit*, *supra* note 22, at 10.

²⁶ Elizabeth Dowdeswell, a former Executive Director of UNEP, in the foreword of a UNEP publication (UNEP, *Legislating Chemicals: An Overview* (UNEP, 1999)), as quoted by Tjela, said that chemicals use has become an essential means for achieving economic and social development in countries. The benefits must be maximized, and their adverse health and environmental impacts minimized in order to achieve sustainable development, Tjela, *Findings Report*, *supra* note 18, at 13.

cals have found use in practically all manufacturing and production processes for synthetic products as well as in commercial, production and domestic processes. In addition, the development of new chemicals has enabled the number of technological advancements to burgeon, fuelled by the incessant and growing public demand for new and improved consumer products. Conversely, technological advancements have also led to novel production methods that have generated new and improved types of chemicals to fulfil greater purposes for which modern technology has grown to require.

1.2.2 Dangers posed by chemicals

Despite their usefulness, indeed necessity, intentionally produced chemicals have great potential for adverse effects on life and on the environment, hence the need for them to be properly regulated.²⁷ The history of man's impacts on ozone conveys this graphically.²⁸ Once released into environment, chemicals persist for years and may have long-term health and ecological consequences that were never intended or even anticipated.²⁹ Indeed, gross chemical contamination has been known to damage human health, genetic structure and reproductive outcomes and also to interfere with, and/or to alter, fundamental chemical physical processes within the earth's atmosphere.³⁰

Once released into the environment, a chemical undergoes short-range or long-range transport as a result of natural environmental processes, is transformed into other chemicals, and finally becomes distributed between air, water, soil, sediment and living organisms. Because the specific properties, release conditions and environmental fates are unique to each substance, chemicals need to be assessed systematically to ascertain the nature and extent of local, regional and global impacts of chemicals in the environment. Thus, the full life-cycle of any specific chemical must be assessed including activities during manufacturing, processing, handling, transportation, accidents, the use of products, articles and formulations, and the disposal of waste from manufacturing and the end-of-life stage of products.³¹

As a result, managing and regulating chemicals have presented some serious challenges at global, regional, national and local levels. This is particularly evident in developing countries, and in countries with economies in transition, as these countries often import toxic chemicals without first obtaining adequate information on these chemicals; and without having the requisite infrastructure to manage them in an environmentally sound manner. Proper management in such circumstances is well nigh impossible.

²⁷ Buccini, *Global Pursuit*, *supra* note 22, at XI.

²⁸ There are many articles and discussions on ozone. See a collection of critical articles in Donald Kaniaru (ed.), *Montreal Protocol: Celebrating 20 Years of Progress for the Ozone Layer and Climate Protection* (Cameron May, 2007).

²⁹ *Training Manual on International Environmental Law* (UNEP, 2006) at 145.

³⁰ *Ibid.*

³¹ Buccini, *Global Pursuit*, *supra* note 22, at 62.

It is, however, an accepted, if sometimes unspoken, truth that, around the world, developing countries face special challenges, and that often these have far more severe implications than those challenges faced by developed countries; the latter having more advanced financial and human resources, science, expertise and technology. This is primarily due to the logical disparities of, amongst others, resource distribution and availability, technological ineptness, institutional setups and management; and is also due to poverty intensity and the spread of these factors between developed and developing countries. The UNEP Division of Environmental Policy Implementation has stated that, a decade after the 1972 Stockholm Conference, although there was, in developed countries at the time, visible progress in respect of improving air and water quality, tightening the control of chemicals and conserving the components of nature; most developing countries have in the same period experienced environmental destruction at a pace and scale never seen before.³²

1.3 Waste

The term 'waste' is not only multi-faceted but also difficult to conceptualize or to define with certainty. It is subjective.³³ This is because firstly, there is no one inherent physical characteristic, which can be used to define waste. Secondly, it can be said that one person's waste can be another person's raw material. Thirdly, there is an implicit connection between the concept of waste and the lack of value or worth of an object. (It can only be waste if it is unwanted. This may be difficult to determine in view of trade in waste.) Fourthly, the adoption of a waste management hierarchy simply adds to the problem in the sense that adopting a wide or narrow definition of waste in any given regulatory regime, to fit all the diverse categories of waste possible, might, in each case, result in upsetting the balance between competing considerations. For example, a wide definition of waste would discourage environmentally beneficial activities, like recycling, which would reduce the amount of raw materials required and, consequently, the waste produced. Conversely, many recycling and reclamation processes have the potential to cause harm if left unregulated.³⁴

Wastes can be of different types; but the most common are household wastes, industrial wastes, commercial wastes, wastes from construction and demolition sites, farms and spoilage from mining and quarrying. Managing the production, control and disposal of wastes is one of the most significant environmental challenges the world faces. This is especially so in developing countries. In the fairly recent past, the quantity of waste generated, and disposed of, by developing countries was considered small enough to be absorbed by the environment. However, as a result of the increase in human activity through industrialization and rapid proliferation of hu-

³² UNEP Division of Environmental Policy and Implementation, High Level Open-Ended Intergovernmental Strategic Plan for Technology Support and Capacity-Building Vol.1 (UNEP, 2001) at 9.

³³ Stuart Bell and Donald McGillivray, *Environmental Law* (Oxford University Press, 6th ed. 2006) at 576.

³⁴ *Ibid.*

man settlements urbanization has shot up in areas previously considered as desolate, and subsequently the amounts of waste generated has increased exponentially, and is continuing to do so. In order to protect populations from the increased amounts of waste being generated, waste management has focused on the eradication of this waste through generally incineration or disposal in landfills. The situation has, however, remained poor over the years.

2 Key regulatory instruments governing chemicals and waste

2.1 Introduction

In the past few decades, the recognition of the health and environmental impacts which chemicals and wastes might have, and the quest for their proper regulation, has yielded numerous agreements and initiatives of both regional and global nature. These agreements have, to date, addressed several aspects of chemicals and wastes, and related safety and management aspects. Thus, an international framework of treaties, laws and soft law instruments is extant for chemicals and waste. The issue that needs consideration is whether this framework is effective.

Developing countries have joined the international community in becoming parties to this range of global instruments: in the Vienna Convention and the Montreal Protocol, they are among the 191 parties; they are among the 118 parties in PIC and among the 147 parties in POPs Conventions. The UNFCCC, Kyoto Protocol, Basel Convention along with the Law of the Sea Convention and the Convention on Biological Diversity have been overwhelmingly supported by developing countries; as well as by a broad section of the developed countries and countries whose economies are in transition. The USA, however, is party only to the Vienna Convention and its Montreal Protocol, the UNFCCC, the Rotterdam and the Stockholm Conventions.

The key agreements that come into play on the twin issues of chemicals and waste arguably fall into the categories of global and regional treaties; and soft law instruments that have preceded the treaties or that are currently still under negotiations at various fora (for example, UNEP and the WHO) and which are discussed below.

2.2 Key chemicals and wastes instruments at global and regional level

In this section seven global and four regional instruments will be briefly touched upon.

The 1985 Vienna Convention for the Protection of the Ozone Layer establishes a general obligation on the Parties to protect the ozone layer for the sake of human health and the environment. It is a framework convention which establishes

no specific controls on ozone-depleting substances; these are established under the Montreal Protocol on Substances that Deplete the Ozone Layer (1987) and its subsequent amendments (among them the London, 1990, Copenhagen, 1992, and Vienna, 1995, amendments). The aim is to reduce the consumption and production of ozone-depleting substances by, amongst others, setting up control measures among the parties and regulating the levels of consumption of ozone-depleting substances. The success of this treaty is widely acknowledged; and the meeting in Montreal, Canada, in September 2007, marked its 20th year.

The 1998 Rotterdam Convention on Prior Informed Procedure for Certain Hazardous Chemicals and Pesticides in International Trade was promulgated with the objective of reducing the health and environmental hazards posed by chemicals and pesticides. Its most important provisions, as far as developing countries are concerned, are, firstly, that it obliges a party which plans to export a chemical (which is either banned or severely restricted for use within its territory) to inform the importing party that such export will take place. Secondly, it contains a provision requiring clear labelling for exports. Thirdly, the Convention contains a provision requiring an exporting party to ensure that an up-to-date materials safety data sheet is sent to the importer when exporting chemicals that are to be used for occupational purposes. The Convention covers 22 pesticides and certain formulations of other pesticides as well as five chemicals.³⁵

The 2001 Stockholm Convention on Persistent Organic Pollutants is specific to the 12 chemicals known as persistent organic pollutants (POPs).³⁶ The United Nations Economic Commission for Europe (UNECE) instrument covers 16 chemicals. It calls for the prohibition by the parties of the use, import and export of POPs. Parties are to take measures to enact the relevant legislation, giving effect to the Convention in their territories. It either prohibits or restricts the production, use, export and import of chemicals listed in its text. The Parties to the Convention are required to promote the use of best available techniques and the best environmental practice.³⁷

The 1989 Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal has the following objectives: to minimize the generation of hazardous wastes; to treat and dispose of hazardous wastes as close as possible to where they were generated; and to minimize international movements of hazardous wastes.³⁸

³⁵ Annex III of the Convention.

³⁶ The POPs chemicals comprise 12 listed chemicals which could be grouped as pesticides (aldrin, chlordane, DDT, dieldrin, endrin, heptachlor, hexachlorobenzene, mirex and toxaphene); industrial chemicals (PCBs); and unintentionally produced POPs (dioxins and furans). All in all, the Convention covers eight pesticides, two industrial chemicals and two unintentionally produced by-products. See also Tjela, *Findings Report*, *supra* note 18, at 10–14.

³⁷ Articles 1 and 3.

³⁸ Art. 4(2).

The 1991 Bamako Convention on the Ban of Imports into Africa and the Control of Transboundary Movement and Management of Hazardous Wastes within Africa³⁹ obliges its parties to enact legislation categorizing hazardous wastes; and to establish monitoring as well as enforcement mechanisms. The Convention came into being mainly because the Organisation of African Unity (OAU), now the African Union (AU), was concerned that the Basel Convention did not ban the transboundary movement of hazardous and other wastes and impose a total ban on the importation of all hazardous wastes in Africa.⁴⁰

The 1972 London Convention for Prevention of Marine Pollution by Dumping of Wastes and Other Matter provides a global framework for the control of the deliberate disposal at sea of wastes or other matter. Its Protocol of 1996⁴¹ has underscored the Convention upon entering into force.

The 1982 United Nations Convention on the Law of the Sea provides a general obligation to prevent marine pollution, which covers dumping specifically in its articles 194 and 210 and the marine environment generally in Part XII.

The 1995 Convention to Ban the Importation into the Forum Island Countries of Hazardous and Radioactive Wastes and to Control the Transboundary Movement and Management of Hazardous Wastes within the South Pacific Region (the Waigani Convention)⁴² applies to the South Pacific, where many small island developing states (SIDS) are situated. The vast Exclusive Economic Zones of the South Pacific States are crossed by vessels ferrying hazardous and radioactive wastes between major producing and consuming countries; meaning that the area is under serious threat of harm to health and the environment from the transboundary movement of transboundary wastes.⁴³

UNEP-promoted Regional Seas Agreements have been established in the Kuwait region (Kuwait Regional Convention for Co-operation on the Protection of the Marine Environment from Pollution⁴⁴ and Protocol on the Control of Marine Trans-

³⁹ The Bamako Convention on the Ban of the Import Into Africa and the Control of Transboundary Movement and Management of Hazardous Wastes Within Africa, Bamako, 30 January 1991, in force 22 April 1998, 30 *International Legal Materials* (1991) 773.

⁴⁰ Tjela, *Findings Report*, *supra* note 18, at 10–14.

⁴¹ Protocol to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, London, 17 November 1996, in force 24 March 2006, 36 *International Legal Materials* (2006) 1.

⁴² Convention to Ban the Importation into Forum Island Countries of Hazardous and Radio Active Waste and to Control the Transboundary Movement of Harzardous Waste within the South Pacific Region, Waigani, 16 September 1995, in force 21 October 2001, available at <http://untreaty.un.org/English/UNEP/radioactive_english.pdf> (visited 31 December 2007).

⁴³ Lal Kurukulasuriya, Bernard Moutou and Clare Cory (compiled by), *South Pacific Handbook of Treaties and Other Legal Instruments in the Field of Environmental Law*, UNEP/SPREP publication series on Environmental Law and Policy No. 1 (South Pacific Regional Environment Programme, 1998) at 332.

⁴⁴ Kuwait Regional Convention for Co-operation on the Protection of the Marine Environment from Pollution, Kuwait, 24 April 1978, in force 1 July 1979, available at <<http://sedac.ciesin.columbia.edu/entri/texts/kuwait.marine.pollution.1978.html>> (visited 31 December 2007).

boundary Movements and Disposal of Hazardous Wastes and Other Wastes⁴⁵) and in the Wider Caribbean region (Convention for the Protection and Development of Marine Environment of the Wider Caribbean Region).⁴⁶

2.3 Soft law on chemicals and wastes

Six soft law initiatives, past and current, are briefly discussed hereunder.

The London Guidelines for the Exchange of Information on Chemicals in International Trade⁴⁷ provide for the exchange of information on banned or severely restricted chemicals in international trade. These call for cooperation between exporting and importing countries in the light of the joint responsibility for the protection of human health and environment; encourage the development of national legislation, bilateral, regional and international instruments for the exchange of information on chemicals; provide for states to strengthen infrastructures and institutions by establishing and strengthening legislative and regulatory systems and other mechanisms to improve control management of chemicals, create national registers of toxic chemicals, including industrial chemicals and pesticides, and preparing updated manuals, directories and documentation for better utilisation of facilities.⁴⁸

The United Nations Environmental Programme's *Code of Ethics on the International Trade in Chemicals* was adopted in 1994.⁴⁹ These non-binding guidelines are general in nature, and are addressed to governments with a view to assisting them in the process of increasing chemical safety and enhancing the sound management of chemicals in all countries. This happens through the exchange of scientific, technical, economic and legal information on chemicals in international trade. The guidelines provide a mechanism for importing countries formally to record and disseminate their decisions regarding future importation of chemicals that have been banned or severely restricted; and outline the shared responsibilities of importing and exporting industries in ensuring that these decisions are heeded. They provide a framework for the establishment of procedures for the effective use of information on chemicals, especially for developing countries.

⁴⁵ Protocol on the Control of Marine Transboundary Movements and Disposal of Hazardous Wastes and Other Wastes, Tehran, 17 March 1998.

⁴⁶ Convention for the Protection and Development of Marine Environment of the Wider Caribbean Region, Cartagena de Indias, 24 March 1983, in force 11 October 1986, 22 *International Legal Materials* (1982) 227.

⁴⁷ Guidelines for the Exchange of Information on Chemicals in International Trade, adopted by UNEP Governing Council Res. 15/30 (1989).

⁴⁸ Tjela, *Findings Report*, *supra* note 18, at 10–14.

⁴⁹ The text is available at <<http://www.chem.unep.ch/ethics/english/CODEEN.html>> (visited 31 December 2007).

The International Code of Conduct on the Distribution and Use of Pesticides⁵⁰ was originally adopted by the United Nations Food and Agriculture Organisation (FAO) in 1985. This Code established voluntary standards of conduct for all public and private entities engaged in or associated with the distribution and use of pesticides, particularly where there is inadequate or no national legislation to regulate pesticides. The instrument has since served as a globally accepted standard for pesticide management.⁵¹ In addition, there are the 1984 UNEP *Guidelines on Banned and Severely Restricted Chemicals*. These guidelines are not binding on states but some states have applied them on a voluntary basis.⁵²

The global community called on Governments generally to ensure that '[b]y the year 2000 national systems for environmentally sound management of chemicals, including legislation and provisions for implementation and enforcement, should be in place in all countries to the extent possible'.⁵³ Chapter 19 of Agenda 21 has six Programme Areas. Programme Area E addresses the strengthening of national capabilities and capacities for the management of chemicals. Some of the elements of national programmes for sound management of chemicals in Programme E are adequate legislation, information gathering and dissemination, capacity for risk assessment and interpretation, establishment of risk management policy, capacity for the rehabilitation of contaminated sites and poisoned persons, effective education programmes and capacity to respond to emergencies.⁵⁴ For UNEP, the issue of chemicals had been part of its programme activity centres for years. To deal with this, the *International Register of Potentially Toxic Chemicals* (IRPTC) of UNEP was established, currently simply referred to as 'UNEP Chemicals', which has been at the helm of UNEP work in chemicals and in the negotiations and developments of the PIC and POPs Conventions among others.⁵⁵

In September 2002, the World Summit on Sustainable Development endorsed the development of a *Strategic Approach to International Chemicals Management* (SAICM)⁵⁶ by 2005; and urged the active engagement of all relevant actors, including the major

⁵⁰ FAO, the International Code of Conduct on the Distribution and Use of Pesticides (FAO, revised version, 2002), available at <ftp://ftp.fao.org/docrep/fao/009/a0220e/a0220e00.pdf> (visited 31 December 2007).

⁵¹ *Ibid.*, preface.

⁵² Tjela, *Findings Report*, *supra* note 18, at 10–14.

⁵³ Paragraph 19.58 of Agenda 21 (Agenda 21, UN Conference on Environment and Development, Rio de Janeiro, 13 June 1992, A/CONF.151/26/Rev.1 (1992)).

⁵⁴ Makhiba Tjela, *Report on Chemicals Legislation and Enforcement Capacity in the Kingdom of Lesotho. Enabling Activities to Facilitate Early action on the Implementation of the Stockholm Convention on Persistent Organic Pollutants (POPs)* (UNIDO/GEP, 2004) at 9.

⁵⁵ *Ibid.* at 8.

⁵⁶ SAICM OPS, para. 23; *Developing a Capacity Assessment for the Sound Management of Chemicals and National SAICM Implementation*, Guidance Document, developed through collaboration of UNITAR with members of the Project Task Force for the National SAICM Pilot Projects, including FAO, ILO, UNDP, UNEP, UNIDO, WHO, OECD, the World Bank, OPCW, the Secretariat of the Basel Convention, the Swiss Agency for Development and Cooperation (SDC), and the SAICM Secretariat (observer) (April 2007 ed.), UNITAR/IOMC at 1–2. For further information, see <http://www.chem.unep.ch/saicm/> (visited 31 December 2007).

agencies responsible for the funding and delivery of international development cooperation. UNEP took the lead in coordinating all efforts toward the development of the SAICM. This was done based on the Intergovernmental Forum on Chemical Safety (IFCS) priorities, which had been resolved during the development of the *Declaration on Chemical Safety*⁵⁷ and the *Priorities for Action Beyond 2000*,⁵⁸ in October 2000; in cooperation with relevant stakeholders including governments, intergovernmental organizations and major agencies responsible for the funding and delivery of international development cooperation.

The SAICM was adopted by the International Conference on Chemicals Management (ICCM) at its first session in 2006. It is, in essence, an initiative in which governments have agreed on the need for improved coordination in the area of chemical safety. The SAICM, which links policy and development elements, is the result of demonstrated interest at the political level in shaping the future international chemicals agenda. An important objective of SAICM at the national level is to build upon existing chemicals management initiatives in various sectors, and to strengthen coordination and coherence among various government and stakeholder initiatives. A second important objective is to link these activities to national development planning (for example, National Sustainable Development Strategies, UN Development Assistance Frameworks, Poverty Reduction Strategies, and so forth). In order to achieve these objectives, the SAICM *Overarching Policy Strategy* (OPS) states that:

[t]o sustain an integrated approach to managing chemicals, each Government should establish arrangements for implementing the Strategic Approach on an inter-ministerial or inter-institutional basis so that all concerned national departmental and stakeholder interests are represented and all relevant substantive areas are addressed.⁵⁹

The UNEP Governing Council (GC) has been, and remains, regularly involved in seeking a more integrated approach to managing chemicals and waste; which involvement includes investigating relationships between key multilateral environment agreements (MEAs), such as the Basel Convention on Hazardous Wastes and the recently adopted Stockholm Convention on Persistent Organic Pollutants, and, more fundamentally, the linkages of chemical management issues to development strategies. At national level these instruments should be handled in a coherent and integrated manner: institutionally, financially and by way of reporting, as well as under policies and legislation.⁶⁰ During the 24th UNEP/GC, the longest and most

⁵⁷ Bahia Declaration on Chemical Safety, IFCS/FORUM III/23w (2000).

⁵⁸ *Priorities for Action Beyond 2000*, IFCS/FORUM III/23w (2000), Annex 6.

⁵⁹ SAICM OPS, para. 23; *Developing a Capacity Assessment*, *supra* note 57, at 1–2.

⁶⁰ *Ibid.* at 41.

difficult discussions concerned the various questions related to chemicals.⁶¹ In the end, the Council adopted two decisions on chemicals matters.⁶²

Additionally, at the international level, there are many ongoing activities to assist countries to enhance their capacity to manage chemicals safely. Each treaty regime has its own structure of addressing science and mandated issues; by way of Conferences of the Parties (COP), or Meetings of the Parties (MOP), or of the secretariat of UNEP. In these meetings, developing countries are as predominant as are parties from the North; the issues concern all, even if some states are not formally parties to some key instruments. In some, there are clear and dominant financial mechanisms; for instance, the Global Environment Facility (GEF). Others have established some funding mechanisms, but the resources made available are insignificant to meet the challenges of deprived parties.⁶³

As stated, the international framework is in place; it is clear that there is a strongly felt need that this framework should guide the actions not only of states but of entities within states. Significantly, developing countries have supported the global framework which they see as providing overall protection of their threatened interests. The weakness has been that the stringent standards, regulations, controls and procedures applicable in the developed world, for the health and economies of those countries, are not the same as those applied in respect of similar matters and issues when these countries invest or deal with the South.

There have been some significant incidents of disregard for safety in respect of toxic wastes exported to Africa. A recent highly publicized incident in the Ivory Coast, in which wastes were shipped from the North to that country, causing deaths and affecting the health of many innocent victims amply demonstrates this. The Bamako Convention and the position of Africa on these issues was prompted by the eruption of a scandal of international proportions involving the dumping of toxic waste at

⁶¹ Donald Kaniaru, United Nations Activities: First Meeting with the Executive Director – Key Decisions of 24th UNEP/GC, 37 *Environmental Policy and Law* (2007) 270.

⁶² Decision 24/4 on the prevention of illegal international trade, specifically inviting governments to accede to the Basel, Rotterdam and Stockholm Conventions and to provide UNEP with sufficient resources to implement paragraph 18 of the OPS of the SAICM; and Decision 24/3 on SAICM issues. Given the unwillingness of the Council to consider a legally-binding instrument on mercury (with or without also covering lead and cadmium), the decision is somewhat inconclusive.

⁶³ Multilateral and regional technical co-operation agencies and programs (e.g. the WHO Inter-Organization Programme for the Sound Management of Chemicals (IOMC) participating organizations) and multilateral and regional development banks (e.g. Asian Development Bank, Inter-American Development Bank, International Bank for Reconstruction and Development also known as the World Bank) have also supported both short-term small projects as well as long-term technical assistance programs through the provision of loans and grants. Developed countries also help developing countries and countries with economies in transition with chemicals management. Bilateral development co-operation agencies frequently undertake significant longer-term technical assistance for countries to strengthen national, technical and administrative infrastructure (including training staff), thereby increasing the effectiveness of domestic chemicals and waste-related activities and the application of international agreements and treaties. UNITAR/IOMC, *Financial Resource Mobilization for the Sound Management of Chemicals*, Guidance Note, Working Draft (2001) at 3.

Koko beach, a tiny delta port in Nigeria, in 1987–1988.⁶⁴ It is evident that countries in Africa and the rest of the developing world are truly vulnerable. The global nature of chemicals and waste issues requires, therefore, a comprehensive, global approach – one that involves all stakeholders and partners in development. Where such an approach has been integrated in the processes, discussions and implementation, success has followed, as in the case of the ozone regime.

3 National challenges that developing countries face in managing chemicals and wastes

3.1 Introduction

The interface between the developed and developing countries is complex and dynamic and, as a result, it has a great effect on the challenges that developing countries face. It is this interface that should facilitate and enable developing countries to implement, at the national level, matters discussed and adopted at the international level, in order to address municipal problems. At a glance, one might mistakenly assume that the interface brings value to developing countries, as envisaged. However, in reality, the value is not apparent. Study of the interface, instead, highlights the problems and shortcomings of developing countries; thereby compounding existing problems at the national level, rather than bringing out the said value. This is clearly evidenced by the many overlapping powers and responsibilities granted under the auspices of international instruments, which need to be clearly co-ordinated and properly planned in order to ensure that no uncertainty arises.⁶⁵ It is with this understanding that the relevant challenges facing developing countries, as addressed herein, should be understood.⁶⁶

3.2 Lack of a successful financial resource mobilization strategy

In a number of developing countries, there exists no reliable integrated national programme for the sound management of chemicals.⁶⁷ The same applies to wastes. These problems are mainly attributable to the invariably limited financial resources and lack of capacity to deal appositely with the predicament. However, despite there being a panacea in the form of internal and external funding to supplement the invariably

⁶⁴ Eighteen thousand drums of Italian hazardous waste containing dioxins, PCBs and asbestos were dumped by an Italian businessman Gianfranco Raffaelli together with an unsuspecting Nigerian landowner, Sunday Nana, and the waste eventually leaked into the area. See Jim Puckett (ed.), *The Digital Dump: Exporting Re-use and Abuse to Africa*, (Basel Action Network Media Release Version, 2005). On the recent incident in the Ivory Coast, see Maged Younes, 'Chemicals: The Global Context' in Part II of the present *Review*, at footnote 7.

⁶⁵ Bell and McGillivray, *Environmental Law*, *supra*, note 34, at 565.

⁶⁶ The ten or so challenges discussed in this section are by no means exhaustive, and, as presented, claim no order as to importance or otherwise. Similarly, there is no claim that each and every one of them applies to all countries.

⁶⁷ UNITAR/IOMC, *Financial Resource Mobilization*, *supra* note 64, at 3–4.

limited capacity and internal resources, the main challenge can be identified as the lack of a successful financial resource mobilization strategy to ensure that external and internal resources are assured and harnessed.

Developing countries are more than ever before aware of the nagging inadequacies in finances within their territories; yet are seemingly complacent about acting in order to remedy this situation through perceptible and available funding options. Arguably, there are many providers of external funding ready and willing to assist developing countries. For instance, the 2002 World Summit on Sustainable Development came with the recommendation that support should be given to developing countries in capacity strengthening, for the sound management of chemicals, by providing technical and financial assistance.⁶⁸ The Global Environment Facility (GEF) has responded by allowing funding for chemicals issues related to one or more of the six GEF focal areas (these being biodiversity, climate change, ozone depletion, pollution of international waters, desertification and POPs).⁶⁹ Under the leadership of UNEP, the parties to the Montreal Protocol broke new ground in developing and implementing mechanisms for providing reasonable financial assistance and transferring the needed technology.⁷⁰ By the same token, it is the financial contributions from the major developed countries into the Protocol's Multilateral Fund that convinced some key developing countries (that are producers and consumers of ozone-depleting substances) to ratify the Montreal Protocol and phase out controlled substances.⁷¹

The challenges in financial resource mobilization are further exaggerated by the shortcomings in the age-old tenets of effective internal and external communication: co-ordination and planning. The said short-comings are mainly attributable to the failure of the developing countries effectively to conduct a comprehensive situation analysis.⁷² Further, the information gathered from such situation analyses, as well as being inadequate, is hardly ever shared amongst the relevant stakeholders domestically. In addition, this information is rarely used as it is prescribed that it should be

⁶⁸ The Summit adopted the goal that, by 2020, chemicals should be used and produced in ways that minimize significant adverse effects on human health and the environment taking into account the precautionary approach. Buccini, *Global Pursuit*, *supra* note 22, at xvi.

⁶⁹ *Ibid.* at 77.

⁷⁰ Richard Benedick, 'Lessons for Modern diplomacy', in Donald Kaniaru (ed.), *Montreal Protocol: Celebrating 20 Years of Progress for the Ozone Layer and Climate Protection* (Cameron May, 2007) 117–124, at 117.

⁷¹ 'Without the Multilateral Fund to support the technology transfer, developing countries would not have agreed to ratify the Montreal Protocol because the introduction of alternative technologies would entail a great amount of investment, which they were unable to undertake on their own.' Stephen O. Andersen and K. Madhava Sarma, *Protecting the Ozone Layer: the United Nations History* (Earthscan, 2002) at 100;. This issue is also underscored in Gilbert Bankobeza, 'Compliance incentives under the Montreal Protocol', in Donald Kaniaru (ed.), *Montreal Protocol: Celebrating 20 Years of Progress for the Ozone Layer and Climate Protection* (Cameron May, 2007) 75–106, at 75.

⁷² The essential components of a situation analysis are dependent upon 'a thorough understanding within the country of how decisions regarding overall development priorities are made and how providers of external funding evaluate and support country initiatives' and 'an understanding of what chemicals-related activities are planned and/or underway in the country'. UNITAR/IOMC, *Financial Resource Mobilization*, *supra* note 64, at 7.

used by the provisions of international agreements;⁷³ in order to demonstrate a commitment to address chemicals issues nationally and, most importantly, to guide both providers of internal and external funding in making informed decisions and choices in determining the extent of their involvement with the concerned country.⁷⁴

Not surprisingly, providers of external funding are generally unwilling to finance initiatives which, due to lack of effective internal communication, coordination and systematic planning, fail to establish a case for a coherent approach to chemicals management. Providers of external funding, for the most part, require some set guidelines to be put in place or conditions to be met by a particular developing country in order for the country to qualify for and access external assistance – both bilaterally and multilaterally. In this regard, developing countries are required to formulate policies and guidelines that are in consonance with these requirements; since they have little or no choice but to abide by the requirements in such circumstances, otherwise no funding will be availed.

A secondary challenge arising from this scenario is that most developing countries, in the wake of colonial or dictatorial pasts, are very protective of their sovereignty and national pride. As a result, it seems, they view ‘conditionalities’ and requirements set by providers of bilateral and multilateral funding as being intrusive on their self-governance; and some have even stated that the said prerequisites ‘pierce their veil of sovereignty’.⁷⁵ One of the most severe of these ‘conditionalities’ involves the requirement to alter or amend domestic laws and policies; in order to open up or liberalize the fledgling markets of developing countries, thereby leaving them unprotected against domineering western influences (for instance multinationals or conglomerates), in order to merit external financial support. The challenge therefore lies in striking an effective balance between serving the public interest at whatever cost, whilst simultaneously preserving national pride. As time goes by, this becomes a weaker excuse, though; developing countries must arguably take charge of their own future.⁷⁶

In Africa, the World Bank intends to carry out a project designed to assist the Federal Democratic Republic of Ethiopia in eliminating inventoried, obsolete, and publicly held pesticide stockpiles, with associated wastes, and to implement measures to re-

⁷³ The results of the analysis can be used to prepare, for example, a National Profile as envisioned in a GEF Council Meeting in May 2001, with regard to the successful implementation of the POPs Convention related activities. *Ibid.*

⁷⁴ Providers of external funding usually respond to issues put forward by a country seeking assistance in order of national priority. *Ibid.* at 11.

⁷⁵ Andronico O. Adede, ‘Africa in International Law: Key Issues of the Second Millennium and Likely Trends in the Third Millennium’, 10 *Transnational Law & Contemporary Problems* (2000), 351–370 at 359.

⁷⁶ For instance, Singapore, Kenya, Korea and Brazil were at the same level of development in the 1960s. However, now Singapore and Korea are developed while others have arguably stagnated and remained as developing countries.

duce and prevent related future risks.⁷⁷ However, the FDR of Ethiopia has managed to satisfy the conditionalities despite their seemingly intrusive nature.⁷⁸

Furthermore, in some developing countries revenues raised from chemical and waste safety-related legal procedures (for instance fees, taxes, or fines) flow into the national treasury or finance ministries. This occurs, however, without there being adequate 'recycling' of funds for strengthening of the national chemicals management infrastructure. These funds are redirected into other sectors or departments that do not urgently require them instead of the chemical management infrastructure, which desperately does.⁷⁹ This implies that no coherent internal policy structure (to ensure that internal resources are redirected to where they are needed most) might exist in the said developing countries.

In light of these challenges, all in all, the underpinning concern is that there is a lack of a central co-coordinating body at the national level that could, inter alia, facilitate the exchange of information concerning the financial aspects of chemicals management in developing countries.⁸⁰ Without such a body in place, developing countries will find it very difficult to implement the three cardinal rules of effective communication, systematic planning and co-ordination; which rules are the only guarantee to a successful finance and resource mobilization strategy.

3.3 Multi-stakeholder approach to handling chemicals and waste issues at national level

A multi-stakeholder approach involves representatives from various government ministries; as well as concerned parties from outside of government proper, such as industry, research institutions, labour, public interest groups and other affected and interested parties. The approach requires all of these interacting and working together at the national level in making key decisions that lead to the sound management of chemicals. Most, if not all, developing countries lack a collective approach to the sound management of chemicals and waste issues. This is primarily a result of failings in inter-ministerial or inter-departmental and inter-sectoral communication, consul-

⁷⁷ World Bank, Project Appraisal Document on a Proposed Grant From the Global Environment Facility Trust Fund in the Amount of US\$ 2.62 Million to the Federal Democratic Republic of Ethiopia in Support of the Third Phase of the US\$21.7 Million Africa Stockpiles Programme – Project 1, 24 May 2007, at VI.

⁷⁸ The conditions for disbursement for disposal were decided by the Bank as being to complete a Country Project-specific Environment and Social Assessment including an Environmental Management Plan to the satisfaction of the Bank, to assess the environmental impacts of the clean-up activities covered by the project, once the obsolete pesticide stockpile inventories and site characterizations have been completed. Further, Ethiopia met the following agreed readiness criteria: (a) ratification of the Stockholm and Basel Conventions; (b) Ethiopia is a priority country in terms of readiness to address the danger of obsolete pesticides; (c) Ethiopia has established a Project Management Team and completed an Operational Manual to implement the project; and (d) project financing has been secured from the GEF. *Ibid.* at VII and 1–2.

⁷⁹ UNITAR/IOMC, *Financial Resource Mobilization*, *supra* note 64, at 4.

⁸⁰ *Ibid.* at 1.

tation, co-operation and co-ordination. Competition among them also undermines addressing common good issues and pooling resources to that end.

The lack of a multi-stakeholder approach is a great challenge, in that it prevents countries from realizing the existing potential competently to handle the numerous problems prevalent in their chemicals and waste regimes without seeking external help. Contradictions in government need to be addressed too. For example, every so often it is the case that adequate financial resources are available to fund the management of chemicals in a country; but the resources are not, however, furnished to the ministries in charge of chemicals issues when they need them. For instance, it might be found that the Ministry of Tourism in a developing country has a surplus in revenue allocations; and the Ministry in charge of chemicals issues has a shortfall in revenue allocations. However, due to the lack of a central co-ordinating body that could, *inter alia*, facilitate the inter-ministerial exchange of information concerning the financial aspects of chemicals management; the 'available' resources are tied up in a web of bureaucratic red tape, to the extent that they cannot be accessed or utilized by the disadvantaged Ministry that would need them.

The major challenge to the ministries in charge of chemicals and wastes issues is how to implement actions to strengthen the links with other ministries and interested parties; in order to enable them to participate in protecting the environment and human health, and to foster sustainable economic and social development. It is the job of the ministries responsible for chemicals or waste issues to mobilize the collective contribution and awareness initiatives. They are best placed to understand the country's internal decision-making processes for allocation of internal governmental resources, keeping in mind that chemicals or wastes issues are regarded as low priority issues. Further, they understand and are aware of the internal competition (within the ministry/department) for resources.⁸¹

Regrettably, chemicals and waste management issues rarely appear in general government documents (for example, annual reports, press releases, budget speeches, and planning documents) that outline overall priorities. As a result, it is usual for there not to be enough other stakeholders aware of chemicals and wastes issues to warrant co-operation on these issues. A multi-stakeholder approach could also be used to agitate for more financial allocation; perhaps through the support of partner ministries to help in the 'recycling' of funds submitted by ministries as revenues from chemical and waste safety-related legal procedures.⁸²

With regard to stakeholder representation, certain non-governmental organizations (NGOs) can bring a wealth of experience regarding, *inter alia*, internal financial resource mobilization (for example, proposal preparation, and making the most of

⁸¹ *Ibid.* at 4.

⁸² Buccini, *Global Pursuit*, *supra* note 22, at 4.

limited funding) to the table. However, they are often, unfortunately, prevented by turf concerns from contributing their much needed experience. The said ministries could certainly benefit from this experience.⁸³

A multi-stakeholder approach is also lacking between ministries, parliamentarians and industry in most developing countries. As a result, the ministries in charge of chemicals and wastes issues are unable properly to determine how internal resources might be allocated for other issues and what possibilities exist within the country for promoting internal financial and human resources.⁸⁴

Individual approaches to chemicals management in some developing countries, have led to an unnecessary proliferation of functions and duties and overlapping competencies between ministries and other stakeholders. In an example in China, 17 institutions are involved in basically the same issues; with consequent implications for the country's ability to carry out effective management of chemicals and waste issues.⁸⁵ The ultimate objective ought to be to dismantle 'turf walls' and to curtail the power games prevalent in every government, in favour of the common good; and with credit for all, rather than for individual entities.

3.4 Absence of integrated national policies, plans and programs for the sound management of chemicals and wastes in developing countries

Policies for the sound management of chemicals and wastes are now recognized as being essential components of overall public policy in countries at all stages of development, and they should be reflected in the national agendas (sustainable development plans) of the said countries.⁸⁶ However, a large number of developing countries fail to consider sound management of chemicals and wastes as one of the top priorities on their national agendas. This is primarily due to the fact that these countries are burdened with a myriad of other persistent priority issues (both genuine and illegitimate).⁸⁷ These rival priority issues compete for the allocation of resources at the

⁸³ For instance, non-governmental organizations such as Participatory Ecological Land Use Management (PELUM) have been established in Lesotho to conscientize the public about pesticides and chemicals management. The public plays a very important role in the management of these substances. A conscious effort has to be made by the Department of Environment to actively engage, educate and disseminate information to the public on chemical and pesticide management as well as the adverse effects of these substances. Tjela, *Findings Report*, *supra* note 18, at 26 and 29.

⁸⁴ The management of chemicals and waste issues in developing countries is fragmented and is implemented by several Ministries and agencies which also have other activities as their core mandates. There is no coordination of activities. *Ibid.* at 27.

⁸⁵ See section 3.8 below.

⁸⁶ Tjela, *Findings Report*, *supra* note 18, at XIV.

⁸⁷ 'The degree to which resources are allocated for chemicals-related activities is often a reflection of their priority in the broader policy context. While this relationship is increasingly reflected in international forums (for instance, in POPs), this is often not the case at the national level in many countries'. UNITAR/IOMC, *Financial Resource Mobilization*, *supra* note 64, at 1.

national, inter-ministerial and departmental levels and may be a considerable challenge to developing countries in the management of chemicals and wastes issues.⁸⁸

This challenge is initially predominant in the process of developing or devising a national development planning agenda which, when complete, might form part of a developing country's policy framework. With weak national development planning processes; developing countries are, more often than not, incapable of precisely gauging the weight of legitimate concerns associated with development, many of which concerns relate to chemicals and wastes issues, that merit high priority as considered against peripheral or ancillary issues. As a result, in most developing countries, the absence of a clear national chemicals and wastes management policy is a feature.⁸⁹

For the most part, the absence of a planning strategy and policy for the improvement of chemicals management at the national level can be attributed to lack of expertise, knowledge or insight on the part of the policy-makers as to how to design such a strategy. The existing levels of awareness, knowledge and understanding regarding chemicals issues among key decision-makers, including relevant political figures such as ministers, senior policy advisors and influential figures outside government, in developing countries is wanting. It appears that those in a position to change this situation are often unwilling to engage key experts on chemicals issues in the preparation of the national development planning process. Such 'enlightened' intervention would otherwise ensure their familiarity with indispensable knowledge for the creation of a successful national development planning process.

3.5 Low levels of public awareness and lack of access to information

Public awareness in this context means the demystification of chemicals and wastes issues and the sensitization of the public on handling or use of chemicals (both beneficial and adverse). Such creation of awareness is primarily carried out by governments, or by individuals or organizations/institutions with governmental sanction, for the benefit of the populace in developing countries – often being carried out with little consideration for literacy levels and other barriers to effective communication endemic among the target population. Public awareness goes hand in hand with access to information, meaning the making available of such information to the people of a country by the government. The right of access to information and public participation, as stated in Principle 10 of the Rio Declaration, is widely accepted by governments and even enshrined in national laws and regional treaties. However, the application of this 'right' in the field of chemicals and wastes is often little more than a mirage.

⁸⁸ *Ibid.* at 4.

⁸⁹ *Ibid.* at 9.

Such rights to public participation as may exist are not presently adequately publicised in developing countries; and awareness building is itself lacking. Efforts by relevant ministries to educate the public and to intensify information dissemination efforts through, for example, radios, televisions, newsletters, posters, seminars, mobile phones and other currently ubiquitous styles of communication, have too often been non-existent, too sparse or of little effect. Access to information is never guaranteed in developing countries despite its supposedly being a right. The points of access (i.e. institutions or facilities) where such information is found are often not accessible to ordinary people, due to difficulties of access or of financial constraints where such information has to be bought. The governments of developing countries often lack a proliferated system of dissemination points for such information at the grassroots level where they are needed most. One often ironically finds that such information dissemination points are found only in urban centres where their need is not as crucial. The poor and the geographically disadvantaged often lack access to this potentially lifesaving information. In some cases public awareness campaigns are even ignored by the target populace, for inexplicable reasons.

Furthermore, ministries in charge of chemicals and waste management have often failed to build strong sustainable alliances with non-governmental organizations and to provide them with relevant information for the proper management of chemicals and pesticides. Importantly, NGOs would be well-placed through their dependable grassroots structures to disseminate such information to people. NGOs are also willing to carry out such activities where these fall within their stated objectives, and they do not even ask for anything in return.

Most worrisome is the current low level of awareness regarding chemicals and wastes issues amongst key decision-makers, including relevant political figures such as ministers, senior policy advisors and influential figures outside government in developing countries. The blame for this predicament falls squarely on the shoulders of governments and country leaders. Since they are, or choose to be, uninformed on these issues, their constituents remain equally uninformed – this being particularly serious where there is a responsibility to keep a populace informed as a priority agenda item.

Ignorance and illiteracy are amongst the greatest enemies to the overall welfare of humanity and in the fields of chemicals and waste, especially so in developing countries. The illiterate are arguably the grassroots managers. They are agricultural workers on a daily basis; but they are not taught how to handle/apply chemicals or waste; they often do not recognize what has expired and what to do with it and, even if they did, unscrupulous traders might even go so far as to switch labels and pretend that all is well. Those in charge of standards at national level hardly ever monitor such products in order adequately to inform the public where there is need. Alternatively they might ignore altogether the instructions for proper handling of chemicals.

Furthermore, current information regarding the international chemicals agenda from a global perspective, which includes updates and reviews of current international agreements, programs, initiatives, and current and emerging issues and opportunities related to the sound management of chemicals, is often ignored, rejected or sidelined by the leaders of developing countries, to the detriment of their people. The public has a right to access this information; a right which ought to be exercised through its leaders who have been mandated to serve as sources of information on aspects of the current international chemicals agendas. These agendas have the potential to affect economic growth and development, human health and the environment and, thereby, to affect global sustainable development. It is often the case that one cannot locate a printed copy of a particular international instrument in the government's public information resource facilities, for instance, in public or departmental libraries. Moreover, of course, electronic media, taken for granted in the North, is not that widespread in developing countries – at least outside urban areas.

These leaders further fail to bring to people's attention the country's overall strategies and programmes with regard to chemicals issues following the external and, on occasion, internal analyses, consultations and strategic discussions of the growing importance of chemicals management as a global environmental issue. The challenge may be attributable to poor governance, lack of political will, vested interests among key-decision-makers and politicians, the interests of industry and, ultimately, ignorance. In most rural settings in developing countries, political leaders serve as the repository for information for their people. They are best placed to educate the people on good practices both in the waste and chemicals regimes, due to their central position and the fact that everyone listens to them when they speak. However, most political leaders have negated this social responsibility and have instead concentrated on political bickering and rivalry. This is, in essence, lack of political will to engage in dissemination of information to the public. The said leaders often fail to participate due to ignorance, disinterest, lack of motivation and, last but not least, because of the often cited but least addressed reality of vested interests within the political paradigm.

Handling chemicals, even in developed countries by personnel who are informed and endowed with resources, is a problem that has led to deaths. Even basic hygiene practices such as the washing of hands are by no means a given and may result in widespread infections.⁹⁰ The situation in developing countries where poverty reigns, illiteracy and ignorance abound, is that washing of hands and treating of cuts is often done with soil, dust, or leaves – in total disregard of bacterial spread and effects. How many would have died or suffered effects of ill health from the environmental situation around them? Obviously an untold number as there is no monitoring whilst the individuals are alive and cultural beliefs might impede enquiry upon death.

⁹⁰ Atul Gawande, *Better: A Surgeon's Notes on Performance* (Metropolitan Books, 2007).

3.6 Poverty amongst the populace of most developing countries

Poverty amongst the populace of most developing countries is a prevalent concern that inexorably generates challenges to many initiatives embarked on by governments, key among these challenges being the sound management of chemicals and waste. In most developing countries, half of the population lives below the poverty line. This means that they lack one or all of the three basic needs (food, shelter and clothing). It is a well-known fact that where poverty is rife, illiteracy thrives and, as a result, many of the affected people are ignorant or simply do not care about anything else other than their immediate survival. Governments face a daunting task in their attempts to assist the poor regarding chemical safety, pollution control and protection of the environment.

Firstly, illiteracy, an offshoot of poverty, brings about a language barrier problem, which hinders effective communication on chemicals issues to the poor. Widespread illiteracy at the grassroots level is a major limiting factor to the building of capacity to handle chemical issues. Capacity cannot be effectively built owing to the human resource limitation in the extent of knowledge to deal decisively with chemicals issues. This has several significant implications; amongst them understaffed research initiatives, uninformed or unenlightened decision-makers, ill-equipped implementation mechanisms⁹¹ and strategies, and, lastly, an ill-enforced compliance regime.

Secondly, the poor have to survive in hostile environments. Given this, dealing with adverse chemicals issues in ways advised by governments is likely to be perceived as being ancillary to their primary concerns of immediate survival. The poor would under most circumstances engage in any activity, no matter how risky or detrimental to their lives, as long as at helped to put food before them, clothes on their bodies and a roof over their heads.

In today's world, people in positions of power, or those with financial power, might take advantage of poor people desperate for survival and not blessed with the luxury of choice. Often, the poor are used to provide cheap labour and are subjected to pitiable and deplorable work conditions. In the chemicals regime, the poor often work without the appropriate protective gear; either because none is provided or because the gear they have on is worn out, defective or obsolete. For instance, the Kenyan National Environment Management Authority revoked with immediate effect the export of scrap batteries from Kenya; and ordered a local company to stop the extraction of lead from batteries for failing to adhere to environmental requirements. An inspection revealed that the company was exposing workers to danger by failing to provide them with protective gear.⁹²

⁹¹ In Kenya, for instance, most of the people joining the police force or enforcement machinery have been little educated and as a result, lack adequate educational knowledge. Financial dues have, till lately, been poorly paid and open to corrupt practices.

⁹² Excerpted from *People Daily*, a Kenyan newspaper, 22 December 2006, at 1 and 2.

Studies in Mexico in the early 1990s documented very high levels of lead in children's blood. A cross section of a poor population showed how rapid industrialization exposed the workers in various industries, indeed even child workers, to lead exposure. In Brazil studies showed how the waste resulting from mercury being used to extract gold from river sediments was absorbed by fish which were subsequently consumed by people.⁹³ This phenomenon has also been recorded in Tanzania, Surinam and the Philippines.⁹⁴

In the flower farms on the shores of Lake Naivasha in Kenya, thousands of indigent labourers are exposed to chemicals as they work, to the detriment of their health. Rapid industry growth has meant that the companies have found it difficult to keep pace with the needs of the growing number of workers and their families. The chemicals used on these farms have taken their toll on workers, with some losing their sight, others experiencing multiple miscarriages, some being permanently disfigured, and others still suffering from health problems linked to exposure to toxic pesticides. They cannot report their plight to the authorities, and choose instead to suffer in silence, since their superiors will dismiss them summarily without compensation; most of them being too poor to institute legal proceedings for compensation.

Governments in developing countries, in their commitment to fight poverty, have dedicated their time and resources to alleviating poverty; but have proved largely unable to meet the challenge. However, while such action is ongoing, the disastrous effects of poverty continue unabated, especially with regard to the sound management of chemicals and wastes. Chemicals and wastes issues, unlike poverty, have to be addressed on a short-term basis, due to their adverse and, for the most part, irreversible effects. These take very limited time periods to manifest themselves adversely, but very long time periods for reversing or containing adverse effects, thereby causing untold destruction both to people and to the environment.

Governments therefore face the challenge of fighting off these competing interests alongside each other in an integrated way, and not in isolation. (They cannot simply resolve first to fight poverty; and then to address the challenges that poverty causes in the chemicals or waste regimes.) The damage has already been done and is continuing, all the while increasing in magnitude and complexity, considering the passage of time and advances in technology. So far, few mitigation strategies have been adopted to address all the stated challenges prevalent in the developing world.

⁹³ Lynn Goldman and Nga Tran, *Toxics and Poverty: the Impact of Toxic substances on the Poor in Developing Countries* (World Bank, 2002) at 17.

⁹⁴ *Ibid.* at viii.

3.7 Absence of regulatory regimes to oversee and control chemicals issues in countries ravaged by war and civil strife⁹⁵

With Africa almost certainly in the lead, developing countries rank highest among the countries ravaged by war and civil strife, with the breakdown of law and order. In these circumstances, it is impossible for the governments in such hostile countries, if indeed there are governments, to properly address or manage their chemicals and wastes regimes during times of civil strife. During these times, the apparent state of lawlessness leads to neglect of the stringencies in laws or regulations governing the said regimes and, at that point, abuse is the order of the day. The challenge is that the governments are powerless against such abuse, until the situation is normalized. There are no known measures or controls that have been able to counter such situations where life, property and ecological systems are exposed beyond limits.

The greatest challenge to the sound management of chemicals and waste is probably during the times when countries are involved in full-scale wars. During such times, more often than not, there exists no recognizable form of government. Abuses in the chemicals and wastes regimes at such times can reach appalling proportions; as no system of government exists, except by way of direct external intervention (for example, by the UN). During such times, chemicals and wastes are exchanged by unscrupulous traders, smugglers and profiteers for guns and ammunition between the belligerents. At such times the standards of chemicals used are disregarded since there are no experts to validate them, and, above all, few people care for such standards; great danger is therefore posed to civilian lives. Unlike during times of civil strife when abuses are those of municipal law, during times of a full-scale war abuses involve also breaches of international laws. For instance, during such instances unscrupulous entities, including hostile external authorities, take advantage of such opportunities to dump chemicals and wastes that they consider unsafe to use or store and manage at the expense of their own lands, into the lands of such war-torn countries. Untold damage is thereby caused to the environment and to the lives of humans and animals through activities that are in contravention of the Bamako and Basel Conventions, not to mention the general laws relating to armed conflicts and wars.

During war, there is the consideration that chemicals can be used as weapons of destruction.⁹⁶ The recognition that chemicals could be used in warfare led to what is possibly the earliest international agreement on chemicals, the St. Petersburg Declaration of 1868,⁹⁷ which was intended to prevent the use of incendiary or fulminating

⁹⁵ This discussion is beyond terrorist systems and fears of attacks using chemical agents. Nevertheless, there continue to be fears that chemical agents may be used in attacks on both military and civilian populations. Recent terrorist attacks in various parts of the world have heightened concerns in this regard.

⁹⁶ For instance the use of nerve gas, Agent Orange and White Phosphorus in the past.

⁹⁷ Declaration Renouncing the Use, in Time of War, of Explosive Projectiles Under 400 Grammes Weight, St. Petersburg, 29 November 1868, in force 11 December 1868, available at <<http://www.icrc.org/ihl.nsf/FULL/130?OpenDocument>> (visited 31 December 2007).

substances in warfare.⁹⁸ Following the use of chlorine and mustard gases on troops in World War I, and other chemical agents in subsequent conflicts, the global community have on a number of occasions agreed generally on the need to outlaw such practices and developed agreements to prohibit the manufacture and stockpiling of chemical weapons of mass destruction.⁹⁹ The most recent agreement is the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and their Destruction.¹⁰⁰

3.8 Poor governance and corruption in developing countries

It is not, of course, only the developing countries that suffer the traits of poor governance and corruption; these vices exist elsewhere too. Corruption and poor governance are two sides of the same coin. Corruption begets poor governance and vice versa. Corruption leads to a reduction or, worse still, unavailability, of adequate internal resources (financial or otherwise) adequately to address chemicals and wastes problems and challenges. The country is thereby forced to seek external help, which in most cases is seldom ever forthcoming, owing to the fact – as perceived by potential donors – that such funds might be used to further corrupt dealings in a poorly governed state.

In recent times, endemic corruption has become a culture or a way of life in many developing countries. Corruption has grown from a minor issue to a monster of mammoth proportions with staggering effect, capable of destabilizing the proper functioning of governments or even bringing once vibrant economies to their knees. Since in most developing countries corruption has gone unchecked for a considerable amount of time, its effects have become far-reaching.

Government officials who are charged with the responsibility of upholding compliance and enforcement of chemicals and wastes laws, and of monitoring the standards or qualities of chemicals or their means of disposal, are, as a result of corruption, easily compromised to the extent that they 'permit' violations within the chemicals and waste regimes to go unchecked. For instance, officials may allow chemicals that they know to be substandard to be produced within the territories of developing countries or to enter the said countries illegally, for use or consumption by the people of that nation. In the same vein, they may allow waste that they know to be hazardous and capable of causing untold harm to be illegally dumped in areas where they pose a threat to humans and to the environment. In this regard it is worth considering examples from China and Kenya:

⁹⁸ See Buccini, *Global Pursuit*, *supra* note 22, at 14–15.

⁹⁹ Report by John Buccini, *Global Pursuit for the Sound Management of Chemicals*, done on behalf of the International Bank for Reconstruction and Development/the World Bank, February 2004.

¹⁰⁰ Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and their Destruction, Paris, 13 January 1993, into force 29 April 1997, 32 *International Legal Materials* (1993) 800.

In China, the former head of China's State Food and Drug Administration, Zheng Xiaoyu, was executed for corruption in October 2007. He was convicted of taking 6.5m Yuan in bribes and of dereliction of duty at a trial. The trials were linked to sub-standard medicines, blamed for several deaths. China has been criticized for a number of recent cases involving tainted goods and it has been assessed that Zheng became a symbol of the crisis. Following this event, the State Food and Drug Agency acknowledged that its supervision of safety had been unsatisfactory, and it vowed to improve matters.¹⁰¹ The problem in China has been seen as arising from many uncoordinated, duplicatory bureaucracies, 17 in all, falling between different ministries: a factor not only in China but in many developing countries. These cost countries a lot of delays in getting anything started; issuing licences and facilitating the work of meddlers in itself breeds corruption and bribes.¹⁰²

The issue of workers in Kenyan flower farms was raised above. Recently the press was alerted that there was conspiracy between manufacturers and medical practitioners to intimidate the workers when they were exposed to dangerous chemicals. The doctors advised the sacking without compensation of workers diagnosed with illnesses relating to chemicals used in the farms before these workers' diseases became fully blown. Workers, for fear of sacking, go without complaining and develop full blown effects. Additionally, a top public health officer who is supposed to monitor the implementation of safety regulations for workers has been contracted by the farms in one of their clinics.¹⁰³

Corruption and poor governance lead further to institutional and infrastructural decay and obsolescence, which are the hallmarks of crumbling systems of governance. This further leads to complacency amongst officials, and the development of syndromes of dependency on the developed world – with this support coming to be seen as the panacea to every ill with regards to those issues and their management. However, without a proper infrastructure and capable institutions it becomes impossible for these countries to receive such external help.

Poor governance as a result of inept leadership leads to the drafting of national policies that are focused on political manoeuvrings; and which do not prioritize or, worse still, do not even address critical issues like sustainable development, risk assessment and risk management in managing chemicals and waste issues. For instance, trade and development policies are in some instances callously drafted by certain governments, with a calculated motive of personal or political gain in mind; and, as a result, implications are never considered past their actions. A prime example is where fledgling market economies in developing countries are by law liberalized and

¹⁰¹ Based on a report by the state-run *Xinhua* news agency, as reported by BBC. Excerpted from *The Standard*, 11 July 2007.

¹⁰² See *International Herald Tribune*, published in Paris, 9 July 2007.

¹⁰³ Excerpted from *The Standard*, 9 July 2007, at 6.

exposed to substandard or ‘affordable’ chemicals (which in most cases are obsolete in other countries and cannot be used there due to strict environmental standards; or chemicals that are very difficult to manage sustainably due to their toxicity levels). Furthermore, the said national policies end up negating the need for a collective and well-planned/co-coordinated national approach to handling chemicals and waste issues.

3.9 Lack of capacity

The issue of capacity-building is critically important. It is an on-going concern and will not, in the foreseeable future, come easily to a close. In essence, developing countries lack adequate capacities and capabilities to achieve sound management of chemicals and waste; as envisioned in international instruments which they have ratified or to which they have acceded. A number of inadequacies can be identified as the reason for this state of affairs:

- lack of proper chemicals and waste management legislation and policy (this has developed as a specific challenge on its own and is dealt with as such, below);
- lack of institutional capacity;
- lack of financial resources on the part of the government to ensure implementation of the law;
- lack of human resources (technical, enforcement);
- lack of resources on the part of the proponents;
- inadequate reviewing of risk assessment studies by the government;
- monitoring progress to ensure that the conditions of the risk assessment are being complied with is non-existent; and
- lack of equipment and facilities for chemical management and expertise.

Shortcomings in human resources are evidenced by the following:

- law enforcement officers not having enough capacity to enforce the law;¹⁰⁴
- personnel who handle chemicals, especially the operators of small scale enterprises, being inadequately trained and inadequately informed of the dangers due to the few numbers of officers available to do the job and the proliferation of such enterprises throughout the territories of those countries;
- shortage of management skills to deal with technology transfer and with storage, transport, use or disposal of chemicals;
- lack of technical training in environmental law and lack of environmental law awareness, generally;
- lack of toxicologists to conduct biological monitoring; and

¹⁰⁴ The law enforcement officers, such as customs officers, police, public health officers, environmental inspectors, labor officers, magistrates/judicial officers, prosecutors and environmental lawyers, who are key in ensuring that laws are followed, are inadequately remunerated, are inadequately trained and informed. Therefore, they cannot handle their job of enforcing efficiently.

- understaffing in most government institutions that deal with chemicals and wastes instruments.

The lack of strong institutional arrangements to oversee chemicals management means that there might be shortfalls as to:

- availability of good laboratories within the organizations dealing with chemicals and waste;
- lack of chemicals registers or lack of comprehensive databases on chemicals;
- lack of working Standards offices and poison centres; and lack of important institutions such as National Cleaner Production Centres and Ecotoxicology Centres;
- lack of proper facilities generally, storage, disposal etc;
- limited number of authorities administering and regulating the use of chemicals;
- insufficient and data-poor monitoring;
- porous borders, which make importation of chemicals very easy;
- absence of labelling, faulty packaging or repackaging;
- uncoordinated efforts, dangerous methods of use, lack of disposal facilities for waste chemicals;
- insufficiently stocked libraries and interspersed and often inadequate information access points;
- lack of such institutions as Documentation Centres of the Program for the Promotion of Environmental Health, which collects and organizes health and environmental information;
- weak industrial capacities, providing no possibility of a clean and sustainable industrial development; and
- uncertainties about obtaining a conviction when a matter reaches a court of law.

The lack of financial resources means that there will be at least the following problems:

- shortfalls in capacities to rehabilitate contaminated sites and poisoned persons and other health problems caused by chemicals or waste generally;
- inadequate capacities to respond to emergencies due to lack of funds to procure disaster preparedness equipment;
- lack or failure to wear protective clothing when handling chemicals;
- inability to carry out an assessment of alternative and existing pesticides for the safety, efficacy, acceptability and cost-effectiveness, and standard setting to assure product quality;
- inability to acquire the necessary technology and sufficient scientific know-how to safely develop methodologies to assess human exposures and the health effects of environmental hazards;

- shortfalls in developing methodologies on specific preventive interventions and environmental management approaches;
- failures to encourage application of food science research to environmental health issues; and
- inadequacies in developing assessments of health impacts of climate change and ozone layer depletion.

The lack of scientific and technical expertise needed to assess or monitor health and environmental risks, caused by chemicals and waste, means that there will often be:

- (i) lack of the capacity to gather useful information through research and disseminate information and effective education programs; inadequate development of national systems for the sound management of chemicals and waste, including shortcomings in the capacity to implement a globally harmonized system for the classification and labelling of chemicals and in the capacity to develop a coherent and integrated information system on chemicals and waste, such as through national pollutant release and transfer registers, and lacking capacity to perform risk assessment and interpretation; problems in promoting safety, health and environmental protection due to lack of technical assistance in countries in formulating national policies to encourage cleaner production programs;
- (ii) lack of implementing training and capacity-building projects or workshops, resulting in a deprivation of information exchange and technical training;
- (iii) unavailability of technical and capacity-building support for the management of hazardous wastes (emphasizing waste from pesticides and industrial and health care sectors) and lack of information on related health hazards and guidance and training on treatment technologies and best available practices; and
- (iv) weak national health programs with poorly trained health officers to transfer appropriate health technology, information and standards; and lack of capacity to secure environmental health due to poor education, poor training and poor research in environmental epidemiology.

One of the most pressing challenges regarding capacity in developing countries, especially those in Africa, is the inability adequately to address the issue of stockpiles of chemicals (pesticides). Over the past forty years, many African countries have accumulated large quantities of pesticides which have now become unfit for use or reformulation and are, therefore, obsolete. Although these chemicals are no longer effective for controlling pests, they remain potent chemical toxins and still need to be carefully stored and handled. The unwanted build-up of such products has occurred due to inadequate stock management, non-distribution to farmers, bans on several pesticides, lack of coordination or inappropriate supply from donor agencies, unsuitable packaging and supplier incentive programs. The amount of publicly-held-

obsolete pesticides¹⁰⁵ currently stockpiled across the continent of Africa is estimated at 50 000 tons.¹⁰⁶ These stocks will continue to pose a threat to the environment until they have been safely removed and destroyed. Most of the countries in Africa lack the adequate technical, institutional and financial capacity to develop the policies and regulatory conditions necessary properly to manage the cleanup of contaminated waste or sites, together with the destruction of obsolete stocks of pesticides. They also lack the capacity and means to implement sound prevention practices.¹⁰⁷

The developed countries, by contrast, usually have the ability to monitor, detect problems and take these up with the countries and enterprises concerned. They have institutions to do this. They also have NGOs dedicated to improving regulatory endeavours to ensure that no adverse chemicals are used in neighbourhoods.¹⁰⁸

Institutional capacity in research and laboratories is stretched to the limits in Kenya. This, for instance, hinders the government from conducting proper scientific research into the causes of pollution in Lake Naivasha.

Complaints from the general public are that private large-scale flower farmers are polluting the lake, the effects of which are evident from the deaths of birds and fish over time and further from the results of an independent research by a local scientist. The results show high levels of calcium metal from toxic waste believed to come mainly from run-off from farms and from sewerage systems.¹⁰⁹

In another case involving the same lake, a recent study¹¹⁰ unearthed cogent evidence of the continued influx of toxic heavy metals into the lake. The study showed that the lake is contaminated with toxic metals such as lead and cadmium. This has been the situation for an unknown period of time with the lake, declared as a Ramsar Site¹¹¹ in 1995 in recognition of its biological diversity and a fresh water resource, having been contaminated as a result of economic activi-

¹⁰⁵ 'Obsolete Pesticides' means products: (a) whose usage is prohibited or severely restricted for environmental or health reasons; by applicable provisions of the Basel Convention, the Stockholm Convention and the Rotterdam Convention, and/or national law consistent with the Conventions; or (b) that have deteriorated as a result of improper or prolonged storage and can neither be used in accordance with label specifications nor easily reformulated for use; or (c) that cannot be used for their intended purpose, and cannot be easily modified to accomplish such purpose or some other purpose. World Bank, Project Appraisal Document, *supra* note 77, at VI.

¹⁰⁶ *Ibid.*

¹⁰⁷ Kaniaru, 'United Nations Activities', *supra* note 62, at 305–310; Noelle Eckley Selin, 'Mercury Rising: Is Global Action Needed To Protect Human Health and the Environment?', 47 *Environment* (2005) 22–35, at 1–2.

¹⁰⁸ 'The Green Grass Warfare', *The Wall Street Journal*, 7–8 July 2007, dedicated considerable attention to chemical concerns in neighborhoods.

¹⁰⁹ *The Standard*, 9 July 2007, at 6.

¹¹⁰ 'Distribution and Bio-availability of Sediments', commissioned by the African Technology Policy Studies Network presented at a workshop themed 'Maximising the Impact of Research Through Science Communication', organized by the same organization.

¹¹¹ *Ibid.*

ties – with these activities actually depending on the resources provided by the lake.

An interesting fact from both of these examples is that the governmental bodies and institutions mandated to carry out such research have not, to date, carried out such research; or, alternatively, they have not made the results of such research known to the people the research is meant to protect. The probable reasons for this are either the lack of technical or institutional capacity of the government to carry out the research; or the lack of a wide-embracing (multi-stakeholder) approach in managing the problem, with organizations such as those mentioned above.

Furthermore, developing countries seem sometimes to be discouraged, by prior experiences with international instruments, from ratifying or acceding to such; probably because they are sure that they lack the capacity to do what is required and are convinced that the mechanisms envisioned under the agreements for building their capacity are insufficient to meet their needs. This is especially so with the emergence of numerous multilateral environmental agreements (MEAs) in the fields of toxic and hazardous chemical substances and hazardous wastes. Most countries, particularly the developing ones, are faced with a challenge in meeting their obligations under such a large number of MEAs which are increasingly complex, interlinked and sometimes incoherent.¹¹²

On the other hand, the traditional notion of viewing developing countries as underdeveloped, overly dependent, and technologically weak is fast changing in current times, primarily due to the astounding progress, continued involvement and contribution of some developing countries in the international scene. This has led to some developing countries assuming more responsibility on an equal footing with many developed countries at the global level owing to the fact that they are seen to have the capacity to adequately manage chemicals and waste issues. As a result, developing countries have ventured and diversified into the manufacture/production of certain items previously considered 'foreign' and are further actively involved in exporting these items to other countries, both developing and developed. Some countries with a small chemicals industry have become major suppliers of chemicals (for instance, South Korea and China). In some countries, the chemicals industry has grown to the extent of becoming a significant economic sector where it accounts for 30% of manufacturing; by contrast to 10% in the United States and Western Europe. Furthermore, the growth in trade volumes in developing markets has to date increased more rapidly than in developed markets: this growth rate in exports and imports of chemicals from and to developed countries represents a major challenge. This is because the assumptions by these countries that they have the capacity

¹¹² Sachiko Kuwabara-Yamamoto, 'International legal Regimes for the Environmentally Sound Management of Hazardous Chemicals and Waste: A Practitioner's Perspective', in Marko Berglund (ed.), *International Environmental Lawmaking and Diplomacy Review 2004*, University of Joensuu – UNEP Course Series 1 (University of Joensuu, 2005), 89–101 at 90.

adequately to manage chemicals and waste issues were premature and this has, in turn, cost them dearly on the international scene and set their progress back by a few years.

Developing countries have found themselves in situations whereby the goods that they have produced or manufactured – sometimes for export – have caused harm to human life or to the environment due to poor internal standards. For instance, China's people and institutions have often suffered from this problem.¹¹³

Judging from the above examples, the crux of the matter is that, presently, the capacity of some 'partly' developed countries for sound management of chemicals is still wanting, economic prosperity notwithstanding. Addressing this challenge will, however, be extremely problematic gauging from the fact that countries like China are viewed by most other developing countries as having achieved developed status; and the export of possibly contaminated products is apparently continuing unchecked.

3.10 Lack of proper or adequate legal systems to deal expressly with the sound management of chemicals and wastes in developing countries

The regulatory framework (national statutory enactments and national case law) governing the chemicals and wastes regimes in developing countries is inadequate; and, where there is one, the laws are hardly effectively co-ordinated: they are duplicative and competitive. Many of these countries do not have any regulatory framework that coherently addresses management of chemicals and waste issues. The domestic environmental legislation, regulations and procedures are weak to the point that they cannot appositely address current environmental problems. In most developing countries with a colonial history (especially in Africa), most of the existing chemicals and waste regulations are outmoded, ineffectual remnants from the colonial past. Most of the current laws in developing countries cannot adequately address chemicals and waste issues for the reason that they are not environmental in nature; and they lack a proactive or preventive dimension, which such systems are currently recognized as requiring. These laws, at the time of enactment, were not aimed at preventing harm but were used to clean up existing problems. These laws have to date been overtaken by events and in some cases have been relegated to obsolescence. They are, however, still in statute books as law.

Further, despite the existence of many health, labour, environmental and agricultural laws and standards in developing countries, effective management of chemicals and wastes issues have not been ensured. The laws reflect poor draftsmanship, include numerous omissions of matters regarding pesticides that should have been specifically provided for, lack clarity of language, and fail to express clear governmental policy

¹¹³ Associated Press reports excerpted from the *People Daily*, 6 August 2007, at 20.

objectives. Instead of the laws having the effect of ameliorating persistent chemicals and waste problems, they often compound these problems.¹¹⁴

The laws further fail to balance two important, yet conflicting, societal goals; firstly, satisfying the needs and interests of the public with regard to production, and, secondly, the consumption of certain products vis-à-vis good health and environmental quality. The nexus between the two is sustainable development, which most governments do not employ or incorporate specifically within their legal frameworks.¹¹⁵

In addition, as stated above, there are many uncoordinated laws on chemicals and wastes. Instruments of coercion are many and hardly any offer incentives. In addition, their management is scattered and independent of each other: consider, for instance, the areas of radiation; pesticides; wastes; health; factories; and labour. Furthermore, lack of coordination between ministries makes it difficult to enforce laws. Most of these laws overlap while others are inconsistent and contradict each other. Most deal indirectly with the environment; and, as such, many areas of environmental conservation and management are not covered in these laws. There are also gaps in the laws and inadequate provisions to address current environmental issues such as hazardous waste management and agricultural and industrial chemicals. There is, therefore, a need to develop specific and comprehensive sets of laws on chemical management in most of the developing world.

Some developing countries are aware of the flaws in their laws but have not commenced any serious or tangible action toward creating a chemical and waste-friendly legal regime; Lesotho being an example. Despite recognizing the failings in its legal system the country has only this year prepared two bills to address problems in the management of its chemicals and waste regimes.¹¹⁶ The reasons are diverse. For example, Lesotho has not translated its political will into concrete actions due to diverse implementation constraints; most significantly lack of financial resources, limited institutional capacity and lack of environmental awareness.¹¹⁷

One crucial area is the lack of proper standards (as established by law) to address the domestic chemicals and waste issues. For instance, national drugs standards should be on a par with international standards. Standards have not been designed to address the new and emerging issues in developing countries; for example, the issue of influx of second hand imports into developing countries. In the past three decades, in consequence of the technological boom among other apparent developments, it has become increasingly evident that the chemicals and waste regimes are becoming fairly complex, dynamic and exceedingly sensitive and volatile; and that managing them in a sound manner requires a comprehensive and detailed legal framework in

¹¹⁴ IMF, *World Economic Outlook*, *supra* note 25, at 10065.

¹¹⁵ *Ibid.*

¹¹⁶ Makhiba Tjela, *Report on Chemicals Legislation*, *supra* note 55, at 34–35. The year in reference is 2004.

¹¹⁷ *Ibid.* at 5.

place. On the international front, the global instruments on the sound management of chemicals and waste are, arguably, superbly crafted to deal with these issues; and are gradually updated as new issues emerge. By extension, the countries that are signatories to these agreements or that have domesticated them into their local laws are protected and governed by their binding provisions where the capacity to carry out such obligations exists. The biggest challenge, however, for developing countries has been keeping up with these new developments; especially in terms of updating laws to absorb such changes and to report on their implementation as required under obligations assumed.

Another important area which needs to be addressed as a matter of priority, with regard to regulation, is the industrial sector. All industry sectors consume chemicals and produce waste and, thus, they all make a contribution to the loadings of chemicals and waste to the environment; largely through losses from industrial sites and waste disposal practices, distribution of products and articles that eventually result in the releases of chemicals to the environment, or the generation of by-products in industrial and combustion processes at industrial sites.¹¹⁸ However, within the industrial sector, the chemicals industry is frequently regarded as a prime contributor. While it is among the most highly regulated in the developed world, concerns remain that the release of intentionally and unintentionally produced chemicals during manufacture, use, transportation or disposal of chemicals and related waste may be causing damage to environmental organisms or humans. If this is the case for a heavily regulated regime in the developed countries, how then might developing countries intend to deal with a problem of such colossal magnitude with a failing or piecemeal legal framework?

International chemicals and waste agreements usually provide that obligations assumed by parties should be incorporated into national law. In dualist countries, it is only after such domestication that the provisions of international treaties enjoy the force of law municipally, and are not considered to be merely principles or guidelines. However, due to lack of capacity on several fronts, the legal systems coupled with political will in many developing countries prove a challenge in this respect. Furthermore, with regard to chemicals, the laws in developing countries rarely have any provisions regarding the control mechanisms on importation, exportation (transboundary movement, specifically), handling, distribution, use and disposal of the chemicals. It is clear, therefore, that there are serious gaps.

Most developing countries do not have legal provision for chemical classification. Classification of chemicals should be mandatory as it provides a basis for labelling and packaging, the importance of which with respect to the management of chemicals cannot be overemphasized as is also stressed by Agenda 21. A major hindrance,

¹¹⁸ UNEP, *International Activities Related to Chemicals. Overview of international agreements/instruments, organisations and programmes concerning chemicals management* (UNEP 3rd ed., 2001), available at <<http://www.chem.unep.ch/irptc/Publications/intact01.pdf>> (visited 19 September 2007).

however, has been that there is no internationally uniform hazard classification or any agreement on standard definitions or criteria for specific hazards.¹¹⁹

3.11 The emergence of specific new challenges to sound management of chemicals in developed and, ultimately, in developing countries

3.11.1 Introduction

Inevitably, challenges are increasing in the fields of chemicals and wastes: for example, one might consider the roles of scientists, institutions, resources and of co-operation with industry in the addressing of new factors like e-waste¹²⁰ and new chemicals and by-products. The key question is whether developing countries are prepared to engage with those concerned, to prepare and debate national positions that will enable them meaningfully to direct the agenda on such matters at the regional and global levels.

On the international platform, developing countries might be equated to ‘invalids’ for the reason that they have special needs which require urgently addressing. As a result, they receive special attention with regard to provisions of a number of global instruments that deal with chemicals and waste issues. Developing countries sometimes place their total reliance on these instruments to safeguard their interests; seeing these instruments as their bastions in the tumultuous chemicals and wastes regimes, since developing countries do not always have the ability to protect themselves. Regardless of their noble intentions, international chemicals and wastes instruments have not conclusively managed to address chemicals and waste problems in developing countries; largely for the reason that the challenges and problems faced by these countries are of a special nature. The global agenda has not prioritized these challenges facing developing countries (whose responsibility it is to move the agenda in that direction) despite the fact that they have the potential to have impacts on economic growth and sustainable development, as well as on human health and the environment and, thereby, to affect global sustainable development generally.¹²¹ Further, the challenge is compounded by the fact that discussions on approaches to international chemicals and waste management are mute due to the fact that the appropriate synergies have not been generated between MEAs and chemicals and waste programs, even though this is being seriously considered and addressed.¹²²

There are, however, certain instances when international instruments cannot appositely address certain challenges in the sound management of chemicals the world over, including in the developed world. Every year, progress is made in addressing globally recognized chemicals-related problems, owing to improved technologies and

¹¹⁹ UNEP, *Legislating Chemicals*, *supra* note 24. See also Chapter 19 of Agenda 21, which puts much emphasis on action by 2000.

¹²⁰ Refer to section 3.11.2 below.

¹²¹ Buccini, *Global Pursuit*, *supra* note 22, at XI.

¹²² See UNEP Governing Council Decision 24/4 and Kaniaru, ‘United Nations Activities’, *supra* note 62.

novel production methods where newer chemicals are created whose adverse effects are yet unknown.¹²³ Where lacunae exist in international instruments all parties, both developed and developing, are affected. The situation temporarily turns into an 'every man for himself' scenario; and, as a result, developing countries are left stranded with no solution in sight for their problems. They have no choice but to take a back seat, whilst developed countries strive to find global solutions to the problems.

Additionally, new issues appear as scientists continue to improve their abilities to detect increasingly smaller amounts of environmental contaminants; and to identify more sensitive toxicological endpoints of chemicals.¹²⁴ Currently, concern is rife that population level effects may be occurring in present or future generations of wildlife and/or humans due to widespread environmental contamination by chemicals; especially those chemicals that are persistent, toxic and bioaccumulative.¹²⁵

In developing countries, as elsewhere, land and water are a finite resource. Traditionally, they were at least tacitly believed to be inexhaustible; clearly this is no longer true in any sense at all. The problem is worsened by constantly growing population levels and (unplanned) urban sprawl. The problem of managing waste escalates to new heights in such instances, owing to the fact that most developing countries depend heavily on water or land to dispose of their waste. With few rivers and densely populated lands, waste disposal has become a nightmare. It has been a silent and ancient tradition the world over to build most habitats, and consequently urban centres, close to water sources such as rivers, lakes, oceans and seas. However, this becomes a major problem where such resources are overwhelmed to the point that they are poisoned and cannot sustain human life. This challenge is currently facing most developing countries amidst other pressing issues, for instance their incapacities. The telltale signs of this are that they now do not know where to take their waste. Large dumping sites outside urban cities have become ubiquitous; and the drying up of water sources, preceded by the falling of water levels, is now happening all over the territories of these countries.

3.11.2 Managing electronic waste (e-waste)

In all countries around the world, especially in developing ones, there is the growing challenge of managing electronic waste – commonly referred to as 'e-waste'. The concept denotes the broad and growing range of electronic devices produced, mainly in the last two decades, as inevitable by-products of the information or 'high-tech' revolution. E-waste ranges from televisions, to cell phones, computer equipment and video games. E-waste has been stated to be the fastest growing waste stream in

¹²³ There are tens of thousands of chemicals in commercial use at any time and this mix is constantly changing as older chemicals are withdrawn from use while new ones are introduced to commerce at the rate of a few hundred per year. As a consequence of the global production, distribution, transformation and formulation of this large number of chemicals, there are currently hundreds of thousands of products, articles and formulations in the marketplace. Buccini, *Global Pursuit*, *supra* note 22, at XV.

¹²⁴ *Ibid.* at XVI.

¹²⁵ *Ibid.* at 65.

the industrialized world, produced by the world's largest growing manufacturing industry: electronics. The same trend is swiftly emerging in the developing world, which is fascinated by the gadgets. In 2006, the 8th COP of the Basel Convention adopted a Ministerial Declaration and Action Plan on this matter.¹²⁶ Since that time, this matter has become ever more urgent. The key question is whether the critical mobile companies, for instance, are prepared to engage with government to find and implement solutions.

Due to a lack of consumer education and awareness, most people are indifferent to what happens to their old electronic appliances once these become obsolete, or to how they should best discard them in the first place; hence, they simply store them or discard them in an inappropriate way. If current conditions persist, this electronic waste stream will more than likely flow in the direction of landfills, incinerators, or overseas exports; with developing countries often being the ultimate recipients of such wastes.¹²⁷

While electronic equipment is known to contain numerous toxic substances, such equipment is not designed in ways that will ensure proper management. Open dumpsites, landfills, incinerators, and even most modern recycling plants are not secure solutions to managing e-waste.¹²⁸ Dumping e-waste into landfills and open dumps is an inefficient and dangerous method of management; as these disposal methods significantly contribute to rising problems with land, water, and air contamination. Even the best 'state of the art' landfill in developed countries is not completely secure; often allowing certain amounts of chemical and heavy metal leaching to occur. Electronic discards may contribute to about 70% of the heavy metals (primarily mercury and cadmium) found in landfills. These and other hazardous substances can severely contaminate not only surface water run-off but also groundwater and, consequently, filter into public water supplies and into the food chain. Beyond problems of leaching in landfills, the vaporization of metallic mercury and dimethylene mercury is also of great concern. Furthermore, uncontrolled fires may arise in landfills, releasing extremely toxic dioxins and furans (dioxin-like compounds) into the atmosphere.¹²⁹

Many, if not most, efforts to divert e-waste away from landfills and incinerators result in hazardous dismantling, shredding, burning, exporting, and other unsafe, irresponsible disposal methods. Due to unchecked market forces and scarce economic incentives to do otherwise, the vast majority of e-waste – a shocking 80% – that is supposedly recycled might actually be shipped overseas to developing countries.

¹²⁶ Nairobi Declaration on the Environmentally Sound Management of Electrical and Electronic Waste, Nairobi, 1 December 2006, Un Doc. UNEP/CHW.8/16, Annex IV (2006).

¹²⁷ Jim Puckett, *The Digital Dump*, *supra* note 65, at 7; and S. Schwarzer, A. De Bono, G. Giuliani, S. Kluser and P. Peduzzi, *E-waste, the Hidden Side of IT Equipment's Manufacturing and Use*, UNEP Environment Alert Bulletin (UNEP, 2005), available at <http://www.grid.unep.ch/product/publication/download/ew_ewaste.en.pdf> (visited 19 September 2007), at 2.

¹²⁸ Puckett, *The Digital Dump*, *supra* note 65, at 3.

¹²⁹ *Ibid.*

Developed countries have made convenient use of the word ‘recycling’ to justify the free trading of hazardous wastes to the developing countries of Asia; where labour is cheap, and health and environmental restrictions are believed to be relatively lax.¹³⁰

Within developing countries, where ‘recycling’ takes place, unprotected workers – many of them poor women and children – spend long days dismantling equipment; generally with the help of ‘low-tech’ tools such as hammers, chisels, screwdrivers, and even their bare hands. Often, inadequate or no protective gear or appropriate tools for the job are provided. Hazardous recycling operations, such as toner sweeping, open burning, Cathode Ray Oscilloscope cracking and dumping, and acid stripping of micro-chips, all have the potential to expose workers to deadly pollutants like chlorinated dioxins and furans that contaminate their bodies and environments.¹³¹

Local drinking water has sometimes deteriorated to the point that supplies are extremely limited. In some developing countries, water samples conducted near riverbanks that had been used to break down and burn circuit boards, revealed levels of lead 190–221 times higher than the drinking water standard set by the World Health Organization; while samples from the sediment displayed levels of lead and other heavy metals, like barium and chromium, hundreds of times higher than United States and European environmental standards for acceptable risk.¹³²

While some governments in developing countries are developing environmental guidelines for dealing with the preceding information technology revolution; major developed countries like the US continue to lag behind and even to regress. Beyond refusing to sign the Basel Convention, which aims to curb the unwarranted effects of free trade in toxic waste; both the US government and American manufacturers have made numerous efforts to challenge recent European Union initiatives under the framework of the World Trade Organization (WTO). The present author submits that the US should consider adhering to the Basel Convention; and should adopt policies of corporate responsibility to ensure that toxic wastes from the country are not dumped in developing countries and their jurisdictions, where there are neither the resources nor the skills to manage them.¹³³

The system through which the e-waste problem thrives requires a systemic solution that will work in the best interests of all stakeholders, and not just the interests of those at certain locations in the network. Manufacturers must take initial responsibility for creating this whole-systems approach, potentially thereby discovering new ways to profit from re-manufacturing. From producers to governments to average consumers, stakeholders in the e-waste crisis must together recognize both the

¹³⁰ *Ibid.*

¹³¹ Schwarzer et al., *E-waste, the Hidden Side*, *supra* note 128, at 4.

¹³² *Ibid.*

¹³³ Jim Puckett, *The Digital Dump*, *supra* note 65, at 3,4, and 41.

environmental and the economic value of sustainability in the present ‘info-tech’ revolution.

3.11.3 The need for further environmental action on mercury¹³⁴

Recent scientific data confirms the long-range impacts of mercury emissions and the harmful effects of even low-dose exposure to human health.¹³⁵ Due to the persistence of elemental mercury in land, water and air, its negative effects for human health, and the international effects of the mercury cycle, coordinated international action to address mercury pollution is necessary.¹³⁶

International attention to mercury has risen following scientific research indicating the toxicity of mercury and the international scale of deposition. However, current strategies do not yield significant changes in the global supply and demand of mercury. Given the nature, sources and deposition of mercury, there appears to be widespread belief that any attempt less than an international agreement will be largely unsuccessful in addressing mercury pollution.¹³⁷ The nature of such an international agreement is not yet determined: whether this should be a protocol to an existing treaty, a new instrument altogether, or whether a soft law instrument should be created.

Scientific inquiry explores only current anthropogenic releases of mercury. Similarly, political strategies are constrained by the limitations of scientific knowledge. Responses by technological and legal institutions are designed either to control mercury use and emissions, or to prevent use.¹³⁸ Discussions during the Strategic Approach to International Chemicals Management¹³⁹ regarding mercury have failed to address human risks through the review of relevant studies and have not considered the need for further action. The way forward probably lies in taking immediate action to reduce risks to humans and to the environment at the global scale; and in reviewing scientific information on long-range environmental transport of mercury.¹⁴⁰

Hard scientific evidence does indicate that the effects of mercury are almost certainly global in nature. The most comprehensive study to date, the *Global Mercury Assessment*,¹⁴¹ concludes that regional and national actions are inadequate, and that this is especially so in developing countries. Acknowledging a lack of complete information or consensus, the Assessment states that the nature of adverse affects

¹³⁴ The issue of mercury is discussed elsewhere in the present *Review*, and thus the question is treated only very briefly here.

¹³⁵ Noelle Eckley Selin, ‘Mercury Rising’, 47 *Environment* (2005), 22–35 at 24.

¹³⁶ See Kaniaru, ‘United Nations Activities’, *supra* note 62.

¹³⁷ *Ibid.*

¹³⁸ Selin, ‘Mercury Rising’, *supra* note 136, at 24.

¹³⁹ Kaniaru, ‘United Nations Activities’, *supra* note 62.

¹⁴⁰ *Ibid.* at 308.

¹⁴¹ UNEP Chemicals/IOMC, *Global Mercury Assessment* (2002), available at <<http://www.chem.unep.ch/MERCURY/Report/Final%20report/final-assessment-report-25nov02.pdf>> (visited 31 December 2007).

to humans demands international attention.¹⁴² While national actions, mostly in developed countries, lead to slight reductions in the global pool; it is coordinated international commitments that are needed to address the issue globally.

4 Conclusion

The above challenges need to be urgently addressed in the global context, due to the incapacities of developing countries to help themselves. In addition, these challenges have impeded the economic growth of developing countries. The global agenda has not prioritized these challenges facing developing countries; despite the fact that they have the potential for serious negative impacts on economic growth and development, human health and the environment and, thereby, to affect global sustainable development. Discussions on approaches to international chemicals and waste management are moot; due to the fact that the appropriate synergies, though under review, have not been positively generated between MEAs and chemicals and wastes programs.

There needs to be a concerted international effort to address the interface between developed and developing countries. The global platform provides the best ground on which fundamental differences can be ironed out in order for this interface to be improved. Rather than downplay the interface, as is currently the case, it should be promoted in order to lend value to developing countries. It is this interface that should facilitate and enable developing countries to implement at the national level, with comparatively little effort, decisions adopted at the international level; in order to address municipal problems and, ultimately, to contribute to global sustainable development.

As regards harmony amongst stakeholders in handling chemicals and waste issues, the ministries in charge of chemicals or wastes issues (the Ministries of Environment in most cases) in developing countries should take the following steps to ensure that financial and resource mobilization are assured:

- (i) Make efforts to harmonize, where possible and practical, potentially competing submissions to providers of funding; and to assess the current level of awareness, regarding chemicals and waste issues among key decision-makers, including relevant political figures such as ministers, senior policy advisors and influential figures outside governments.
- (ii) Establish the facilitation of regular lines of communication with representatives of other ministries to enhance the cooperation of other agencies and ministries that might not initially be engaged on chemicals and waste issues.

¹⁴² Kaniaru, 'United Nations Activities', *supra* note 62, at 309–310.

(iii) Ensure that internal decision-makers (e.g. ministers, central decision-making authorities, and other key officials) are briefed on domestic chemicals or waste related activities on a regular basis, and are invited to attend chemicals or waste related meetings, events, field visits etc.

With regard to legislative action and reform, using Kenya or Uganda as examples, there are in each country comprehensive environmental laws dealing with a number of environmental components;¹⁴³ with detailed waste and chemical standards provided for in subsidiary legislation (waste management regulations). Governments, in line with the provisions of Rio Principle 10, should conduct public awareness campaigns in order to demystify chemicals and waste issues and sensitize the masses on the handling or use of chemicals. With regard to managing e-waste, both the developed and the developing countries have the responsibility to change the way work. Within the ozone regime they actually do so. Climate change threatens all, and chemicals and waste are going in the same direction.

As concerns poverty, governments in developing countries should ensure that they strike a balance between management of the chemicals and wastes problems caused by poverty, and tackling poverty itself. Neither should be given priority over the other. While poverty eradication schemes are in progress, chemicals and waste management schemes should also be in progress. If one proceeds without the other, then there will be no possibility of sustainable development.

Over the past years significant progress has been made by many countries to strengthen their chemicals management schemes. Many countries, mostly developed but also some developing, have, for example, already prepared National Chemicals Management Profiles, developed national co-ordinating platforms for chemicals management, prepared National Implementation Plans for the Stockholm Convention, and developed Integrated National Programmes for Sound Chemicals Management. SAICM provides valuable opportunities for developing countries to build upon these activities and develop a long-term strategic approach at the national level towards reaching the WSSD 2020 goal for sound chemicals management.¹⁴⁴ Such a strategic approach for national management of chemicals would need, as called for by SAICM, action by government and non-governmental stakeholders (including the business sector and non-governmental organizations), as well as between two or more players involved in chemicals management.¹⁴⁵ Developing countries should, thus, strive to conform to these prerequisites of the SAICM to enable sound chemicals management. To guarantee success in this effort, however, government ministries

¹⁴³ For Kenya, the Environmental Management and Coordination Act No. 8 of 1999, more specifically Legal Notice 121 of 2006 on Waste Management; and for Uganda, the National Environmental Act, Chapter 153 of the Laws of Uganda, S.1.No. 52/1999, among others.

¹⁴⁴ Plan of Implementation of the World Summit on Sustainable Development, A/CONF.199/20 (2002) para. 23.

¹⁴⁵ *Developing a Capacity Assessment*, *supra* note 57, at 1–2.

and agencies should work together with stakeholder groups, such as industry, labour organizations, environmental and health NGOs, and researchers and academics, which have interests and stakes in chemicals management and SAICM implementation.¹⁴⁶

Reliance on the current decentralized framework delays curbing the problem of mercury use and emissions. SAICM offers an effective strategy for utilizing a multi-sector approach to reducing the risks of mercury. In the interim, SAICM will lay the groundwork for establishing an international agreement by encouraging research and assisting in technology transfer and capacity-building.

To address global mercury problems successfully at the international level, a global international agreement will be necessary. Though an international agreement did not result from the recent UNEP Governing Council meeting, the establishment of an ad hoc open-ended working group is promising.

Mercury is persistent, global in use and effect, and is harmful to human health – both directly and indirectly. A strong scientific consensus and the creation of new cost-effective technologies (for instance the use of aerogel in absorption of excess mercury from water sources) suggest that mercury should be the next candidate for international environmental control. Two international actions, the SAICM, and the UNEP Governing Council, indicate the rising ascendance of mercury as a critical issue in the international sphere.

In conclusion, each developing country has abundant responsibilities to initiate actions to develop structures and establish management strategies that will ultimately ensure the safety, health and well-being of their peoples and environments. Otherwise, the well-being, indeed the very survival, of humanity will almost certainly be compromised. To avoid such catastrophe, the management of chemicals and wastes is an extremely urgent matter; and one which must be handled consciously as a North–South issue of global concern, no less so than are issues of climate change and ozone control.

¹⁴⁶ *Ibid.*

TRADE IN CHEMICALS AND THE PROTECTION OF THE ENVIRONMENT IN CARICOM

*Arielle Delprado*¹

1 Introduction

The Revised Treaty of Chaguaramas (hereafter referred to as the Revised Treaty) establishes the Caribbean Community (CARICOM)² including the Single Market and Economy.³ There are fifteen Member States.⁴ The CARICOM Single Market and Economy is intended to benefit the people of the Caribbean Region by providing more and better opportunities to produce and sell goods and services and to attract investments. It will create one large market among the participating states. Trade liberalization is, of itself, neither necessarily good nor bad for the environment. Its effects on the environment in fact depend on the extent to which environment and trade goals can be made complementary and mutually supportive. It has been suggested that environmental law increasingly dictates how countries shall structure their economies and trade law increasingly defines how countries should structure

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² CARICOM is an organization founded by the Treaty of Chaguaramas (Trinidad and Tobago 1973, revised in 2001) and originally included Antigua and Barbuda, Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Jamaica, Montserrat, St Kitts and Nevis, Saint Lucia, St Vincent and the Grenadines and Trinidad and Tobago. Anguilla, Bermuda, the British Virgin Islands, the Cayman Islands and the Turks and Caicos Islands were associated members. Its purpose was to promote economic integration and development, especially in less developed areas of the region. See also Caricom at <<http://www.caricom.org>> and Caricom Single Market and Economy at <<http://www.csmett.com>> (visited 30 December 2007).

³ The Revised Treaty was signed by the heads of government of the Caribbean Community on 5 July 2001 at their Twenty-Second Meeting of the Conference in Nassau, the Bahamas. The text is available at <http://www.caricom.org/jsp/community/revised_treaty-text.pdf> (visited 30 December 2007).

⁴ Current CARICOM Member States are: Antigua and Barbuda, The Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Jamaica, Montserrat, St. Kitts and Nevis, Saint Lucia, St. Vincent and the Grenadines, Suriname, Trinidad and Tobago and Haiti.

their domestic laws and policies in areas such as environmental protection; and that it is therefore ‘inevitable that the two systems of law and policy will interact’.⁵

It has also been suggested, by Mostafa Tolba, Former Executive Director of the United Nations Environment Programme (UNEP), that ‘the global community has been for some time debating the linkages between trade and environment;’ and that ‘[i]t has come to the conclusion that integrating environmental considerations into the trading system is a prerequisite for sustainable development.’⁶

In most Caribbean Countries, the agricultural industry is the largest and most important. According to Michelle Ann Williams, the heavy dependence on agriculture has resulted in increased agro-chemical use. Consequently, the pollution of land, air and water has increased significantly.⁷

Certain provisions of the Revised Treaty, which is essentially a treaty on trade liberalization, address the protection of the environment or management of certain elements of the environment. Article 51(2)(g) requires that the Community industrial policy should aim at enhanced industrial production on an environmentally sustainable basis. Article 55 addresses sustainable tourism development. Article 56(1) requires that Community agricultural policy should aim at the fundamental transformation of the agricultural sector towards market oriented, internationally competitive and environmentally sound production of agricultural products. Article 58 requires the Community to adopt measures for (a) the effective management of the soil, air and all water resources, the exclusive economic zone and all other maritime areas under the national jurisdiction of the Member States; and (b) the conservation of biological diversity and the sustainable use of biological resources, especially those of important and traditional value. Article 60 addresses sustainable fisheries management and development, and Article 61 captures the management and development of forests. Article 64(6) stipulates that the Council for Trade and Economic Development

⁵ UNEP and IISD, *Environment and Trade: A Handbook* (2nd ed. 2005) at 53, available at <http://www.unep.ch/etb/areas/pdf/envirotrade_handbook_2005.pdf> (visited 12 December 2007).

⁶ *Ibid.*

⁷ Michelle-Ann Williams, *Background on the Management of Obsolete Pesticide Stockpiles in the Caribbean* (Organization of American States, 2007). The Organization of American States (OAS) brings together the nations of the Western Hemisphere to strengthen cooperation on democratic values, defend common interests and debate the major issues facing the region and the world. The OAS is the region’s principal multilateral forum for strengthening democracy, promoting human rights, and confronting shared problems such as poverty, terrorism, illegal drugs and corruption. It plays a leading role in carrying out mandates established by the hemisphere’s leaders through the Summits of the Americas. It is made up of 35 member states. The government of Cuba, a member state, has been suspended from participation since 1962. All CARICOM Member States, with the exception of Montserrat (an overseas dependency of Great Britain) are members of the OAS. The Division of Sustainable Development of the OAS has focused on assisting Caribbean States in anticipating and/or mitigating real or potential threats to their social, economic and environmental security such as: natural hazards; energy price shocks; food scarcity; land degradation, chemical contamination, loss of biodiversity and water scarcity. See <<http://www.oas.org/dsd/Caribbean/BACKGROUND%20ON%20THE%20MANAGEMENT%20OF%20OBSOLETE%20PESTICIDE%20STOCKPILES%20IN%20THE%20CARIBBEAN.pdf>> (visited 12 December 2007).

(COTED), which is the Council consisting of Ministers designated by the Member States, shall co-operate with the Member States and competent organizations to devise means of protecting, developing and commercializing local knowledge about the value and use of the Region's biodiversity for the benefit of their populations, especially their indigenous people.

In the present paper, the trade in chemicals in relation to some of the environment-related provisions of the Revised Treaty will be discussed against the background of the rules of the World Trade Organization (WTO). CARICOM Member States are parties to the WTO and should implement its rules. Challenges for the CARICOM in this context will be extracted. It is not the intention to discuss the specific WTO agreements such as the Agreement on Technical Barriers to Trade and the Agreement on the Application of Sanitary and Phytosanitary Measures.

2 The Preamble and other provisions of the Revised Treaty

In general, the preamble is important for the understanding of a legal instrument as an interpretive guide; although it is not actually a part of the instrument.⁸ The preamble of the Revised Treaty does not explicitly refer to the relationship between trade and environment and especially not as is the case of the preamble of the WTO Agreement⁹ to the term sustainable development.¹⁰ However, Article 58(2) of the Revised Treaty on natural resource management refers to the conservation of biological diversity and the sustainable use of biological resources of the Member States, especially those of important medicinal and traditional value. The reference to sustainable use of biological resources might include the reference to the term sustain-

⁸ The preamble of an MEA usually sets out a history of issues and related documents. It often reflects differences of views that remain unresolved, and provide clues about areas that some Parties may promote for further negotiation. When the treaty text leaves ambiguity about rights and obligations of the Parties, the preamble serves as part of the interpretive context by helping to indicate the object and purpose of the treaty, and it may thereby assist in resolving such ambiguity. A preamble may also reflect the history of the instrument and the reasons why it has been entered into the international community. A preamble may, therefore, become the repository for a wide range of ideas, some of them conflicting. In such a case, its interpretive value may be somewhat lessened. See Cam Carruthers, *Multilateral Environmental Agreement Negotiator's Handbook*, UNEP Course Series 3 (University of Joensuu, 2006) at 2.4.1.

⁹ The Marrakech Agreement established the WTO on 1 January 1995. The WTO was born out of negotiations and everything that the WTO does is the result of negotiations. The WTO has no specific agreement dealing with the environment. At the end of the Uruguay Round (1986–1994), trade ministers from the participating countries decided to begin a comprehensive work program on trade and environment in the WTO. They created the Trade and Environment Committee. On the initiative of the Committee the objective of sustainable development and environmental protection were inserted in the preamble to the Marrakech Agreement. The decision to establish the CARICOM Single Market and Economy in order to deepen the integration movement and to better respond to the challenges and opportunities presented by globalization was taken in 1989, at Grand Anse, Grenada.

¹⁰ The 1992 Rio Conference on Environment and Development aimed to emphasize the significance of implementing environmental concerns into activities related to economic development. As such, every provision of the Rio Declaration (UN Declaration on Environment and Development, Rio de Janeiro, 14 June 1992, A/CONF.151/5/Rev.1 (1992), 31 *International Legal Materials* (1992) 876) considers the concept of sustainable development.

able development. The present writer submits that this is not the case, however, since sustainable development with regard to the environment is not restricted only to biological resources; the term 'environment' being used in a broader context.¹¹

Article 15(2)(h) of the Revised Treaty specifically refers to the term sustainable development. The Article determines that the COTED shall promote and develop policies for the protection of and preservation of the environment and for sustainable development. In addition, the whole of Article 65 is concerned with environmental protection.¹² It is interestingly stipulated, among other things, that the COTED, in performing its functions under the Revised Treaty, shall ensure a balance between the requirements of industrial development and the protection and preservation of the environment.¹³

At the initiative of Barbados, the United Nations held a conference on Environment and Development in 1994,¹⁴ which called for attention to be paid to addressing the vulnerabilities of Small Island Developing States (SIDS) and the promotion of their sustainable development. A specific work program, the Barbados Plan of Action (BPOA),¹⁵ was adopted which recognized the special environmental security and

¹¹ See also Alexander Kiss, *Introduction to International Environmental Law* (UNITAR, 2005) at 1.

¹² Article 65 provides that:

1. The policies of the Community shall be implemented in a manner that ensures the prudent and rational management of the resources of the Member States. In particular, the Community shall promote measures to sure:

- (a) the preservation, protection and improvement of the quality of the environment;
- (b) the protection of the life and health of humans, animals and plants; and
- (c) the adoption of initiatives at the Community level to address regional environmental problems.

2. In formulating measures in relation to the environment, the Community shall take account of:

- (a) available and accessible scientific and technical data;
- (b) environmental conditions in the Member States;
- (c) the potential costs and benefits of action or inaction;
- (d) the economic and social development of the Community as a whole and the balanced development of the Member States;
- (e) the precautionary principle and those principles relating to preventive action, rectification of environmental damage at source and the principle that the polluter pays; and
- (f) the need to protect the Region from the harmful effects of hazardous materials transported, generated, disposed of or shipped through or within the Community.

¹³ Art. 65(3).

¹⁴ Global Conference on Sustainable Development of Small Island Developing States, Bridgetown, Barbados, 25 April – 6 May 1994. The Conference translated Agenda 21. Chapter II of the Barbados Plan of Action provides a list of states that attended the Conference.

¹⁵ Barbados Programme of Action for the Sustainable Development of Small Island Developing States, available at <<http://www.unohrrls.org/UserFiles/File/SIDS%20documents/Barbados.pdf>> (visited 30 December 2007). See also Edwin Laurent, 'Understanding International Trade: A CARICOM Perspective', *The Integrationist* (2007).

development requirements for SIDS.¹⁶ A UN Summit held in Mauritius in 2005 adopted a strategy for the further implementation of the BPOA.¹⁷

3 The Revised Treaty and trade

3.1 The Revised Treaty and WTO principles

According to Glyne Leon Harper, the roots of the pollution problems date back to more than two hundred years ago when, for the most part, people were not aware of the negative environmental impacts that unmanaged or poorly managed waste disposal could cause. In addition, there were fewer chemicals being used at home, in industry, and in agriculture. Subsequently, there was a demand by a growing populace for products that were useful but which, by their nature, were also associated with toxicity.¹⁸

The trade in goods and services is subjected to the WTO rules. The WTO rules are based on the principle of non-discrimination, which is divided into three rules: (i) the most favoured-nation clause; (ii) reciprocity; and (iii) the national treatment principle. In addition, there is the principle that customs dismantling must allow for the reduction of custom tariffs and the principle that the elimination of quantitative restrictions shall free trade by avoiding restrictions to imports and exports.¹⁹ These rules apply to all WTO trading partners. However, Article XXIV(4) of 1994 GATT exempts regional integration movements (free trade areas) and custom unions of the application of the principle of most favoured national treatment. The application of this principle would not allow Member states to be Parties to regional economic agreements.²⁰

¹⁶ In 2006, the Secretariat strengthened its collaboration with the Trinidad and Tobago-based United Nations Economic Commission for Latin America and the Caribbean (UNECLAC) Sub-Regional Headquarters, in facilitating the work of a Regional Coordinating Mechanism (RCM) for the implementation of the Barbados Programme of Action for Small Island Developing States. The RCM was conceptualized as a mechanism to coordinate the implementation of sustainable development initiatives in the Region in order to maximize scarce human and financial resources and to avoid duplication of activities. The Core Group presented its Report to the Twenty-First Session of the UNECLAC/Caribbean Development and Cooperation Committee (CDCC), which was held in Port-of Spain on 16–17 January 2006. In order to ensure the widest possible representation and participation of Caribbean Small Island Developing States in the RCM, it was decided that the UNECLAC Sub-Regional Headquarters should, in the first instance, host the RCM. Annual report of the Secretary General of the CARICOM Secretariat (2006) at 17.

¹⁷ Mauritius Strategy for Implementation of the Programme of Action for the Sustainable Development of Small Island Developing States, available at <http://www.sidsnet.org/docshare/other/20050622163242_English.pdf> (visited 30 December 2007).

¹⁸ Glyne Leon Harper, 'Transboundary Hazardous Waste: Its Environmental Effects and Remedies, 3 *Caribbean Law Review* (1993) 226–256.

¹⁹ See generally, for example, Agnès Michelot, *Environment and Trade* (UNITAR, 2007).

²⁰ For additional reading on the principle, see generally Fiona MacMillan, *The WTO and the Environment* (Sweet & Maxwell, 2001) and Jochem Wiers, *Trade and the Environment in the EC and the WTO. A legal Analysis* (Europa Law Publishing, 2003).

Articles 7 and 8 of the Revised Treaty refer to the WTO principle of non-discrimination. Article 7 prescribes that within the scope of application of the Treaty, any discrimination on grounds of nationality only shall be prohibited. Article 8 addresses the most favoured nation treatment which principle will not be further discussed in the present paper since its rules do not apply to regional trade agreements.

The WTO principle of national treatment is thus reflected in Article 7 of the Revised Treaty. The principle requires that the products of other countries are to be treated no less favourably than like products manufactured in the importing country. This principle ensures that products made abroad are given the same opportunities as domestic products when it comes to competing in domestic markets. The 'like products test' is important from an environmental perspective. The question arises of what ought to happen should one chemical product, for example, be produced in a CARICOM Member State in a way that emits ozone-depleting substances; and that same chemical product be produced in another CARICOM Member State in a way that is less- or non-polluting? If these products are considered as 'like products', then environmental regulators will not be able to give preference to the less environmentally damaging product over the other.

The use of inferior quality plastic bottles for containing chemicals could, for example, also cause damage to the environment. Guyana experienced major flooding in January–February 2005. It was apparent that the disposal of plastic containers in the drainage system had contributed partly to the disaster. In this regard, the question has arisen of whether a container made of vegetable fibre material ought to be considered to be similar to a plastic container.²¹

The WTO's Appellate Body has stated that the final determination of likeness requires an overall assessment based on a range of relevant criteria and related facts. In at least one case (EC-Asbestos²²), this range has included the risks a product poses to human health or the environment.²³

3.2 The establishment of CROSQ

The duty to prevent environmental harm occurring through, for example, the use of chemicals implies the application of measures to avoid harm and to reduce or eliminate the risk of harm. Standards are prescriptive norms that govern products or processes or set actual limits on the amounts of pollutants or emissions produced. Product standards are used for items that are created or manufactured for distribution. Product standards may regulate: the physical or chemical composition of items;

²¹ For a similar situation regarding a food container made of vegetable fibre material, see <<http://www.freepatentsonline.com/20060255042.html>> (visited 14 December 2007).

²² EC-Measures Affecting Asbestos and Asbestos Containing Products (EC-Asbestos), WTO Panel reports WT/DS135/R (2000).

²³ UNEP and IISD, 'Environment and Trade', *supra* note 5, at 36.

the technical performance of products; and the handling, presentation and packaging of products, particularly those which are toxic.²⁴

In the Caribbean Region, the CARICOM Regional Organisation for Standards and Quality (CROSQ) was established in 2003 as an intergovernmental organization by a Caribbean Common Market Community treaty.²⁵ The CROSQ is now the regional centre for promoting efficiency and competitive production in trade and services, through the process of standardization and the verification of quality.

The CROSQ is mandated to represent the interest of the region in international and hemispheric standards work, to promote the harmonization of metrology systems and standards, and to increase the pace of standards development in the region, as it facilitates the resolution of CARICOM trade disputes where standards are involved.²⁶ In this context, CROSQ should develop standards in relation, for example, to production processes and product use; taking environmental requirements into account.

3.3 The principle of common but differentiated responsibility²⁷

Another item that should be discussed in this context is the principle of common but differentiated responsibility which is to be found in the Rio Declaration, adopted at the United Nations Conference on Environment and Development (UNCED) in 1992.²⁸ Principle 7 of the Rio Declaration reads as follows:

States shall cooperate in a spirit of global partnership to conserve, protect and restore the health and integrity of the Earth's ecosystem. In view of the different contributions to global environmental degradation, States have common but differentiated responsibilities. The developed countries acknowledge the responsibility that they bear in the international pursuit to sustainable development in view of the pressures their societies place on the global environment and of the technologies and financial resources they command.

The Revised Treaty specifies certain CARICOM Member States as being more developed countries and others as being less developed countries.²⁹ The question arises

²⁴ Dinah Shelton, *Techniques and Procedures in International Environmental Law* (UNITAR 2nd ed., 2006), at 9–13.

²⁵ Agreement establishing the CARICOM Regional Organisation for Standards and Quality, Belize City, 4 February 2002, <<http://www.crosq.org>> (visited 13 December 2007).

²⁶ See <<http://www.crosq.org/>> (visited 13 December 2007).

²⁷ For a discussion of this principle, see Tuula Kolari 'The Principle of Common but Differentiated Responsibility in Multilateral Environmental Agreements' in Part I of the present *Review*.

²⁸ The Rio Declaration is a set of 27 principles covering environmental protection and responsible development. These legally non-binding principles define the rights of people to development and their responsibilities to safeguard the common environment. See <<http://www.un.org/geninfo/bp/enviro.html>> (visited 13 December 2007).

²⁹ See Article 4.

whether, in the case of environmental problems caused by, for example, the use, disposal, handling, and packaging of chemicals within CARICOM, Principle 7 should be applied to differentiate between the responsibility of the more developed countries and that of the less developed countries; with the degree of this differentiation being according to the scope of the contribution to the problem, and the resources commanded to redress the impacts. Article 49 of the Revised Treaty on special provisions for the less developed countries takes the special needs and circumstances of the less developed countries into account when removing restrictions on the exercise of the rights mentioned in paragraph 1 of Article 30 of the Revised Treaty.³⁰

3.4 The State Sovereignty principle and the principle of co-operation

Another dilemma which should be discussed in this context – and which might complicate the application of the common but differentiated responsibility principle within CARICOM – is the principle of state sovereignty. State sovereignty is one of the oldest principles of general international law. Its meaning is that a State has exclusive jurisdiction on matters within its territory. State territory includes not only land but also inland waters within the boundary of the State, whether these are surface waters – rivers, estuaries and lakes – or subsurface waters, i.e. underground aquifers, and the atmosphere above its territory and its territorial waters, but the upper limit is not determined with precision.³¹

Within the CARICOM, trade in chemicals may raise serious problems for the application of state sovereignty since the environment does not recognize human-drawn frontiers. Chemicals which are not destroyed naturally or by humans will eventually reach the environment. Once in the environment chemicals, especially toxic substances such as mercury, may be transported globally and partitioned into biological media. This results in essentially the entire world population being potentially exposed to trace levels of chemicals contamination.³²

The Caribbean Community is presented as a unitary personality to the world, but as an association of sovereign States to its Member States and stakeholders. According to Brewster et al., the Revised Treaty aims to establish the CSME (Caribbean Single Market and Economy) within a framework and under procedures in which there is no commitment to any form of a Caribbean union.³³ The modalities through which

³⁰ The rights mentioned in the paragraph are the right of establishment, the right to provide services and the right to move capital in the Community.

³¹ Kiss, *Introduction to International Environmental Law*, *supra* note 11, at 70–72.

³² Harper, 'Transboundary Hazardous Waste', *supra* note 18.

³³ *Havelock Brewster, Tom Dolan and Taimoon Stewart, Implementation of the Caribbean Single Market and Economy (World Bank, 2002)*, available at <<http://www.normangirvan.info/wp-content/uploads/2007/11/brewster-implementation-of-csme.pdf>> (visited 30 December 2007). The CARICOM Single Market and Economy Unit will be implemented through a number of phases, the first being the CARICOM Single Market (CSM). Barbados, Belize, Guyana, Jamaica, Suriname and Trinidad and Tobago were the first six Member States to implement the CSM on 1 January 2006. Antigua and Barbuda, Dominica, Grenada, Saint Kitts and Nevis, Saint Lucia and Saint Vincent and the Grenadines were the next Member States

the CSME instruments, institutional, legal and economic, are constructed are based simply on inter-governmental cooperation. In fact, the CSME is a peculiar construct that has no direct precedent in the world. It is an attempt on the part of the political directorate to create a single Caribbean economy simply by creating intergovernmental operation/harmonization of a kind that avoids any infringement of national sovereignty.³⁴

Principle 21 of the Stockholm Declaration,³⁵ adopted at the United Nations Conference on the Human Environment (UNCHE) held at Stockholm in 1972, recognizes the sovereign rights that States have to exploit their own resources pursuant to their own environmental policies. The sovereign right includes also the right that the environment of a State should not suffer damage caused by activities outside its jurisdiction, that is to say coming from the territory or other space under the jurisdiction of other states.³⁶

Sovereign states are free to conduct their external relations according to their own national policies. Modern international law, however, has developed a general obligation to cooperate with others in order to resolve problems which concern the international community. This is often called the principle of cooperation. In the field of environmental protection, international cooperation is necessary to conserve the environment in its totality; as much for states within their territorial jurisdiction as for space outside all territorial limits such as the high seas, Antarctica and outer space.³⁷

3.5 Dispute settlement

Disputes within the CARICOM are resolved by the Caribbean Court of Justice (CCJ), which was established in 2001.³⁸ The mission of the Caribbean Court of Justice is to perform to the highest standards as the supreme judicial organ in the Caribbean Community. In its original jurisdiction it ensures uniform interpretation and application of the Revised Treaty of Chaguaramas, thereby underpinning and advancing the CARICOM Single Market and Economy. As the final court of ap-

which joined the CSM on 3 July 2006. The Bahamas and Haiti are members of the CARICOM but not of the CSME. The Single Economy is only to be expected to be fully implemented in 2008. The CSME unit of CARICOM Secretariat in Barbados oversees the implementation of the CSME. See <http://www.csmett.com/content2/csme/history/csme_printer.shtml> (visited 14 December 2007).

³⁴ This was a characteristic of an earlier phase of European integration in which, according to the European Parliament, 'stagnation-- was largely attributed to the choice of detailed legislative harmonization as the method of removing obstacles of national technical regulations, when harmonization was in fact extremely difficult to achieve'. Brewster et al., *Implementation of the Caribbean Single Market and Economy*, *supra* note 32.

³⁵ Stockholm Declaration, Report of the United Nations Conference on the Human Environment, A/CONF/48/14/Rev.1 (1972).

³⁶ See Principle 21.

³⁷ Kiss, *Introduction to International Environmental Law*, *supra* note 11, at 70.

³⁸ Agreement Establishing the Caribbean Court of Justice, 14 February 2001. Page 118. See also <<http://www.caribbeancourtjustice.org/default.htm>> (visited 13 December 2007).

peal for the Member States of the Caribbean Community it is intended to foster the development of an indigenous Caribbean jurisprudence.³⁹

The judicial process might be slow with regard to decision-making in environmental disputes. Winston Anderson, former General Counsel of CARICOM Secretariat, has stated that formally, the notion of *locus standi* expresses the relationship which must exist between the plaintiff and the cause of action in order to enable the plaintiff to move the court.⁴⁰ Substantively, the problem of standing is inextricably bound up with the concept of the role of the judicial process in government. In the Commonwealth Caribbean judicial pronouncements upon the standing requirement in public law are yet to characterize the role of the judiciary in ideological terms but their substantive purport suggest an affinity to limiting the role of the courts to the protection of private rights of individuals. Anderson has subsequently stated that a suit for proper administration or enforcement of environmental laws raises questions of public rights and, accordingly, the nature of the interest required of a private individual to bring such a suit has been defined with reference to the constitutional role of the Attorney General as guardian of public rights.⁴¹

For comparison, Article 174 of the European Community Treaty recognizes that the environment is an area of shared competence where both the Member States and the EC can conclude international agreements with third countries. These agreements should be in accordance with the Treaty's procedure. In the field of the environment, the EC competence can be generally characterized as either shared or joint. The rule of thumb for shared competence is to refer to the extent of the *acquis* related to the subject matter of the negotiations; the more extensive EC legislation is on certain matters, the more justified it will be for the Community to negotiate on the same matter at the international level. In order for the EC to become a Party to a Multilateral Environmental Agreement (MEA), a special clause allowing the participation of a Regional Economic Integration Organisation (REIO) needs to be inserted in the MEA in question.⁴²

3.6 Article 65(1)(b) on environmental protection

Measures in the context of trade in chemicals which could be taken to protect the environment include measures related to the protection of the life and health of humans, animals and plants. Article 65 (1) (b) of the Revised Treaty reads that:

³⁹ See <<http://www.caribbeancourtsofjustice.org/legislation.html>> (visited 13 December 2007).

⁴⁰ Winston Anderson 'Locus Standi in Commonwealth Environmental Law: Caribbean perspectives', 4 *Caribbean Law Review* (2004) pages 379–411.

⁴¹ *Ibid.* Article 222 of the Revised Treaty contains rules of standing for the Court.

⁴² Nicola Notaro, 'International Environmental Negotiations and the EU: A Practical View-Point' in Ed Couzens and Tuula Kolari (eds), *International Environmental Law-making and Diplomacy Review 2006*, University of Joensuu – UNEP Course Series 4 (University of Joensuu, 2007) 17–26. The term '*acquis*', in Community jargon, encompasses the whole body of EC policy.

[t]he policy of the Community shall be implemented in a manner that ensures the prudent and rational management of the resources of the Member States. In particular, the Community shall promote measures to ensure:-- the protection of the life and health of humans, animals and plants;--

Freedom of trade is generally felt to be of at least equal significance. The Permanent Court of International Justice (PCIJ) defined the principle of freedom of trade as follows:

[f]reedom of trade, as established by the Convention, consists in the rights – in principle unrestricted – to engage in any commercial activity, whether it be concerned with trading properly, so-called, that is the purchase and sale of goods, or whether it can be concerned with industry, or finally, whether it carried on inside the country or, by exchange of imports and exports, with other countries.⁴³

The philosophy underlying the WTO is the principle of freedom of trade. Article XI of the 1994 GATT prohibits the use of quotas, import or export licences, or similar measures related to the import or export of goods. This prohibition stems from the fact that such volume-based measures are more economically distorting than are price-based measures such as tariffs and taxes. Measures to ensure the protection of the life and health of humans, animals and plants are exemptions to Article XI.⁴⁴

In the past, some fishery processing companies in Suriname used wood which contained carcinogenic substances to smoke their fishery products. In February 2007, the European Commission imposed a ban on the import of some fishery products from Suriname.⁴⁵ Suriname is, of course, a member of CARICOM; and a similar situation could easily occur within the CARICOM. However, CARICOM countries which would like to use these environmental exceptions should first establish the provisional justification for using the exemptions by showing that Article 65(1)(b) applies in the specific situation. The country should then establish the final justification by showing that the measure in question does not constitute a means of arbitrary or unjustifiable discrimination or is not a disguised restriction on international trade. This is based on Article XX(b) and (g) of the 1994 GATT.⁴⁶

⁴³ Permanent Court of International Justice, the Oscar Chinn Case, judgment No. 23, available at <http://www.worldcourts.com/pcij/eng/decisions/1gateway/1934.12.12_oscar_chinn.htm> (visited 14 December 2007).

⁴⁴ Art. XX(b).

⁴⁵ Ivan Cairo, 'Europe bans Suriname Fishery Products', Caribbean Net News, 16 February 2007, available at <<http://www.caribbeanetnews.com/cgi-script/csArticles/articles/000060/006027.htm>> (visited 13 December 2007).

⁴⁶ Art. XX(b) provides an exemption on the basis that the proposed measure is necessary to protect human, animal or plant life or health whereas Art. (g) allows for discriminatory measures that relate to the conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production or consumption.

3.7 Article 65(2)(f) and Article 141 of the Revised Treaty

3.7.1 Article 65(2) (f)

According to Article 65(2)(f) of the Revised Treaty, the Community shall, in formulating measures in relation to the environment, take account of ‘the need to protect the Region from the harmful effects of hazardous materials transported, generated, disposed of or shipped through or within the Community’. In reality, Europe and the United States have exported hazardous waste to non-industrialized countries in Africa and the Caribbean. Whereas the industrialized countries are fully aware of the risks involved as to the handling and disposal of hazardous waste, the third world countries are not. Therefore, for the most part, the existing waste trade, in respect of the third world countries, is based largely upon uninformed decisions and often leads to climacteric harm and/or death. It is against this background that the hazardous waste trade is a short-term benefit and a long-term problem for non-industrialized countries.⁴⁷

3.7.2 Article 141 of the Revised Treaty

Article 141 of the Revised Treaty on the special status of the Caribbean Sea, under the heading ‘Transport Policy’, stipulates that the Member States should cooperate in achieving international recognition for the Caribbean Sea as a Special Area. Such an area would require protection from the potentially harmful effects of the transit of nuclear and other hazardous wastes, dumping, or pollution by oil or any other substances carried by sea or wastes generated through the conduct of ship operations.

According to Williams, the Caribbean is in dire need of an on-the-ground initiative aimed at managing their stockpiles of obsolete pesticides.⁴⁸ A recent survey of Caribbean countries on the ‘Management of Persistent Toxic Substances in the Countries of the Americas’, conducted by the OAS, has revealed a dire situation facing Caribbean countries in managing obsolete pesticide stockpiles. Firstly, most countries have not done an inventory of obsolete pesticide stockpiles. Thus, the total amount of obsolete pesticide stockpiles in most Caribbean countries is unknown. Secondly, in most countries there are no special storage facilities for obsolete pesticides, or for other obsolete chemicals. The storage problem is not only limited to physical structure; it extends to the containers in which the pesticides or chemicals are stored. Additionally, the labelling of storage containers raises serious concerns. Fourthly, all the Caribbean countries have no special disposal facilities for their obsolete stockpiles, and so they send much of their hazardous wastes overseas. Lastly, most Caribbean countries have international obligations under the Stockholm,⁴⁹ Basel⁵⁰ and Rotterdam⁵¹ Conventions.⁵²

⁴⁷ Harper, ‘Transboundary Hazardous Waste’, *supra* note 18.

⁴⁸ Williams, *Background on the Management of Obsolete Pesticide Stockpiles*, *supra* note 7, at 1.

⁴⁹ Convention on Persistent Organic Pollutants, Stockholm, 22 May 2001, in force 17 May 2004, 40 *International Legal Materials* (2001) 532; <<http://www.pops.int>>.

⁵⁰ Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, Basel, 22 March 1989, in force 5 May 1992, 28 *International Legal Materials* (1989) 657; <<http://www.basel.int>>.

⁵¹ Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, Rotterdam, 11 September, 1998, in force 24 February, 38 *International Legal Materials* (1999) 1, <<http://www.pic.int>>.

⁵² Williams, *Background on the Management of Obsolete Pesticide Stockpiles*, *supra* note 7.

At the first Caribbean Community Ministerial Conference on the Environment, held in Grenada in 1989, leaders of 13 Caribbean States endorsed the Port of Spain Accord, an important regional document regarding conservation of the Caribbean environment. The accord condemns the dumping of hazardous and toxic wastes in the region from areas outside the region.⁵³

The Prior Informed Consent (PIC) principle⁵⁴ seeks to protect the environment and is relevant with regard to the shipment of hazardous wastes/materials shipped through or within the Caribbean Community. The PIC principle requires dissemination of information to and the obtaining of consent of importing countries on whether they wish to receive shipments of restricted or banned products. Importing countries ought to be fully informed about the hazards posed by the products. The PIC principle is embodied in different multilateral environmental agreements. The Basel Convention on the Transboundary Movement of Hazardous Wastes and their Disposal regulates the transboundary movements of Hazardous and other wastes by applying the PIC principle.⁵⁵ The Convention also applies to political and/or economic integration organizations.⁵⁶

4 Conclusion and recommendations

The effects of trade liberalization on the environment depend on the extent to which environmental and trade goals can be made complementary and mutually supportive. Several provisions in the Revised Treaty address the protection of the environment or management of certain elements of the environment. These provisions should com-

⁵³ The Port of Spain Accord on the Management and Conservation of the Caribbean Environment, Port of Spain, 2 June 1989. The Accord also mandates the CARICOM Secretariat to arrange consultations and negotiations with donor agencies for support to Caribbean environmental programs and projects on the basis of the policies and guidelines laid down at ministerial level and the results of the work of the consultative forum. In this connection, the Ministerial Conference expressed appreciation of those bilateral and multilateral agencies which have been actively supporting these programs.

⁵⁴ Principle 19 of the Rio Declaration describes the Prior Informed Consent Principle as follows: 'States shall provide prior and timely notification and relevant information to potentially affected States on activities that may have a significant adverse transboundary environmental effect and shall consult with those States at an early stage and in good faith'.

⁵⁵ According to Art. 6, the State of export shall notify the competent authority of the states concerned of any proposed transboundary movement of hazardous wastes or other wastes. The State of import shall respond to the notifier whether it

1. consents to the movement with or without conditions;
2. denies permission for the movement; or
3. requests additional information.

A copy of the final response of the State of import shall be sent to the competent authorities of the States concerned who are parties. The State of export shall not allow the generator or exporter to commence transboundary movement until it has received written confirmation that

1. the notifier has received the written consent of the State of import; and
2. the notifier has received from the State of import confirmation of the existence of a contract between the exporter and the disposer specifying environmentally sound management of the wastes in question. Grenada, Haiti, Jamaica and Suriname are not parties to the Basel Convention.

⁵⁶ See esp. Arts 2(20) and 21.

ply with the WTO rules. In accordance with the WTO national treatment principle, environmental regulators are not able to give preference to chemicals which are produced in a less environmentally damaging process over chemicals which are produced in an environmentally damaging process. However, Article 65(1)(b) of the Revised Treaty stipulates that the Community should promote measures to ensure the protection of the life and health of humans, animals and plants. The implementation of these measures should comply with article XX(b) and (g) of the 1994 GATT.⁵⁷

In the environmental field, the judicial process might be slow. Before the signing of the Revised Treaty, the *locus standi* in environmental law was defined with reference to the constitutional role of the Attorney General as a guardian of public rights. Article 222 of the Revised Treaty, however, allows both natural and judicial persons to appear as parties to the proceedings before the court.⁵⁸

More than 200 years ago, unmanaged waste disposal already resulted in the demand of products associated with toxicity. In the Caribbean region, the heavy dependence on agriculture resulted in increased agro-chemical use. The use of agro-chemicals resulted in the pollution of land, air and water. In this context, it could be said that environment does not recognize any frontiers. Serious problems for the application of the sovereignty principle and the common but differentiated principle within CARICOM could result from this. In the environmental field, the principle of co-operation, however, is necessary to conserve the environment in its totality.⁵⁹

The Caribbean is in dire need of an on-the-ground initiative aimed at managing their stockpiles of obsolete pesticides. Most countries have not conducted an inventory of obsolete pesticides. Most countries do not have special storage facilities and adequate containers for containing obsolete pesticides or other obsolete chemicals. The inadequate labelling of storage containers is a concern and there are no special disposal facilities for the disposal of the obsolete stockpiles. The Port-of-Spain Accord, however, condemned the dumping of hazardous and toxic wastes in the region from areas outside the region. In addition, Article 141 of the Revised Treaty stipulates that the Member states should co-operate in achieving international recognition for the Caribbean Sea as a Special Area requiring protection from the potentially harmful effects of the transit of nuclear and other hazardous wastes, dumping, pollution by oil or by any other substances carried by sea or wastes generated through the conduct of ship operations.⁶⁰

A number of recommendations could be made to develop the relationship between trade in chemicals and the protection of the environment within the CARICOM.

⁵⁷ See discussion under 3.6.

⁵⁸ See discussion under 3.5.

⁵⁹ See discussion under 3.4.

⁶⁰ See discussion under 3.7.2.

Firstly, in accordance with Article 65 of the Revised Treaty, the COTED should promote and develop policy for the protection and preservation of the environment. In relation to trade in chemicals, it is recommended that the COTED should address the WTO national treatment principle in relation to Article XX(b) and (g) of the 1994 GATT. Special attention should be awarded to the Barbados Plan of Action which should be endorsed by the Conference of the Heads of Government.⁶¹

Secondly, the Regional Coordinating Mechanism (RCM)⁶² should be mandated to identify and research the relationship between trade and environment within CARICOM in order to promote sustainable development. Special attention should be awarded to the application of the principle of common but differentiated responsibility within the CARICOM and to the sovereignty principle.

Thirdly, the term 'sustainable development' should be inserted into the preamble of the Revised Treaty. The goal of sub-programme 8.1. ('Sustainable development and Energy') of the Directorate of Human and Social Development of the Proposed work programme and Budget of the Secretariat 2008–2009 is to mainstream sustainable development as a cross-cutting theme in all of the technical programmes of the secretariat and to facilitate and support the implementation of sustainable development plans, programmes, projects, and initiatives at both the national and regional levels.⁶³

Fourthly, and finally, there ought to be accession by the CARICOM to the Basel Convention on the Transboundary Movement of Hazardous Wastes and their Disposal in order to conclude – on behalf of the Member States – international agreements with third countries.

As useful a start as it might be, the Revised Treaty is not without serious inadequacies; addressing of these, as suggested in this paper, might significantly enhance environmental protection – and ultimately contribute to better trade – within the region.

⁶¹ The Conference of Heads of Government is one of the principal organs of the Community and consists of the Heads of Government of the Member States.

⁶² See footnote 16, *supra*.

⁶³ Proposed work programme and Budget of the Secretariat 2008–2009. The goal of sub-programme 8.2 ('The Environment') of the Directorate of Human and Social Development of the Proposed work Programme and Budget of the Secretariat 2008–2009 is to contribute to improved levels of environmental protection throughout the Community. This should happen through promoting and supporting the integration of environmental requirements into the definition and implementation of the Community's development plans and programmes, with a view to promoting sustainable development. The expected result is the strengthening of national and regional institutional capacity to address problems through promotion of coherent and cohesive inter-sectoral linkages and multi-sectoral approaches. The Directorate of Human and Social Development plans to present a framework for an environmental policy to COTED and to facilitate the development of a regional strategy on chemicals management in the Community. The expected output of the latter is a regional framework for the sound management of chemicals.

PART III

**SPECIFIC REGIMES DEALING WITH
CHEMICALS-BASED HARM TO HUMAN
HEALTH AND THE ENVIRONMENT**

MERCURY – SEARCHING FOR SOLUTIONS TO A GLOBAL PROBLEM

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1 Introduction

Mercury has for many years been recognized as posing a threat both to human health and the environment, with many national governments taking actions to decrease the local impacts of this toxic chemical. For instance, action has been taken in the United States, Canada, and Mexico under the North American Regional Action Plan on mercury.³ Sweden has severely restricted the uses of mercury, and has notified this to the Secretariat of the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade.⁴ The European Commission has proposed legislation which will ban the export of mercury from Europe in 2011, while the US has recently passed legislation to prohibit the export of mercury from 2010.⁵

In 2001, the Governing Council of the United Nations Environment Programme (UNEP) initiated an assessment of mercury to determine whether, in addition to posing a national threat, the issue could be considered to be of global concern. The

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* Current position: Director a.i., Governing Bodies (GBS), World Health Organization.

³ For more information, see North American Implementation Task Force on Mercury, *North American Regional Action Plan on Mercury, phase II*, available at <http://www.cec.org/programs_projects/pollutants_health/smoc/pdfs/Hgnarap.pdf> (visited 20 January 2008).

⁴ Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, Rotterdam, 11 September, 1998, in force 24 February, 38 *International Legal Materials* (1999) 1, <<http://www.pic.int>>.

⁵ See Proposal for a Regulation of the European Parliament and the Council on the banning of exports and the safe storage of metallic mercury, COM(2006) 636 final; in the United States, see Mercury Market Minimization Act, S. 906, introduced 15 March 2007.

primary concern expressed was that national or regional actions might not be sufficient to address mercury pollution. UNEP Chemicals undertook the assessment, which was later published as the Global Mercury Assessment, and presented it to the Governing Council in 2003.⁶ The Assessment writers concluded, and governments agreed, that there was sufficient evidence of significant global adverse impacts from mercury to warrant further international action.

2 The effects of mercury

Mercury poses hazards both to human health and to the environment. In humans, high doses of mercury can be fatal; and high levels of short-term exposure can produce many systemic effects, including skin rashes, respiratory effects, and damage to the kidneys. Long-term lower level exposures can produce serious neurological effects. Mercury also crosses the placental barrier to accumulate in the developing child in the womb, and also is present in breast milk. These exposures of foetuses and neonates can irreversibly affect neurological development.⁷

In the environment, mercury is persistent, and circulates between air, water, soil and organisms. It accumulates within organisms as excretion of mercury occurs only very slowly; and it also biomagnifies, or increases in concentration, as it moves up the food chain through different organisms. Mercury causes neurological and reproductive effects, which are seen most prominently in birds and predatory mammals. High-level predators, such as seals, whales and polar bears, appear to have the highest levels of mercury.⁸

Mercury is released from a variety of sources throughout the world, and can be transported long distances through air and oceans. Although it can be altered in the environment, through combination with other elements, it cannot be destroyed. In bacteria, mercury is transformed into methylmercury, the form which is commonly found in more complex species such as fish. This form is, for many people, the main route for exposures through diet; and the problems caused by mercury may be seen at locations far removed from the release site. While local releases can lead to local 'hot spots' with high mercury levels; wildlife and humans throughout the world may be exposed to mercury levels which are high enough to be of concern.⁹

⁶ See Report of the Global Mercury Assessment Working Group on the work of its first meeting, Note by the Executive Director, Un Doc. UNEP/GC.22/INF/2 (2003). The Global Mercury Assessment (hereinafter referred to as the Mercury Assessment) is available on the UNEP Chemicals website at <<http://www.chem.unep.ch/mercury/Report/Final%20Assessment%20report.htm>> (visited 20 January 2008). [Hereinafter referred to as the Mercury Assessment.]

⁷ The Global Mercury Assessment (2003).

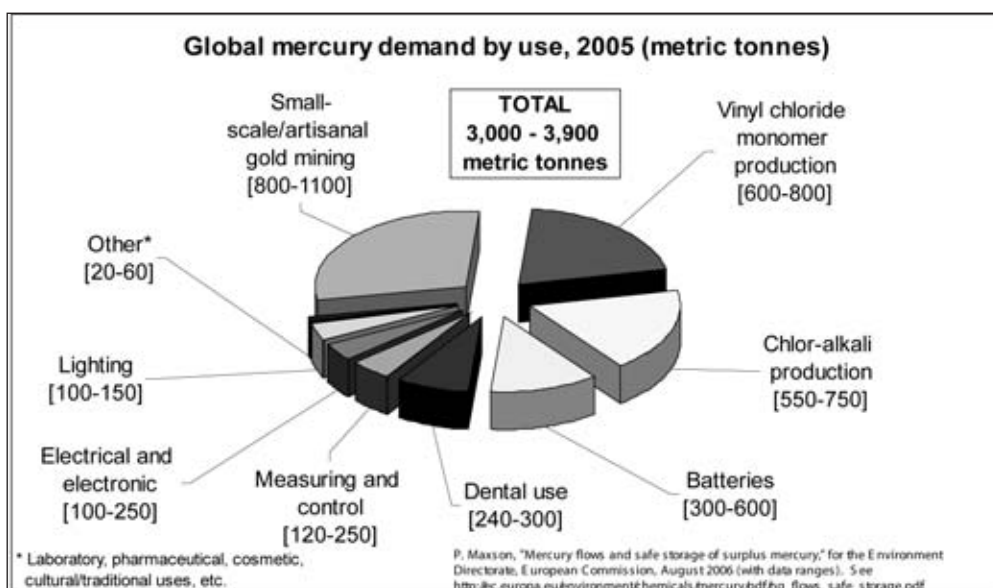
⁸ *Ibid.*

⁹ *Ibid.*

3 Use and sources of mercury

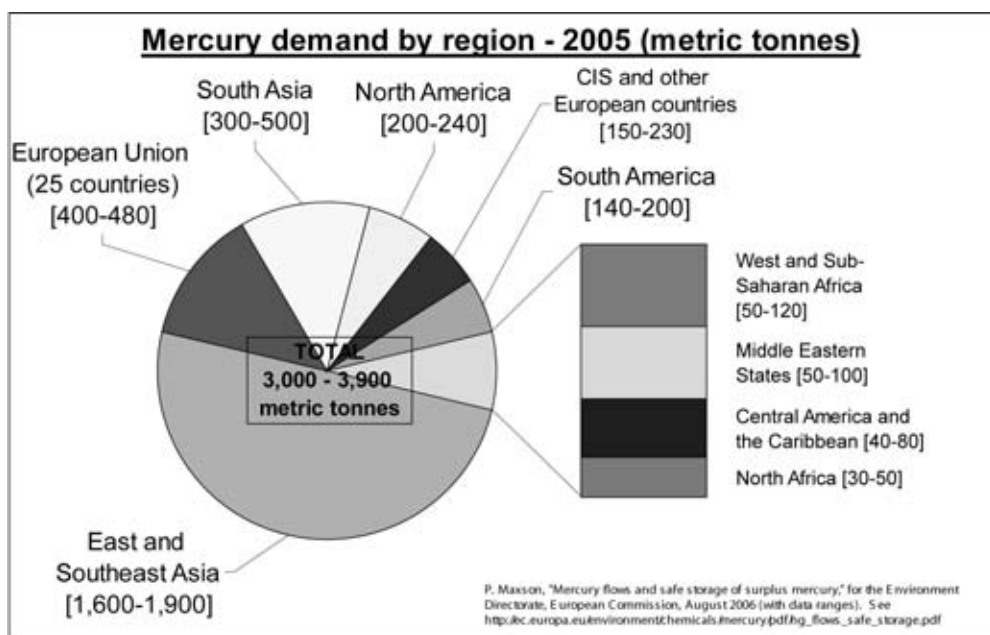
3.1 Uses and users

A major use of mercury is in small-scale and artisanal gold mining, which makes up almost one-third of the annual mercury uses. Mercury is also used in a number of major industrial processes, including the production of vinyl chloride monomer (the base from which PVC is made), and also in the production of chlorine. Mercury is used in a wide range of products, including lamps, switches, measuring devices, batteries and in dentistry.¹⁰ A table setting out the global mercury demand by uses is presented below:



Mercury is used in all regions of the world, with the majority of its use being in East and Southeast Asia. A table setting out the demand by region is presented below:

¹⁰ UNEP Chemicals, Summary of Supply, Trade and Demand Information on Mercury (2007), available at <<http://www.chem.unep.ch/mercury/PM-HgSupplyTradeDemand-Final-Nov2006-PMformat19Jan07.pdf>> (visited 20 January 2008), chapter 5.1.



3.2 Sources of mercury

Emissions of mercury come from four major sources. Firstly, natural sources allow mobilization of mercury from the Earth's crust, primarily from volcanic activity and weathering of rocks. Secondly, anthropogenic activities result in the release of mercury from previous deposition, primarily from the burning of coal, gas or oil or through mining of other minerals.¹¹

Thirdly, the use of mercury in industrial processes and in products can result in the release of mercury during manufacture, leaks from products during use, or from improper disposal of products. The main intentional uses are primary mining of mercury, the use of mercury in small scale gold and silver mining, chlor-alkali production, fluorescent lamps, dental amalgams, measuring devices and electronic switches. Waste treatment can result in mercury releases to the environment. The most rapid and complete releases are seen with waste incineration; however, deposition in non-secure landfills of waste containing mercury often results in the gradual release of mercury to the environment.¹²

Finally, mercury previously deposited in the environment may be remobilized through changes in the environment; such as changes in lake or river levels, or a change in land use (such as deforestation).¹³ Levels of mercury present in the environment were presented in the Global Mercury Assessment. At the 24th Governing Council in Feb-

¹¹ The Global Mercury Assessment (2003).

¹² *Ibid.*

¹³ *Ibid.*

bruary 2007, UNEP was requested to assess global emissions and trends to provided updated information on the levels of mercury in the environment. This update of mercury air emissions is currently underway.

4 Governance efforts for the management of mercury

4.1 Efforts by UNEP

The mandate for UNEP's work on mercury comes from a series of Governing Council decisions. The Global Mercury Assessment was initiated in 2001, and considered by the Governing Council in 2003.¹⁴ At this stage, it was decided that national, regional and global actions, both immediate and long-term, should be initiated as soon as possible. Consequently, all countries were urged to adopt goals and to take actions; with the objectives being the identification of exposed populations and ecosystems, and the reduction of anthropogenic mercury releases.¹⁵

In 2005, the Governing Council strengthened the mercury programme, reiterating the conclusions of the Global Mercury Assessment on the global adverse impacts of mercury on health and environment. In 2004, in Decision 23/9,¹⁶ the Governing Council also emphasized the need for national, regional and global actions; and the need to adopt goals and to take actions. Additionally, UNEP was requested by the Governing Council to implement partnerships between Governments, inter-governmental organizations, non-governmental organizations and the private sector; in clear, transparent and accountable ways, as one approach to reducing risks from mercury.

In 2007, the Governing Council recognized, in Decision 24/3,¹⁷ that current efforts to reduce risks for mercury are not proving sufficient to address the global hazards and challenges posed by mercury. The Governing Council concluded also 'that further long-term international action is required to reduce risks to human health and the environment; and that, for this reason, the options of enhanced voluntary measures and new or existing legally binding instruments will be reviewed and assessed in order to make progress in addressing this issue'.¹⁸ As set out in Decision 24/3, two main ways to proceed on the mercury issue are to strengthen the UNEP Global Mercury Partnerships; and to establish an Ad Hoc Open-ended Working Group (AHOWG) of Governments, regional economic integration organizations and stakeholder rep-

¹⁴ See *supra* note 6.

¹⁵ UNEP Governing Council Decision 22/4 'Chemicals' (2003), part V.

¹⁶ UNEP Governing Council Decision 23/9 'Chemicals' (2005), part IV.

¹⁷ UNEP Governing Council Decision 24/3 'Chemicals management' (2007), part IV.

¹⁸ *Ibid.* para. 17.

representatives in order to conduct the necessary review and assessment of the options.¹⁹ The first meeting of the AHOWG was held in November 2007.²⁰

In considering the strengthening of the partnerships, one of the first considerations was to establish the essential elements of a partnership. It was considered in discussions between interested partners that this would involve a cluster of concerted initiatives; especially where there is potential to build upon existing activities. Partners should all benefit from the activities, learn from each other, and take the opportunity to be innovative and to build momentum. Resources should be allocated according to priorities. It was agreed that the guiding principles for the partnerships would link with the agreed outcomes or priorities; including those set out in decision GC 24/3, paragraph 19 and the goals for partnerships agreed at the World Summit of Sustainable Development (WSSD).²¹ Partnerships should be voluntary, flexible and take multi-stakeholder approaches. Partnerships require funding for activities, and should be transparent, accountable and inclusive, as well as being demand-driven.

Currently, a number of partnerships, initiated in 2005, are underway. These are in the areas of artisanal and small-scale gold mining, coal combustion, the chlor-alkali sector, the reduction of mercury use in products, and air transport and environmental fate research. Consistent with UNEP GC decision 24/3, a number of other partnership areas have been proposed; including vinyl chloride monomer production, non-ferrous metals mining, cement production, waste combustion, control of supply and long term storage.²²

Activities are underway within the existing partnerships; with a range of partners including representatives of governments, industries and non-governmental organizations.²³ There are early indications that activities undertaken within the partnerships have either resulted in reductions of mercury emissions or are likely to result in reduction of mercury releases in a number of areas. In the chlor-alkali partnerships, the World Chlorine Council reports a trend of decreasing mercury emissions from chlorine production.²⁴ In the health care sector, work has been undertaken with a number of hospitals to raise awareness of the hazards associated with mercury spills,

¹⁹ *Ibid.* paras 27–28.

²⁰ See Report of the Ad hoc Open-ended Working Group on Mercury on the work of its first meeting, Un Doc. UNEP(DTIE)/Hg/OEWG.1/6 (2007).

²¹ See Plan of Implementation of the World Summit on Sustainable Development, A/CONF.199/20 (2002).

²² UNEP Governing Council Decision 24/3.

²³ Information on activities within the partnership areas can be found on the UNEP Mercury website at <<http://www.chem.unep.ch/mercury>> (visited 21 January 2008).

²⁴ World Chlorine Council, Report on 2006 mercury emissions and consumptions in the chlor-alkali industry, available at <<http://www.chem.unep.ch/mercury/Sector-Specific-Information/Docs/UNEP%20Cover%20Note%20WCC%20report%20on%20Hg%20emissions%20Sept%202007.pdf>> (visited 21 January 2008).

and in India replacement of mercury-containing measuring devices has occurred in a number of hospitals.²⁵

4.2 Other approaches

In considering other approaches to managing the global mercury problem, the possible need for a legally binding and overarching instrument is also being discussed by governments within the Ad-Hoc Open-ended Working Group on Mercury. Possibilities for a legally binding instrument include the utilization of relevant elements of existing instruments; as well as the possibility of drafting new protocols or procedures for inclusion in existing instruments; and the negotiation of an entirely new agreement, which would either cover mercury alone, or combine coverage of mercury with coverage of other chemicals of global concern.²⁶ These options, as well as options for enhanced voluntary measures, were considered at the first meeting of the AHOWG in November 2007; and a report on progress will be made to the tenth special session of Governing Council to be held in February 2008. A final report on the work of the group, including any consensus recommendations, will be provided to the next meeting of the Governing Council in February 2009.

While these discussions are underway, work on mercury is still continuing within the UNEP mercury programme. This includes ongoing work to develop the structure, and enhance the activities, of the partnership areas; including hosting an overarching meeting to develop partnership objectives and overall goals. Projects to reduce the uses and releases of mercury will be ongoing throughout 2007 and 2008; including support for national efforts to take action on mercury. Major elements of these projects include building inventories of uses and releases; identifying populations at risk; developing communication and outreach to populations identified as being at risk; and initiating actions to reduce uses and releases of mercury, including the promotion of mercury-free products, technologies and processes, and the using of environmentally-friendly alternatives.

5 Conclusion

It is generally recognized that significant work on mercury needs to be done to reduce and to eliminate, as far as this is possible, emissions of mercury. Governments do currently appear to be recognizing these needs, and to be participating actively in processes to advance this work. This is illustrated by the strengthening of the Governing

²⁵ Ad hoc Open-ended Working Group on Mercury, First Meeting, Report on activities under the UNEP mercury programme, Awareness raising: a modular approach, UN Doc. UNEP(DTIE)/Hg/OEWG.1/INF/5 (2007) at 95–96.

²⁶ These options are set out in the document Ad hoc Open-ended Working Group on Mercury, First Meeting, Review and assessment of options for enhanced voluntary measures and new or existing international legal instruments, Study on options for global control of mercury, UN Doc. UNEP(DTIE)/Hg/OEWG.1/2 (2007).

Councils decisions from the 22nd, 23rd and 24th Governing Councils. Additionally, governments are actively participating in discussions such as the Open Ended Working Group on Mercury, whose November 2007 meeting had more than 200 participants from governments, international organizations and non-governmental organizations.²⁷

From the work of the North American Regional Action Plan,²⁸ as well as from the report from the World Chlorine Council,²⁹ it appears that when programs to reduce mercury emissions are implemented, reductions can be seen. However, it should be noted that major sources of mercury, particularly coal burning power stations, are increasing in use particularly in developing countries with rapidly growing economies. This is a multi-pollutant problem, which is likely to take significant resources to tackle and will not be solved easily. As governments indicated in the UNEP Governing Council Decision 24/3, while the progress made on mercury is encouraging, current efforts to reduce risk from mercury are not sufficient to address the global challenges, and further international action is required to reduce risks to human health and the environment.

²⁷ Ad Hoc Open-ended Working Group on Mercury, First Meeting, List of participants, Un Doc. UNEP(DTIE)/Hg/OEWG.1/INF/9 (2007).

²⁸ See *supra* note 3.

²⁹ See *supra* note 24.

DDT, MALARIA CONTROL AND THE STOCKHOLM CONVENTION ON PERSISTENT ORGANIC POLLUTANTS

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Perhaps man cannot understand how precious food is unless he has to toil to produce it himself, perhaps he cannot appreciate freedom from infectious disease unless he sees its devastating effects before his own eyes. The age old enemies of the human race, starvation and sickness, are making ready to halt their retreat as our legislators prepare to ban DDT, the chemical of social change.²

1 Introduction

It is probably trite to observe that most environmental issues do not present themselves in clear 'either-or' scenarios. Things are hardly ever absolutely good or absolutely bad. Instead, policy-makers and legislators most often have to confront issues that offer various shades of grey. So, too, is it with persistent organic pollutants (POPs); and with the greyest POP of them all: DDT.

This paper has two main objectives. The first is to demonstrate the strong relationship between science and policy, which underpins the regulatory regime inherent in the Stockholm Convention on POPs.³ The second objective is to examine the treatment of DDT by the Stockholm Convention, and to highlight critically certain aspects of the DDT regime.

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² T. H. Jukes, 'DDT: The chemical of social change', 2 *Clinical Toxicology* (1969) 359–370 at 359.

³ Convention on Persistent Organic Pollutants, Stockholm, 22 May 2001, in force 17 May 2004, 40 *International Legal Materials* (2001) 532, <<http://www.pops.int>>.

2 What is DDT?

2.1 Introduction

DDT is an abbreviation of dichlorodiphenyltrichloroethane.⁴ The chemical was first synthesized by a student at the University of Strasbourg, Othmar Zeidler, in 1874. It was some time later, in 1939, that a Swiss chemist, Paul Müller, of the German chemical company Geigy AC, discovered its insecticide properties.⁵ DDT operates as a contact poison, acting on the nervous system of insects and ‘causing over-stimulation of neurons and rapid death’.⁶ It was soon demonstrated to be an extremely effective insecticide, being first used to control a typhus epidemic in Naples, Italy, in the early 1940s;⁷ and Müller was awarded a Nobel Prize in 1948 for his discovery.⁸

Among the benefits of DDT are its effectiveness against numerous insect pests; and its persistence, remaining lethal long after initial spraying, which means that it does not require frequent re-application. This, of course, is also one of the reasons why it has received negative attention, an issue to which we shall return later. DDT also appeared to possess moderate toxicity to humans (this to be explored in more detail below) and low dermal toxicity, which means that it can be applied directly to the skin.⁹ It is the latter property of DDT that allowed it to be used during the Second World War for lice control. A further factor that makes DDT attractive is its cost – it is the cheapest insecticide on the basis of price per kilogram.¹⁰

These properties of DDT led to its widespread use throughout the world from the 1940s until 1972, with an annual global production during this time period of 2.8 million tons.¹¹ More specifically, commercial sales began in 1945, and DDT became widely used in agriculture to control insects, such as the pink boll worm on cotton, the codling moth on deciduous fruit, the Colorado potato beetle, and the European corn borer. The compound was also used in silviculture and, in a powder form, as a directly applied louse-control substance for humans. In the United States, use of DDT rose until 1959 (35 771 tonnes), after which it declined gradually (11 316

⁴ In this paper, any reference to ‘DDT’ should be taken, where appropriate, to include reference to DDT’s metabolites DDE (1,1,-dichloro-2,2-bis(*p*-chlorophenyl)ethylene) and DDD (1,1-dichloro-2,2-bis(*p*-chlorophenyl)ethane). DDE, in particular, is the compound typically found accumulated in fatty tissue.

⁵ Marco A. Olsen, *Analysis of the Stockholm Convention on Persistent Organic Pollutants* (Oceana, 2003) at 23; John Beard, ‘DDT and Human Health’, 355 *Science of the Total Environment* (2006) 78–89 at 78; Walter J. Rogan and Aimin Chen, ‘Health risks and benefits of bis (4-chlorophenyl)-1,1,1-trichloroethane (DDT)’ 366 *The Lancet* (2005) 763–773 at 763. See also Lewis L. Smith, ‘Key challenges for toxicologists in the 21st century’, 22 *Trends in Pharmacological Sciences* (2001) 281–285 at 281.

⁶ Olsen, *Analysis of the Stockholm Convention*, *supra* note 5, at 23.

⁷ Smith, ‘Key challenges for toxicologists’, *supra* note 5, at 248.

⁸ Olsen, *Analysis of the Stockholm Convention*, *supra* note 5, at 23.

⁹ Smith, ‘Key challenges for toxicologists’, *supra* note 5, at 248.

¹⁰ Chris J. Schofield, ‘The DDT debate: Considering costs’, 17 *Trends in Parasitology* (2001) 9 at 9. Note, however, that Schofield argues that, when one takes into account target dose rates and freight and distribution costs, DDT might not always be the cheapest option.

¹¹ Olsen, *Analysis of the Stockholm Convention*, *supra* note 5, at 23.

tonnes in 1970).¹² Its use in malaria control was also an important factor, but this will be discussed separately below.

DDT's properties are not all good, however; and it is DDT's negative characteristics that have led to its coming into the regulatory spotlight. The negative properties of DDT are not free from controversy, which means that, as suggested in the introduction, addressing DDT presents several shades of grey.

2.2 The toxicity of DDT?

There have been numerous studies of DDT's impacts on human health, ranging from its carcinogenic effects to impacts on the endocrine system (hormones),¹³ and to impacts on semen and fertility,¹⁴ to name a few. The International Agency for Research on Cancer (IARC)¹⁵ classifies DDT as 'not classifiable as to carcinogenicity to humans'.¹⁶ This does not mean that DDT is not carcinogenic, but the possibility that it is carcinogenic has not been categorically excluded either. Putting this classification into some perspective is the fact that coffee has the same classification. This is what certain experts have had to say about the toxic effects of DDT:

[c]ohort and ecological studies suggest a number of potentially adverse outcomes of DDT exposure, although there is little consistency in the findings of these studies. More commonly suggested associations include breast cancer, pancreatic cancer, adverse birth outcomes, and leukaemia. Among these, only breast cancer can really be considered to have been tested by rigorous research. While there is still some inconsistency in the results, the overwhelming evidence is that there is no causative association with DDT exposure.¹⁷

¹² Rogan and Chen, 'Health risks and benefits', *supra* note 5, at 768. Cf. Kathleen R. Walker, Marie D. Ricciardone and Janice Jensen, 'Developing an international consensus on DDT: A balance of environmental protection and disease control' 206 *International Journal of Hygiene and Environmental Health* (2003) 423–435 at 423, who say that '[a]nnual production in the United States peaked at 85000 tons in 1962 when DDT was registered for use on 334 agricultural commodities' (at 424).

¹³ Mohamed A. Dalvie et al. carried out a study aimed at assessing whether DDT is an endocrine disruptor in humans and whether the mechanism is anti-androgenic or estrogenic. See Mohamed A. Dalvie et al., 'The hormonal effects of long-term DDT exposure on malaria vector-control workers in Limpopo Province, South Africa', 96 *Environmental Research* (2004) 9–19 at 9–10. Their results 'do not suggest an overt anti-androgenic or estrogenic effect of DDT long-term exposure on hormone levels but correlations do exist in a manner that is not understood'. *Ibid.* at 17.

¹⁴ A study by Mohamed A. Dalvie et al., 'The long-term effects of DDT exposure on semen, fertility, and sexual function of malaria vector-control workers in Limpopo Province, South Africa', 96 *Environmental Research* (2004) 1–8 at 1, has shown that DDT apparently has no abnormal effect on the semen quality of malaria vector-control workers.

¹⁵ For more information, see <<http://www.iarc.fr>>.

¹⁶ Agents Reviewed by the IARC Monographs (updated 30 March 2007), available at <<http://monographs.iarc.fr/ENG/Classification/Listagentsalphorder.pdf>> (visited 8 August 2007).

¹⁷ Beard, 'DDT and Human Health', *supra* note 5, at 85. See also Walker et al., 'Developing an international consensus', *supra* note 12, at 426.

Another author suggests that ‘no firm conclusions can be drawn on neurobehavioral toxicity of DDT and other organochlorine compounds, and further research is needed’.¹⁸ On the other hand, it has been demonstrated that exposure of women to DDT may lead to negative health impacts for infants, including preterm births and early weaning.¹⁹ In poorer countries, where breast milk is a vital source of early nutrition for infants, this is clearly problematic. In many cases, people likely to be exposed to DDT through malaria vector control are also likely to be poor and prone to this risk. Another study, focusing on *in vitro* contamination and exposure of women to DDT, has indicated that DDT induces DNA damage in blood cells.²⁰

These references are, of necessity, a highly selective assortment of studies focusing on the toxic effects of DDT, and they serve to illustrate that there is little consensus on the long-term detrimental effects of human exposure to DDT. It does seem clear, however, that there is little acute impact of DDT that is harmful to humans.²¹

If we expand the focus beyond purely human impacts, however, it seems clear that DDT has negative environmental impacts. It has led to cancers in laboratory mice and non-human primates;²² and its bioaccumulation²³ in birds of prey has interfered with reproduction, through eggshell-thinning.²⁴ It has also, ironically, led to increases of certain pests because it eliminated their natural insect predators, being non-target specific.²⁵ DDT is also highly toxic to many aquatic invertebrates; as well as to fish and amphibians, particularly in their juvenile stages.²⁶

Other than toxicity, DDT has additional negative properties. DDT has been detected in regions (such as the polar regions), where it has not been used. This is due to the fact that compound volatilization causes the spread of residues that are transported by atmospheric processes to higher latitudes, and through this process trans-boundary contamination occurs in countries in temperate zones and even in polar regions.²⁷ DDT is also largely insoluble in water, but it does dissolve readily in fats and oils. As a result, mammals with large fat deposits (such as those in the arctic

¹⁸ C. Colosio; M. Tiramani and M. Maroni, ‘Neurobehavioral effects of pesticides: State of the art’, 24 *Neurotoxicology* (2003) 577–591 at 578.

¹⁹ Rogan and Chen, ‘Health risks and benefits’, *supra* note 12, at 768.

²⁰ Leticia Yanez et al., ‘DDT induces DNA damage in blood cells. Studies in vitro and in women chronically exposed to this insecticide’, 94 *Environmental Research* (2004) 18–24 at 18.

²¹ Rogan and Chen, ‘Health risks and benefits’, *supra* note 12, at 764, who indicate that there have been ‘a few’ reports of poisoning. They report that ‘doses as high as 285 mg/kg taken accidentally did not cause death, but such large doses did lead to prompt vomiting’.

²² *Ibid.*

²³ This term is discussed in more detail below, see footnotes 29 and 30.

²⁴ See, for example, Walker et al., ‘Developing an international consensus’, *supra* note 12, at 424, who report that bird species which declined in numbers due to DDT effects staged a ‘dramatic’ recovery following the ban on DDT use.

²⁵ *Ibid.*

²⁶ *Ibid.*

²⁷ Fernando P. Carvalho, ‘Agriculture, pesticides, food security and food safety’, 9 *Environmental Science and Policy* (2006) 685–692 at 689. See also Olsen, *Analysis of the Stockholm Convention*, *supra* note 5, at 3 and 4.

regions) often have large concentrations of DDT in their bodies, despite their never having had any direct contact with the pesticide.²⁸

DDT also bioaccumulates in the environment and in organisms (including humans). Bioaccumulation is the balance between the rate of chemical absorption and the loss or elimination of the substance thereafter.²⁹ It also shows increased concentration in species that are higher up the food chain due to dietary absorption – known as biomagnification.³⁰

These properties led to DDT being banned in Sweden in 1970, followed by the US in 1972 and the UK in 1986.³¹ Many other countries followed Sweden and the US, but some countries stopped its use for all purposes except for malaria vector control. At this point the importance of DDT in malaria vector control needs to be considered.

3 DDT as a Malaria Vector Control Measure

3.1 The problem of malaria

Malaria is caused by a minute one-celled worm-like parasite called a plasmodium. Plasmodia are transferred to humans by a bite from a mosquito. Several dozen plasmodia enter the person's bloodstream with a typical mosquito bite: it takes only one plasmodium to kill.³² Malaria is carried by the female *Anopheles* mosquito, which needs to drink blood every three days. The mosquito is able to ingest two-and-a-half times her pre-meal weight. This is the equivalent, in human terms, of drinking a volume of liquid equivalent to the water in a bath-tub.³³

Malaria is endemic to 106 nations, thereby threatening half of the world's population,³⁴ and has killed numerous people throughout history. For example, during the American civil war, it is estimated that one million Union army casualties were due to malaria; and casualties from malaria exceeded those from combat in the Pacific theatre during World War II.³⁵ According to the World Health Organization (WHO),

[e]ach year, more than 500 million people suffer from acute malaria, resulting in more than 1 million deaths. At least 86 percent of these deaths are in sub-Saharan

²⁸ Olsen, *Analysis of the Stockholm Convention*, *supra* note 5, at 23.

²⁹ *Ibid.*

³⁰ *Ibid.* See also William Onzivu, 'International environmental law, the public's health, and domestic environmental governance in developing countries', 21 *American University International Law Review* (2006) 597–684 at 627.

³¹ Rogan and Chen, 'Health risks and benefits', *supra* note 12, at 763.

³² Michael Finkel, 'Raging malaria', 212 *National Geographic* (July 2007) 32–67 at 41.

³³ *Ibid.* at 67.

³⁴ *Ibid.* at 41.

³⁵ *Ibid.* at 46.

Africa. Globally, an estimated 3 000 children and infants die from malaria every day and 10 000 pregnant women die from malaria in Africa every year. Malaria disproportionately affects poor people, with almost 60 percent of malaria cases occurring among the poorest 20 percent of the world's population.³⁶

Other than the human suffering, malaria also creates a significant economic burden – in Africa, it is seen as an important barrier to development.³⁷ For example, in Uganda, where the average child suffers six episodes of malaria in a year, families spend on average 10% of their income on treating malaria. Uganda loses US\$347 million each year as a result of malaria.³⁸

Once DDT's ability to kill mosquitoes effectively was recognized, it became one of the principal anti-malarial measures (together with an effective synthetic treatment, chloroquine).³⁹ These formed the principal tools of the World Health Organization's Global Malaria Eradication Programme,⁴⁰ which was launched in 1955. The Programme was reasonably effective in that by 1967 endemic malaria had been eradicated in developed countries, as well as in many subtropical Asian and Latin American countries.⁴¹ For example, Sri Lanka had 2.8 million cases of malaria in 1946; but only 17 in 1963. Annual deaths from malaria in India dropped from 800 000 to hardly any. In those countries which bear the brunt of malaria (i.e. those in Africa), however, there was little participation in the programme. In 1969, the 22nd World Health Assembly⁴² ended the campaign, when authorities realized that the infrastructure necessary to support global eradication did not exist. Moreover, mosquitoes were becoming resistant to DDT.⁴³ With the almost global ban on DDT use from the early 1970s, DDT use in malaria control fell off. As Walker et al. indicate:

[b]y 1999, the WHO estimated that about 23 countries still used DDT routinely for malaria control, although in much smaller quantities than during the eradication era. For example, India applied 18 200 tons in year 1963 but only 6 800 tons in 1998. Today, DDT is only produced by China and India, mainly for disease vector control.⁴⁴

³⁶ WHO News Release, 'WHO gives indoor use of DDT a clean bill of health for controlling malaria', WHO/50 (15 September 2006); available at <<http://www.who.int/mediacentre/news/releases/2006/pr50/en/>> (visited 27 September 2007).

³⁷ Walker et al., 'Developing an international consensus', *supra* note 12, at 425.

³⁸ Charles Wendo, 'Uganda considers DDT to protect homes from malaria', 363 *The Lancet* (2004) 1376 at 1376.

³⁹ Of course, DDT is also effective against other mosquito-borne diseases such as leishmaniasis and dengue fever, among others.

⁴⁰ For more information, see <<http://www.who.int/malaria/>> (visited 21 January 2008).

⁴¹ Rogan and Chen, 'Health risks and benefits', *supra* note 12, at 763; Beard, 'DDT and Human Health', *supra* note 5, at 78.

⁴² WHO, *Community Involvement in Rolling Back Malaria* (WHO, 2002), Doc. WHO/CDS/RBM/2002.42, available at <http://portalserver.unepchemicals.ch/Publications/WHO_community_involvement.pdf> (visited 21 January 2008) at 4.

⁴³ Rogan and Chen, 'Health risks and benefits', *supra* note 12, at 763.

⁴⁴ Walker et al., 'Developing an international consensus', *supra* note 12, at 426, references omitted.

Global agencies, including the WHO, began promoting the use of alternatives to DDT, including other pesticides less harmful to the environment, bed nets treated with insecticide, and prophylactic drugs.⁴⁵

There are several weaknesses in these measures, including infrastructural constraints in poorer countries undermining bed net campaigns and, importantly, mosquitoes' resistance to alternative pesticides. These, coupled with research that suggested minimal adverse effect on health and the environment when DDT is used for indoor residual spraying, led to the WHO announcing in September 2006, that it was recommending the use of DDT for indoor residual spraying, not only in epidemic areas but also in areas with constant and high malaria transmission, including in Africa.⁴⁶

It is clear that the WHO was influenced in its decision by the startling increase in malaria cases globally, following the drop-off in use of DDT. A very good example of this occurred in South Africa.

3.2 South Africa: A case study in DDT use for malaria vector control

South Africa has high malaria risk areas in three of its nine provinces: Limpopo, Mpumalanga and KwaZulu-Natal. Sustained DDT use in the country led to the elimination in South Africa of two predominantly indoor resting mosquito species *Anopheles gambiae* s.s. and *Anopheles funestus* s.s.⁴⁷ South Africa, however, followed the lead of other countries in restricting the use of DDT; discontinuing its use as a larvicide in the early 1960s and prohibiting its use for agricultural spraying in 1976.⁴⁸ In terms of the Fertilizers, Farm Feeds, Agricultural Remedies and Stock Remedies Act of 1947,⁴⁹ the acquisition, disposal and sale of DDT was prohibited by the Minister of Agriculture in May 1981.⁵⁰ This section also allows the *use* of pesticides to be prohibited, but this was not done because DDT was still being used for malaria control purposes.

The South African Department of Health decided to discontinue the use of DDT in 1996, and to replace it for purposes of indoor residual spraying with a synthetic pyrethroid called Deltamethrin. The consequences were startling: reported malaria cases rose significantly and entomological surveys revealed the presence of *Anopheles funestus* mosquitoes in houses that had been sprayed with this pesticide.⁵¹ This is demonstrated in the following table:

⁴⁵ Jim Lobe, 'WHO looks to DDT for malaria control', *Mail & Guardian*, 18 September 2006.

⁴⁶ WHO News Release, *supra* note 36.

⁴⁷ R. Maharaj; D. J. Mthembu and B. L. Sharp, 'Impact of DDT re-introduction on malaria transmission in KwaZulu-Natal', 95 *South African Medical Journal* (2005) 871–874 at 871.

⁴⁸ *Ibid.*

⁴⁹ Act 36 of 1947.

⁵⁰ GN R928 in GG 7566 of 1 May 1981.

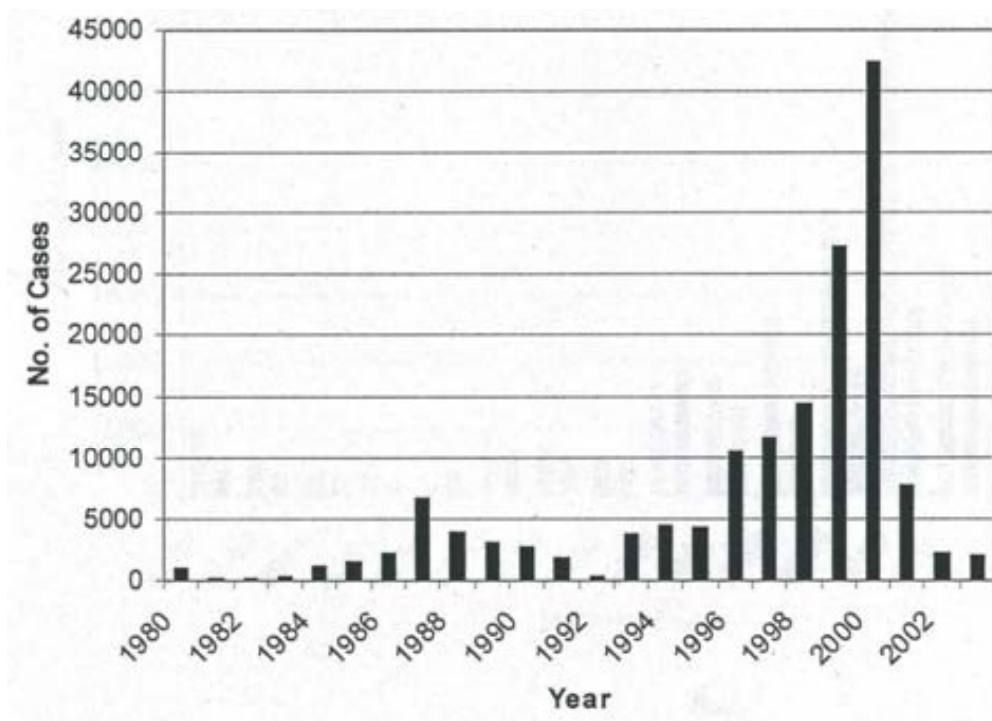
⁵¹ Maharaj et al., 'Impact of DDT re-introduction', *supra* note 44, at 871. See also K. Hargreaves, et al., 'Anopheles funestus resistant to pyrethroid insecticides in South Africa', 14 *Medical and Veterinary Entomology* (2000) 181–189.

Table 1: Average number of reported malaria cases before and after DDT replacement by synthetic pyrethroids in KwaZulu-Natal, Northern Province and Mpumalanga, 1988–1999.⁵²

Province	Average number of malaria cases per year		Percentage increase
	Before	After	
KwaZulu-Natal	2 973	13 388	350%
Northern Province	2 309	10 124	339%
Mpumalanga	2 928	8 337	185%

In KwaZulu-Natal, the increase in malaria cases is demonstrated vividly by the following figure:⁵³

Figure 1: Malaria trends in KwaZulu-Natal, 1980–2003.



⁵² J. M. Govere; D. N. Durrheim and S. Kunene, 'Malaria trends in South Africa and Swaziland and the introduction of synthetic pyrethroids to replace DDT for malaria vector control', 98 *South African Journal of Science* (2002) 19–21 at 20. Cf H. Bouwman; B. Sereda and H. M. Meinhardt, 'Simultaneous presence of DDT and pyrethroid residues in human breast milk from a malaria endemic area in South Africa', 144 *Environmental Pollution* (2006) 902–917 at 902, who indicate that malaria cases soared from 4117 cases in 1995 to 64 622 in 2000.

⁵³ Maharaj et al., 'Impact of DDT re-introduction', *supra* note 47, at 872.

DDT was reintroduced for indoor spraying in 2000, and malaria cases dropped to the levels they were at prior to the discontinuation of its use. According to Maharaj et al, 'since DDT was re-introduced, entomological surveillance teams have not found a single *A. funestus* mosquito in northern KwaZulu-Natal despite intensive collections in the malarious areas'.⁵⁴ This indicates that this mosquito species has once again been eliminated from the province through the use of DDT. Similar results were found in Madagascar, which in 2005 was the only country other than South Africa to have reintroduced DDT for indoor application.⁵⁵

South Africa's Ministry of Health has been reported as saying that South Africa 'has been playing a leading international role in advocating the use of DDT as a critical element in eliminating malaria', thus influencing the WHO (together with other successful programmes elsewhere)⁵⁶ to promote indoor residual spraying in 2006.⁵⁷ That view might not be seen as impartial, but it has been said elsewhere, and in a somewhat different context, that South Africa's engagement in the negotiations leading up to the POPs Convention 'was critical in developing an approach to minimize environmental releases of DDT in a manner that did not undermine public health'.⁵⁸

This case study, seen together with the WHO's approach to DDT use as a malaria vector control, provides the context for the treatment of DDT by the Stockholm Convention on Persistent Organic Pollutants, to which our attention now turns.

4 The Stockholm Convention on Persistent Organic Pollutants

4.1 The lead-up to the Convention

This paper is not the place for a detailed consideration of the Convention⁵⁹ and its establishment; but in order to understand how DDT is addressed by the Convention, it is useful to consider how this issue was handled in the negotiations leading up to the acceptance of the Convention.

In 1997, the United Nations Environment Programme (UNEP) established an inter-governmental negotiating committee (INC)⁶⁰ with the brief of developing a global

⁵⁴ *Ibid.* at 874.

⁵⁵ *Ibid.*

⁵⁶ For instance, spraying DDT in the Madagascan highlands in the 1990s resulted immediately in a 90% reduction of an epidemic that caused 40 000 to 60 000 deaths. Khabir Ahmad, 'WHO's DDT decision challenged', 6 *The Lancet Infectious Diseases* (2006) 692.

⁵⁷ 'WHO follows South Africa's lead on DDT', *SouthAfrica.info* report on 20 September 2006, available at <http://www.southafrica.info/ess_info/sa_glance/health/malaria-190906.htm> (visited 6 August 2007).

⁵⁸ Walker et al., 'Developing an international consensus', *supra* note 12, at 430.

⁵⁹ The Stockholm Convention, *supra*, note 3.

⁶⁰ For further information and documents, see <<http://www.pops.int/documents/meetings/>> (visited 21 January 2008).

agreement addressing POPs, including DDT. Early in the negotiating process, several participants made it clear that DDT could not be subject to an absolute ban or quick phasing-out (as would be the case with several other of the POPs addressed by the Convention, especially the pesticides), due to its pivotal role in malaria vector control. There were differences in opinion on DDT, but these were not to prove to be a stumbling block; as is described by Walker et al:

[d]eveloped countries from non-malarious, temperate regions generally viewed DDT as a long-range pollutant. Among developing countries, most of which have malarious regions, perspectives were more widely diverging. A minority of those countries still used DDT for malaria control, including many southern and east African countries as well as the two remaining DDT producers, India and China. Interestingly, some of the countries in [W]est Africa with the highest malaria burdens had never used much DDT at all, and their delegates generally did not express interest in using DDT in the future. Other developing countries, such as Vietnam and Brazil, had used DDT in the past but had switched to alternative insecticides or approaches in recent years. Delegates from some developing countries expressed concern about the illegal trade and potential diversion of DDT from disease vector control to agricultural uses. In spite of these differences, the DDT issue was not particularly controversial among the government negotiators.⁶¹

Several non-governmental organizations were far more vocal in their opposition to DDT. The Worldwide Fund for Nature (WWF),⁶² for example, proposed a phasing-out of DDT use by 2007. This, in turn, provoked a response from the Malaria Foundation International,⁶³ which apparently ‘mobilized 371 scientists, including three Nobel laureates, to sign a letter warning the negotiators that a firm deadline to ban DDT would place an unethical burden on the world’s poorest countries’.⁶⁴

The negotiators then turned to the WHO for guidance. At the third meeting of the INC in September 1999, the WHO presented its DDT Action Plan, which ‘recommended that governments mobilize resources to strengthen public health vector control, provide technical assistance to assess national needs and prepare an action plan for enhanced malaria control’.⁶⁵ After considerable discussion, where the DDT issue was a major focus of the fourth INC meeting in Johannesburg in December 2000, agreement was struck as regards DDT, and this is reflected in the relevant provisions of the Convention.⁶⁶

⁶¹ Walker et al., ‘Developing an international consensus’, *supra* note 12, at 428–9.
⁶² <<http://www.wwf.org>>.

⁶³ <<http://www.malaria.org>>.

⁶⁴ Walker et al., ‘Developing an international consensus’, *supra* note 12, at 429.

⁶⁵ *Ibid.*

⁶⁶ *Ibid.*

4.2 The DDT provisions in the POPS Convention

4.2.1 General provisions

The POPS Convention is based on the recognition that ‘persistent organic pollutants possess toxic properties, resist degradation, bioaccumulate and are transported, through air, water and migratory species, across international boundaries and deposited far from their place of release, where they accumulate in terrestrial and aquatic ecosystems’.⁶⁷ The objective of the Convention is the protection of human health and the environment from POPs.⁶⁸ To this end, the Convention aims at eliminating most of the POPs listed in the Convention, over varying timescales, and the reduction of use of DDT. The principal operational provisions in the Convention relating to DDT are found in Article 3, which provides:

- Measures to reduce or eliminate releases from intentional production and use
1. Each Party shall:
 - (a) Prohibit and/or take the legal and administrative measures necessary to eliminate:
 - (i) Its production and use of the chemicals listed in Annex A subject to the provisions of that Annex; and
 - (ii) Its import and export of the chemicals listed in Annex A in accordance with the provisions of paragraph 2; and
 - (b) Restrict its production and use of the chemicals listed in Annex B in accordance with the provisions of that Annex.
 2. Each Party shall take measures to ensure:
 - (a) That a chemical listed in Annex A or Annex B is imported only:
 - (i) For the purpose of environmentally sound disposal ...; or
 - (ii) For a use or purpose which is permitted for that Party under Annex A or Annex B;
 - (b) That a chemical listed in Annex A for which any production or use specific exemption is in effect or a chemical listed in Annex B for which any production or use specific exemption or acceptable purpose is in effect, taking into account any relevant provisions in existing international prior informed consent instruments, is exported only:
 - (i) For the purpose of environmentally sound disposal ...;
 - (ii) To a Party which is permitted to use that chemical under Annex A or Annex B; or
 - (iii) To a State not Party to this Convention which has provided an annual certification to the exporting Party. Such certification shall specify the intended use of the chemical and include a statement that, with respect to that chemical, the importing State is committed to: [certain specified requirements, relating to compliance with other provisions in the Convention and reporting requirements].

⁶⁷ Preamble to the Convention.

⁶⁸ Article 1.

3. ...
4. ...
5. Except as otherwise provided in this Convention, paragraphs 1 and 2 shall not apply to quantities of a chemical to be used for laboratory-scale research or as a reference standard.
6. Any Party that has a specific exemption in accordance with Annex A or a specific exemption or an acceptable purpose in accordance with Annex B shall take appropriate measures to ensure that any production or use under such exemption or purpose is carried out in a manner that prevents or minimizes human exposure and release into the environment. For exempted uses or acceptable purposes that involve intentional release into the environment under conditions of normal use, such release shall be to the minimum extent necessary, taking into account any applicable standards and guidelines.

DDT is listed on Annex B, which is headed 'Restrictions', as opposed to Annex A which is headed 'Elimination'. Part 2 of the Annex specifically deals with DDT, providing that:

1. The production and use of DDT shall be eliminated except for Parties that have notified the Secretariat of their intention to produce and/or use it. A DDT Register is hereby established and shall be available to the public. The Secretariat shall maintain the DDT Register.
2. Each Party that produces and/or uses DDT shall restrict such production and/or use for disease vector control in accordance with the World Health Organization recommendations and guidelines on the use of DDT and when locally safe, effective and affordable alternatives are not available to the Party in question.
3. In the event that a Party not listed in the DDT Register determines that it requires DDT for disease vector control, it shall notify the Secretariat as soon as possible in order to have its name added forthwith to the DDT Register. It shall at the same time notify the World Health Organization.
4. Every three years, each Party that uses DDT shall provide to the Secretariat and the World Health Organization information on the amount used, the conditions of such use and its relevance to that Party's disease management strategy, in a format to be decided by the Conference of the Parties in consultation with the World Health Organization.
5. With the goal of reducing and ultimately eliminating the use of DDT, the Conference of the Parties shall encourage:
 - (a) Each Party using DDT to develop and implement an action plan as part of the implementation plan specified in Article 7. That action plan shall include:
 - (i) Development of regulatory and other mechanisms to ensure that DDT use is restricted to disease vector control;
 - (ii) Implementation of suitable alternative products, methods and strate-

- gies, including resistance management strategies to ensure the continuing effectiveness of these alternatives;
- (iii) Measures to strengthen health care and to reduce the incidence of the disease.
- (b) The Parties, within their capabilities, to promote research and development of safe alternative chemical and non-chemical products, methods and strategies for Parties using DDT, relevant to the conditions of those countries and with the goal of decreasing the human and economic burden of disease. Factors to be promoted when considering alternatives or combinations of alternatives shall include the human health risks and environmental implications of such alternatives. Viable alternatives to DDT shall pose less risk to human health and the environment, be suitable for disease control based on conditions in the Parties in question and be supported with monitoring data.
6. Commencing at its first meeting, and at least every three years thereafter, the Conference of the Parties shall, in consultation with the World Health Organization, evaluate the continued need for DDT for disease vector control on the basis of available scientific, technical, environmental and economic information, including:
- (a) The production and use of DDT and the conditions set out in paragraph 2;
- (b) The availability, suitability and implementation of the alternatives to DDT; and
- (c) Progress in strengthening the capacity of countries to transfer safely to reliance on such alternatives.
7. A Party may, at any time, withdraw its name from the DDT Registry upon written notification to the Secretariat. The withdrawal shall take effect on the date specified in the notification.

These provisions recognize that DDT is, currently, necessary for malaria control. The current restriction, however, is intended to be replaced, eventually, with the ultimate elimination of DDT. To this end, Parties are required to develop mechanisms to ensure that DDT use is restricted to disease vector control; and, essentially, to find a safe alternative to DDT. Let us examine the responsibilities of the Parties in relation to DDT in more detail.

4.2.2 Reporting requirements and the DDT Register

Item 4 of Part II of Annex B requires Parties using DDT to report, to the Secretariat and to the WHO, details relating to that use. At the third Conference of the Parties (COP3), held in April–May 2007, the Parties decided on an extremely detailed report questionnaire that would have to be submitted by Parties using DDT. The decision of the Parties envisages the information being filtered through a joint WHO/

UNEP/POPS Secretariat clearing house, with a view to documenting 'lessons learned and best practices on integrated vector management'.⁶⁹ A consultant will then refine the date for presentation to an 18-person Expert Group. This information will be assessed by the Expert Group, which has various express functions which ultimately feed into the Group's responsibility of making recommendations to the COP on the continued need for DDT for disease vector control and on any actions deemed necessary to reduce the reliance on DDT in the light of the assessments undertaken.⁷⁰

This will be a painstaking process and one of the most important challenges facing everyone concerned in this exercise will be to ensure, first, that the information collected by Parties is accurate. It may well be that some poorer countries will have some difficulty in presenting comprehensive responses, given that much of the information required is very technical. The second challenge is that this must amount to more than a paper-collection (or, perhaps more accurately, electronic document collection) exercise, in order for it to have any practical significance.

Given the amount of work involved in this process, it would be a good idea for this exercise to be reviewed in a few years' time in order to assess whether the amount of work involved is bearing any fruit. If not, then the process ought to be simplified.

It is noteworthy that, in respect of the reporting and data assessment exercise for DDT, the POPs Convention is moving into the realm of review of integrated disease vector control methods. This is certainly in keeping with the objectives of the Convention; but almost certainly would not have been in the sight of the initial negotiators of the Convention.

4.2.3 Restricting DDT use to disease vector control

The Convention is perfectly clear in its insistence that DDT is to be used only for disease vector control, in accordance with WHO guidelines.⁷¹ Given DDT's low cost, and the fact that stocks of DDT will be present in various countries for the purpose of vector control, the possibility of DDT being used for non-vector control purposes (for example, destruction of agricultural pests) cannot be discounted. Illegal importation is another real possibility. During negotiations, delegates from some developing countries expressed concern about the illegal trade and potential diversion of DDT from disease vector control to agricultural uses.⁷² It has been suggested, in the context of Tanzania, that 'farmers have to be sensitised and the importation controls strengthened to prevent [DDT] from reaching the poor farmers, whose low purchasing capacity is a key factor in their use of-- cheap but banned products'.⁷³ The poorer countries where malaria is present often do not have watertight enforcement

⁶⁹ Decision SC-3/2 'DDT' (2007), Annex I.

⁷⁰ *Ibid.*

⁷¹ Annex VB Part II.2.

⁷² Walker et al., 'Developing an international consensus', *supra* note 12, at 430.

⁷³ M. A. Kishimba et al., 'The status of pesticide pollution in Tanzania', 64 *Talanta* (2004) 48–53 at 53.

regimes and this presents a challenge that must be met face-on. It might be necessary for the COP to consider the provision of further assistance to poorer countries in the event that this presents a significant problem.

There has been a suggestion that one organization should be created with the ability to manufacture and distribute DDT to public-health organizations in those countries that need it. This centralized system would help to guarantee that DDT is used for public health purposes only. In addition, the necessary quantity of DDT for vector control would be so low that, even if diverted, it will not be enough to pollute the environment.⁷⁴ This sounds like an attractive proposition on paper, but the opposition from the current manufacturers of DDT would almost certainly prove an insurmountable obstacle to the centralized production of DDT for vector control purposes only.

Stockholm NCP, *supra* note 34, undecided para. 15.

[15. The Committee shall [make every effort to] reach agreement on all matters of substance by consensus. If all efforts to reach consensus have been exhausted and no agreement has been reached, any decision shall, as a last resort, be taken by a [two-thirds][three-quarters] majority of the members present and voting [or by six members, whichever is greater]. The report of any meeting of the Committee at which consensus is not reached shall reflect the views of all the Committee members.]

4.2.4 Development of safe alternative(s) to DDT

The POPS Convention clearly intends for there to be alternatives to DDT available in the future, which will allow DDT to be eliminated completely. Wisely, the Convention does not set any strict timelines within which this must be achieved. This will not be an easy task. Ultimately, what will be necessary is the development of a regime of integrated vector management. This entails pesticide use for vector control (indoor residual spraying), the use of insecticide-treated nets, and environmental management – environmental modification (measures aiming to create a permanent or long-lasting effect on land, water, or vegetation to reduce vector habitats – for example, the installation and maintenance of drains), environmental manipulation (methods creating temporary unfavourable conditions for the vector – for example, water or vegetation management), and modifications of human habitation.⁷⁵

The WHO has recently released details of long-lasting insecticidal nets.⁷⁶ Up until now, nets have required dipping into insecticide every six months to ensure effectiveness, whereas these new nets stay effective for five years without re-treatment.

⁷⁴ D. R. Roberts; S. Manguin and J. Mouchet, 'DDT house-spraying and re-emerging malaria', 356 *The Lancet* (2000) 330–332 at 331.

⁷⁵ Jennifer Keiser; Burton H. Singer and Jurg Utzinger, 'Reducing the burden of malaria in different eco-epidemiological settings with environmental management: a systematic review', 5 *The Lancet Infectious Diseases* (2005) 695–708.

⁷⁶ WHO News Release, *supra* note 36.

Opponents of DDT use favour the use of nets, but there are various infrastructural and similar impediments to their comprehensive provision in many malarious countries. One thinks of the instability in various parts of Africa as presenting serious constraints to health officials in their ability to provide malaria control measures (not only nets, but this would apply equally to indoor spraying and medication). It would seem that a combination of all of these measures would be necessary for effective vector control, which means that an effective alternative to DDT for vector control must be found. This is certainly not something that will happen overnight and cheaply. DDT has been researched over decades, and this research has culminated in a decision by the WHO (supported by the POPs Convention) that the use of DDT presents an acceptable risk in the face of the ravages of malaria.⁷⁷ On the other hand, the risks associated with newer chemicals are less well characterized, as are the risks of exposure to DDT in conjunction with its replacement agents, at least for a transitional period. Given the extensive body of research already available, the risk implications for millions of people in this regard are so large that the change from DDT to any alternative ought to be preceded by a careful and well-considered set of investigations to allow risk assessments and cumulative risk assessments (CRAs). The further development of required data to support CRAs should be a priority in this instance.⁷⁸

A cumulative risk assessment (CRA) characterizes the risks associated with multiple agents via multiple routes; and takes on broad aspects such as uncertainty, variability, timing, combining toxicity data, interactions between agents, and exposure.⁷⁹ Moreover, the POPs Convention requires consideration of socio-economic factors as well. The upshot of this is that the development of alternatives to DDT will take time and much money.

The Stockholm Convention requires 'the Parties, within their capabilities, to promote research and development of safe alternative chemical and non-chemical products, methods and strategies for Parties using DDT, relevant to the conditions of those countries and with the goal of decreasing the human and economic burden of disease'.⁸⁰ It is important, if the Convention's objectives are to be achieved, that this responsibility be seen as a collective responsibility; rather than as the responsibility of the individual malarious countries. In particular, the poorer countries must not have to divert funds away from disease control in order to research alternatives. The POPs Convention must avoid the type of situation that has arisen within the context of multilateral environmental agreements; such as CITES,⁸¹ where the objective of the treaty is to conserve species for the benefit of all humankind, but where the responsibility for conservation lies with the range state of that species. Elephants,

⁷⁷ *Ibid.*

⁷⁸ Bouwman et al., 'Simultaneous presence of DDT', *supra* note 52, at 915.

⁷⁹ *Ibid.* at 914.

⁸⁰ Annex B Part II.5(b).

⁸¹ Convention on International Trade in Endangered Species of Wild Fauna and Flora, Washington DC, 3 March 1973, in force 1 July 1975, 993 *United Nations Treaty Series* 243, <<http://www.cites.org>>.

for example, are arguably seen as part of a global heritage; but when it comes to the costs of conservation, the elephants are no longer seen as ‘everyone’s elephants’, but as the range states’ elephants.⁸²

Funding may be critical in meeting the objectives of the POPS Convention, as is evidenced by the case of Mexico, where the Global Environmental Fund (GEF) facilitated funding of a project eradicating the use of DDT for malaria vector control in the country.⁸³ Mexico had been using DDT only for malaria vector control, but, following agreement with the USA and Canada, agreed to phase out such use. Mexico’s National Malaria Control Programme implemented an integrated control program involving three aspects: 1) elimination of parasites in people, 2) improvement of personal and household hygiene, and 3) use of environmental management practices to eliminate mosquito breeding sites.⁸⁴ As a result of this new strategy, the use of DDT for malaria control in Mexico was eliminated in 2000.⁸⁵ Funding was important in this regard in order to develop, test and utilize alternatives to DDT.⁸⁶

5 Conclusion

This paper has highlighted the importance of basing policy and resulting regulation (in this case, the international regulation of POPs) on good science. That the POPs Convention provides for restriction, rather than elimination, of DDT is a welcome recognition of the chemical’s crucial importance today in malaria vector control. It is the stated aim of the Convention that alternatives to DDT should be found, at some unspecified time in the future. This presents significant challenges for all nations, not just for those which suffer from malaria.

⁸² See Michael Cowling and Michael Kidd, ‘CITES and the African Elephant’ in Beatrice Chaytor and Kevin R. Gray (eds), *International Environmental Law and Policy in Africa* (Kluwer, 2003) 49–59.

⁸³ Keith E. Chanon et al., ‘Cooperative actions to achieve malaria control without the use of DDT’, 206 *International Journal of Hygiene and Environmental Health* (2003) at 387–394.

⁸⁴ *Ibid.* at 389.

⁸⁵ *Ibid.*

⁸⁶ *Ibid.* at 391.

CHEMICALS AND MARINE MAMMALS

*Ed Couzens*¹

1 Introduction

This paper considers the impact which the chemicals finding their way into marine ecosystems, worldwide, are having on marine mammals. The effects which chemicals are having on marine mammals can ultimately not be divorced from general consideration of the damage which humanity is wreaking on ecosystems; but is worth consideration on its own, for the lessons which can be drawn from the current state of marine mammals, for the implications for other species, and for the dangerous implications which the current state of marine mammals imply for human wellbeing.

2 Major oil spills and operational discharges

There is an inherent irony in the fact that early marine pollution conventions focused on 'operational discharge' and not on major oil spills. As an example of this, the 1954 London Convention for the Prevention of Pollution of the Sea by Oil² called on its parties to limit their rates of discharge, to separate oil from ballast water, and generally to minimize operational discharges of oil.³ The 1958 Geneva Conventions on the Law of the Sea⁴ barely touched on significant pollution – focusing instead on

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² International Convention for the Prevention of Pollution of the Sea by Oil (OILPOL), London, 12 May 1954, in force 26 July 1958, 327 *United Nations Treaty Series* 3, <<http://www.imo.org/>>.

³ See *ibid.* and Patricia Birnie and Alan Boyle, *International Law and the Environment* (2nd ed. Oxford University Press, 2002) at 361–362.

⁴ Convention on the Territorial Sea and the Contiguous Zone (Geneva, 29 April 1958, in force 10 September 1964, 516 *United Nations Treaty Series* 205); Convention on the High Seas (Geneva, 29 April 1958, in force 30 September 1962, 450 *United Nations Treaty Series* 82); Convention on Fishing and Conservation of the Living Resources of the High Seas (Geneva, 29 April 1958, in force 20 March 1966, 559 *United Nations Treaty Series* 285); Convention on the Continental Shelf (Geneva, 29 April 1958, in force 10 June 1964, 499 *United Nations Treaty Series* 311) ; and Optional Protocol of Signature concerning the Compulsory Settlement of Disputes (Geneva, 29 April 1958, in force 30 September 1962, 450 *United Nations Treaty Series* 169). See also <http://www.un.org/Depts/los/convention_agreements/convention_historical_perspective.htm> (visited January 2008).

the territorial sea, the continental shelf, the high seas, and fishing, although broadly requiring states to prevent oil pollution from ships and pipelines.⁵ Even the 1973/78 Marine Pollution Convention (MARPOL)⁶ relied basically on limiting oil discharges by the use of technical control measures.⁷

In 1967, however, the *Torrey Canyon* disaster⁸ off the coast of England focused the world's attention on dramatic spills. In the years immediately following the drama of this spill, a number of conventions were negotiated;⁹ and, since then, the focus – meaning both world attention and international regulation – has remained on the big spill. The paradox, however, is that the big oil spills, no matter how dramatic and how much damage is done (think of the *Exxon Valdez*¹⁰ or the *Prestige*¹¹), remain arguably just 'drops in the ocean' compared with operational discharge.

Operational discharge is an insidious and ever-present problem. To conceptualize this, consider how many seagoing vessels there are worldwide – both motorized and under sail with back-up engines. Consider how these vessels pump diesel and oil through their engines and dump the remains overboard. Consider their use of paint and paint thinners. Consider the anti-fouling compounds used on their hulls. Consider the sewage and related substances disposed from vessels – especially from luxury cruise liners.

Consider, after this, some of the other threats to the oceans – land-to-sea discharges of sewage and chemicals; runoff of organo-phosphates from agriculture; mercury, DDT¹² and other chemicals finding their way into the oceans. Consider the regular exchanges of ballast water, both on the high seas and within coastal waters; and how exchanges of both chemicals and biological agents might be made in this way.

⁵ Birnie and Boyle, *International Law and the Environment*, *supra* note 3, at 351.

⁶ International Convention for the Prevention of Pollution from Ships, 1973, first signed 2 November 1973, as modified by the Protocol of 1978 relating thereto (MARPOL 73/78), adopted 17 February 1978. The combined instrument entered into force on 2 October 1983, 12 *International Legal Materials* (1973) 1319, <<http://www.imo.org>>.

⁷ Birnie and Boyle, *International Law and the Environment*, *supra* note 3, at 363.

⁸ See, for example, International Maritime Organization, 'Prevention of Pollution by Oil', available at <http://www.imo.org/Environment/mainframe.asp?topic_id=231>; or <<http://www.imo.org/Dynamic/Search/index.asp?q=torrey>> (visited January 2008).

⁹ See, for example, International Maritime Organization, 'Conventions', available at <<http://www.imo.org/conventions>> (visited January 2008).

¹⁰ The tanker *Exxon Valdez* ran aground in Prince William Sound, Alaska, on 24 March 1989; spilling approximately 10.9 million gallons of oil. It is considered one of the worst marine oil spills ever. See, for instance, <http://www.eoearth.org/article/Exxon_Valdez_oil_spill> (visited January 2008).

¹¹ The tanker *Prestige* broke up off the Spanish coast on 13 November 2002. The resulting oil spill caused serious damage to the Spanish coastline and to fishery beds. See, for example, CNN, 'Crippled Fuel Oil Tanker Sinks', available at <<http://www.cnn.com/2002/WORLD/europe/11/19/spain/oil/>>; World Wide Fund for Nature, 'Oil Spill off Spain's Northwest Coast', available at <http://www.panda.org/news_facts/crisis/spain_oil/index.cfm>; and UNEP World Conservation Monitoring Centre (WCMC), 'Prestige oil tanker. Spain', available at <http://www.unep-wcmc.org/latenews/emergency/spain_2002_update/> (all visited January 2008).

¹² Dichlorodiphenyltrichloroethane.

Consider how in many cases the chemicals deposited are cocktails, rather than single chemical types.

It is difficult to assess which is worse – the sudden massive influx of oil or chemicals into an environment unprepared for it, in the case of a major spill; or the continuous assault on all environments represented by operational discharge. Clearly, both need to be guarded against – the point being made is simply that the present world focus on major spills may be preventing sufficient attention being given to operational discharge.

3 Particular substances

Numerous dangers are posed to the oceans by chemicals. A number of these chemicals and their dangers were discussed by experts who gave presentations at the 4th Annual UNEP/University of Joensuu Course on International Environmental Law-making and Diplomacy; held in Joensuu, Finland in August 2007.¹³

According to Shafqat Kakakhel,¹⁴ mercury, lead and cadmium are all chemicals which pose problems. The question that needs to be asked, in his view, is whether concern over these dangers should be global. Masa Nagai¹⁵ pointed out that PCBs¹⁶ are used ‘everywhere’; and that they are politically very difficult to phase out. There are also, he said, numerous ways in which PCBs are produced unintentionally.¹⁷

Professor Jussi Kukkonen¹⁸ argued that it can be very difficult to trace and to understand chemicals and compounds of chemicals. Matti Nummelin¹⁹ gave an example of this in a freshwater context, explaining that in Lake Tanganyika fish have very high levels of cadmium, and that scientists do not know where the chemical is coming from; and speculating even that the chemical might have a natural source.

Maged Younes²⁰ explained that there are very high levels of mercury to be found in seals, whales and polar bears – creatures which cannot have been naturally exposed

¹³ For more information, see <http://www.joensuu.fi/unep/envlaw/valikko/index_2.html> (visited January 2008).

¹⁴ United Nations Assistant Secretary General, Deputy Executive Director UNEP; lecture given 13 August 2007. See also the article by Kakakhel (‘Global Governance: Chemicals’) in the present *Review*.

¹⁵ Senior Legal Officer, Division of Environmental Law and Conventions UNEP; lecture given 13 August 2007.

¹⁶ Polychlorinated biphenyls.

¹⁷ Nagai, *supra* note 15.

¹⁸ Professor of Ecotoxicology, Faculty of Biosciences, University of Joensuu; lecture 13 August 2007.

¹⁹ Senior Environmental Advisor, Ministry for Foreign Affairs, Finland; Adjunct Professor, University of Helsinki; lecture 13 August 2007.

²⁰ Current position: Director a.i., Governing Bodies (GBS), World Health Organization; former chief of UNEP Chemicals Branch; lecture given 14 August 2007. See also the articles by Younes (‘Chemicals: The Global Context’ and ‘Mercury – Searching for Solutions to a Global Problem’) in Parts II and III of the present *Review*.

to the chemical, thus implying that long-range transportation is a feature. Mercury, he argued, ‘biomagnifies – particularly in fish’.²¹

4 Particular dangers

Broadly, there are two dangers posed by chemicals in the oceans. Firstly, there is the risk posed to human health – where humans make use of products from the oceans. This risk might be to general human health; or it might be the cause of specific problems, as with the disaster in Minamata (or Minamoto) in Japan; which first came to the attention of the world in 1956. In the fishing villages of Minamata it became apparent that contamination from mercury waste was causing illnesses and birth defects.²² This drew the world’s attention to the dangers of uncontrolled industrialization.

Secondly, there are the risks posed to general environmental health – meaning both the state of ecosystems (and bio-networks) and the dangers to individuals and species other than human individuals and species – with the potential collapse of ecosystem networks and webs being at stake. This, of course, poses additional risks which reflect back on human health; such as deteriorating food quality, and risks to food security.

5 The importance of marine mammals

It would be almost inconceivable to imagine our world without marine fish; and yet this is fast becoming a strong possibility. The problem, really, is not the simple overtaking from fish stocks, but the damage done to ecosystems. While humans might imagine that it is possible to exhaust a stock, or species, and then move to taking from another while the first recovers; it might well be that the second stock was dependant, in ways humans do not yet understand, on the first.

Ecosystems need therefore to be kept balanced and healthy. However, there are already significant imbalances worldwide. Japanese, and some other, scientists have argued, for instance, that within Antarctic whale populations it is increased numbers of minke whales that are keeping blue whale populations, historically overhunted, from recovering.²³

²¹ ‘Biomagnification’ refers to the ‘progressive build-up of persistent substances by successive trophic levels – meaning that it relates to the concentration ratio in a tissue of a predator organism as compared to that of its prey’; see <<http://www.greenfacts.org/glossary/abc/biomagnification-biomagnify.htm>> (visited January 2008).

²² See, for example, Trade & Environment Database (TED) Case Studies, ‘Minamata Disaster’, available at <<http://www.american.edu/TED/MINAMATA.HTM>> (visited January 2008).

²³ See, for instance, Masayuki Komatsu and Shigeko Misaki, *Whales and the Japanese: How we have come to live in harmony with the bounty of the sea*, (Institute of Cetacean Research, 2003) at 38–39; where the

Marine mammals (cetaceans, seals, and so forth) tend to be so-called apex predators, whose health shows the health of their whole ecosystem (this proposition is generally accepted in terrestrial ecosystems). They are therefore probably the most reliable bio-indicators (of the general state of environmental health) that we have.

It has been suggested, by Hoyt, that in every ecosystem which has whales and dolphins as its most visible species, cetaceans provide a reliable monitoring system for the general health of the environment. ‘Toothed whales, and to some extent baleen whales’, writes Hoyt, ‘are good biological indicators of the status of the environment that they live in’.²⁴

It might be asked whether it is possible for aquaculture to replace, generally, the fish humans wish to eat. This is, however, unlikely. The majority of farmed fish are fed on wild-caught fish;²⁵ and the ecological consequences of a general fish stock collapse are both impossible to predict and utterly terrifying even to think of.

6 Recognition in international law

6.1 The 1980 Convention for the Conservation of Antarctic Marine Living Resources (CCAMLR)²⁶

This Convention was established mainly in response to concerns that increased catches of krill in the Southern Ocean could have serious repercussions for both krill populations themselves and for other marine life – especially birds, seals, whales and fish which depend on krill for food. It provides, therefore, a useful example of how it has been recognized within international law, however inadequately, that species cannot be treated in isolation from others within their ecosystems.

The Convention has not been particularly successful in combating over-exploitation; or in preventing the illegal taking of particularly vulnerable species, such as the Patagonian tooth fish. The vast size and the inhospitable conditions of the Southern Ocean make it extremely difficult, however, for member states to enforce measures suggested under CCAMLR to combat illegal fishing.

authors argue that faster breeding minke whales have overtaken the Antarctic feeding grounds of the blue whale.

²⁴ Erich Hoyt, *Marine Protected Areas: For Whales, Dolphins and Porpoises* (Earthscan, 2005) at 66.

²⁵ See, for instance, Alexandra Morton, *Listening to Whales: What the Orcas Have Taught Us*, (Ballantine Books, 2002) at 257–270.

²⁶ Convention for the Conservation of Antarctic Marine Living Resources, Canberra, 20 May 1980, in force 7 April 1982, 19 *International Legal Materials* (1980) 841, <<http://www.ccamlr.org>>.

6.2 The 1992 Convention on Biological Diversity²⁷

This Convention provides the current apex of recognition in international law that species are linked; and recognition that there is a need to protect entire areas, and ecosystems, rather than protecting species piecemeal.²⁸ The Convention suffers from an important weakness in that it is only a framework convention at the international level – binding measures must still be decided upon, and implemented, by each state party at the national level.

6.3 The 1946 International Convention for the Regulation of Whaling (ICRW)²⁹

6.3.1 The species protected

Few people appear to realize that not all whales are protected in terms of the current ‘moratorium’³⁰ on commercial whaling imposed by the International Whaling Commission. It is, in fact, only the so-called ‘great whales’ which fall under the auspices of the International Whaling Commission (IWC) – some 13 species – and which may not be taken, for commercial purposes, by parties to the ICRW.³¹ Other species may legally be taken; and this has led to a situation where certain species are hunted, and others are not.³²

The issue of ‘small cetaceans’ (dolphins, porpoises, some whales) and whether these should be brought under the control of the IWC is one of that body’s most contentious issues. It is even contentious, in fact, whether small cetaceans should be *discussed* at meetings of the IWC – let alone whether they should be regulated.

‘Small cetaceans’ are excluded by the *Annex of Nomenclature* of the ICRW – which simply lists the species that were most likely to be targeted by the whaling industry at the time the Annex was compiled. Some of the classifications are, therefore, ap-

²⁷ Convention on Biological Diversity, Rio de Janeiro, 5 June 1992, in force 29 December 1993, 31 *International Legal Materials* (1992) 822, <<http://www.biodiv.org>>.

²⁸ The Convention defines biological diversity as meaning ‘the variability among living organisms from all sources including, *inter alia*, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems’. See Article 2.

²⁹ International Convention for the Regulation of Whaling, Washington D.C., 2 December 1946, in force 10 November 1948, 161 *United Nations Treaty Series* 72.

³⁰ Technically, a ‘zero catch limit’ imposed by the IWC in 1982; which took effect from 1985/86.

³¹ See Ed Couzens, ‘The Problem that Categorization of Species in MEAs Poses for the Protection of Biodiversity’ in Ed Couzens and Tuula Kolari (eds), *International Environmental Law-making and Diplomacy Review 2006* University of Joensuu – UNEP Course Series 4 (University of Joensuu, 2007) 185–216 at 198–202.

³² *Ibid.* at 199. As far as the actual number of whale species is concerned, this is something of a vexed question. Per a listing on Wikipedia, there are 15 baleen whales species, and 26 toothed whale species – as well as porpoises (six species) and dolphins (approx 44 species); see <http://en.wikipedia.org/wiki/List_of_whale_species> (visited January 2008). Taxonomic classifications change from time to time.

parently arbitrary – the northern bottlenose whale is not a ‘small cetacean’, but the larger Baird’s beaked whale is.³³

Probably the most hunted cetacean species worldwide is the Dall’s porpoise – some estimates are that up to 17 000–20 000 are taken annually off the Japanese coastline, with some 400 000 having been killed since 1980.³⁴

6.3.2 Cetaceans as food, generally

The Dall’s porpoise is taken primarily for human consumption. According to a UK-based NGO, the Environmental Investigation Agency,³⁵ Dall’s porpoises ‘have long been known to carry high levels of a range of pollutants, including mercury’; and that an August 2005 study of Dall’s porpoise meat in Japanese markets showed that the average amount of mercury in such meat was 3.5 times the amount recommended by Japan’s Health Ministry as being safe for consumption.³⁶

‘The more deeply we become involved in whale research’, write Komatsu and Misaki, ‘the more seriously we realize that our Northern Hemisphere oceans are polluted, demonstrating the high level of industrialization on land. In comparison, the whales caught in the Southern Hemisphere show no contamination, even in the skin and blubber’.³⁷

It has been suggested, also, that whale meat from whales taken off the coast of Norway might also contain overly high levels of chemicals – in particular, PCBs. Apparently, a Worldwide Fund for Nature (WWF)³⁸ study in 1999 found more than 50 different PCBs present in whale meat purchased in Norwegian markets.³⁹

Japanese scientific permit whaling, which is research ostensibly aimed at gathering data concerning population sizes and demographics and so forth, results in large amounts of whale meat – from species of whales which do fall under the ambit of the IWC’s authority – being consumed in restaurants and home. The charge is often made that this is the real purpose behind the research – that it is ‘commercial whaling in disguise’.⁴⁰

³³ *Ibid.*

³⁴ See, for instance, Environmental Investigation Agency, ‘Japan’s Dall’s porpoise hunt: A quarter of a century as the largest cetacean kill in the world’, available at <<http://www.eia-international.org/files/news276-1.pdf>> (visited January 2008).

³⁵ See <<http://www.eia-international.org>>.

³⁶ Environmental Investigation Agency, ‘Japan’s Dall’s porpoise hunt’, *supra* note 33.

³⁷ Masayuki Komatsu and Shigeko Misaki, *Whales and the Japanese: How we have come to live in harmony with the bounty of the sea* (The Institute of Cetacean Research, 2003) at 146.

³⁸ See <<http://www.wwf.org>>; or <<http://www.panda.org>>.

³⁹ CNN, ‘Toxins taint Norway’s whale meat’ 26 July 2000, available at <<http://archives.cnn.com/2000/NATURE/07/26/toxic.whalemeat.en/index.html>> (visited January 2008).

⁴⁰ This charge is regularly made by NGOs such as Greenpeace (<<http://www.greenpeace.org>>) and the Sea Shepherd Conservation Society (<<http://www.seashepherd.org>>), amongst others. The charge has also been made by state representatives (particularly those from Australia and New Zealand) at annual meetings of the IWC.

ICRW members are, however, fully entitled to issue permits to their own nationals to take whales for research purposes; impliedly, this right would not exist if the research were not genuine. Critics charge that the research is not genuine; the Japanese claim that it is. The argument can be made strongly for both sides.⁴¹

The ICRW does, however, contain a clause which has been interpreted as requiring that whales taken for scientific research not be wasted; in other words, that legitimately taken whale meat that is surplus to scientific permit whaling *ought* to be eaten.⁴²

At the 59th Annual Meeting of the International Whaling Commission, held in Anchorage, Alaska, at the end of May 2007, the subject was raised. Under the Agenda item of 'Health and Welfare Issues' the Commissioner for Monaco argued strongly from the floor that, on a human rights basis, no country should be allowing its people to eat whale – as whale meat is so imbued with chemicals and heavy metals. Understandably, perhaps, this line did not meet with the approval of the Icelandic, Japanese and Norwegian Commissioners – the Commissioner for Norway⁴³ arguing that the scientific evidence is not conclusive, and that eating whale is not more harmful than is eating old fish.⁴⁴

Further to this, there was discussion, under the Agenda item of the 'Conservation Committee', of the increasing problem of so-called 'stinky whales' – meaning gray whales, taken by Alaskan and Chukotkan indigenous hunters, found to have strong medicinal odours. Such whales have apparently been found since the late 1960s, but have been increasing in recent years – to the extent that it has been estimated that up to 10% of the hunted stock of gray whales might be 'stinky'. Short-term effects of the eating of such whales appear to include numbing of oral cavities, stomach aches and skin rashes. Chemical and toxicological studies have thus far been inconclusive as to the causes of this 'stinky' effect in gray whales.⁴⁵

⁴¹ While it is clear that there is a right, in terms of the ICRW, for parties to engage in scientific permit whaling; it is unclear whether this right is currently being abused, especially in terms of the numbers of whales taken. The matter will not be taken further within the present chapter.

⁴² Article VIII.1 of the ICRW provides that '--any Contracting Government may grant to any of its nationals a special permit authorizing that national to kill, take and treat whales for purposes of scientific research--'; and Article VIII.2 that '[a]ny whales taken under these special permits shall so far as practicable be processed and the proceeds shall be dealt with in accordance with directions issued by the Government by which the permit was granted.' It is the wording in Article VIII.2 that has been interpreted as meaning that whales taken under scientific permits ought to be used.

⁴³ Professor Lars Walløe.

⁴⁴ IWC 59, Anchorage, Alaska, 28–31 May 2007; Agenda Item: 'Health and Welfare', 31 May 2007. The present writer attended the Plenary Session in which this was discussed from the floor.

⁴⁵ See 'Chair's Summary Report, IWC 59', available at http://www.iwcoffice.org/_documents/meetings/ChairSummaryReportIWC59rev.pdf (visited January 2008).

6.3.3 Aboriginal subsistence whaling

As provision is made for aboriginal subsistence whaling in the Schedule to the treaty, such whaling is exempted from the 1982 IWC ‘moratorium’ on commercial whaling; but annual quotas for aboriginal takes are determined by the IWC.⁴⁶

A number of aboriginal groups around the world do take whales under IWC auspices and quotas, such as the Inuit/Eskimo people and the Makah Indian tribe in the United States; the Chukotka people in Russia; the indigenous people of Greenland; and of St Vincent and the Grenadines.

There is controversy over whether four Japanese coastal communities should be classed as aboriginal subsistence whalers – at present they are not.⁴⁷ Opponents of such recognition claim that these communities engage in commercial whaling, rather than aboriginal subsistence whaling; Japan maintains that the distinction is artificial.

Also, there are a number of non-party countries (such as Indonesia and Canada) where aboriginal subsistence whaling either occurs, or may occur in the future.

7 Linkages in international law

According to Kerstin Stendahl,⁴⁸ the Convention on Biological Diversity (CBD) is beginning to discuss what has been termed the ‘biodiversity cluster’ of conventions, meaning, *inter alia*, the CBD,⁴⁹ the Ramsar Convention,⁵⁰ CITES,⁵¹ and the CMS;⁵² and to consider enhanced technical and scientific panel collaboration amongst them. The United Nations Environment Programme (UNEP) advises that ‘[i]n responding to Parties’ requests to improve coordination and cooperation among the MEA Secretariats, [] a number of practical measures [are being] undertaken⁵³ – mostly

⁴⁶ ‘Aboriginal subsistence whaling’ is not in fact defined, except for the qualification that it be ‘to satisfy aboriginal subsistence need’; but is clearly provided for in section 13 of the Schedule. See <<http://www.iwcoffice.org/commission/schedule.htm>>.

⁴⁷ Couzens, ‘The Problem that Categorization of Species’, *supra* note 31, at 200–201.

⁴⁸ Senior Advisor, Ministry of the Environment, Finland; lecture 15 August 2007. See also the article by Stendahl (‘Enhancing Cooperation and Coordination among the Basel, Rotterdam and Stockholm Conventions’) in the present *Review*.

⁴⁹ *Supra* note 27.

⁵⁰ Convention on Wetlands of International Importance especially as Waterfowl Habitat, Ramsar, 2 February 1971, in force 21 December 1975, 11 *International Legal Materials* (1972), 963, <<http://www.ramsar.org>>.

⁵¹ Convention on International Trade in Endangered Species of Wild Fauna and Flora, Washington DC, 3 March 1973, in force 1 July 1975, 993 *United Nations Treaty Series* 243, <<http://www.cites.org>>.

⁵² Convention on the Conservation of Migratory Species of Wild Animals, Bonn, 23 June 1979, in force 1 November 1983, 19 *International Legal Materials* (1980) 15, <<http://www.cms.int>>.

⁵³ See UNEP, ‘Enhancing Cooperation among MEA Secretariats’ in *UNEP Manual on Compliance with and Enforcement of Multilateral Environmental Agreements*, available at <<http://www.unep.org/DEC/OnlineManual/Compliance/InternationalCooperation/EnhancingSecretariatCooperation/tabid/451/Default.aspx?page=2>> (visited January 2008).

such measures are aimed generally at taking advantage of synergies on specific issues, and address specific obligations held in terms of Multilateral Environmental Agreements.⁵⁴

The ICRW certainly belongs with the above group of conventions. However, within the IWC, both pro- and anti-whaling camps are very wary of linkages. The United Nations Convention on the Law of the Sea (UNCLOS)⁵⁵ provides,⁵⁶ strongly arguably, that the IWC is the (perhaps only) appropriate management body for cetaceans – and parties on both sides are wary of the consequences, for their positions,⁵⁷ of linkage. Some parties would even prefer to see cetaceans managed on a regional basis; and the ‘ecosystem approach’ to management is a hot potato within the IWC. Unfortunately, this means that discussion of contaminant issues in the IWC quickly becomes bogged down in politics.

8 Why marine mammals are particularly susceptible to chemical influences

Marine mammals are particularly susceptible to the bioaccumulation of chemicals. This is largely for two reasons. Firstly, in order to withstand intense cold, they have blubber. Blubber is fat, but not fat as found on terrestrial mammals – instead it is hard, compact and layered. The ‘layered’ nature means that blubber layers are laid down on layers, and accumulate.

Secondly, marine mammals are long-lived, which means that bioaccumulation occurs far more than in relatively short-lived fish species. It is unknown for how long certain species of whales can live. In April 2007, however, a bowhead whale was

⁵⁴ *Ibid.*

⁵⁵ United Nations Convention on the Law of the Sea (UNCLOS), Montego Bay, 10 December 1982, in force 16 November 1994, 21 *International Legal Materials* (1982) 1261.

⁵⁶ Article 65 of the UNCLOS is headed ‘Marine mammals’ and provides as follows:

[n]othing in this Part restricts the right of a coastal State or the competence of an international organization, as appropriate, to prohibit, limit or regulate the exploitation of marine mammals more strictly than provided for in this Part. States shall cooperate with a view to the conservation of marine mammals and in the case of cetaceans shall in particular work through the appropriate international organizations for their conservation, management and study.

Although the word ‘organizations’ is used in the plural, it is generally accepted that the International Whaling Commission is presently the appropriate management body.

⁵⁷ At present, the International Whaling Commission is finely poised between pro- and anti-whaling states; with no agreement on whether commercial whaling should be resumed or not. At each Conference of the Parties to CITES, since 1994, pro-whaling countries (particularly Japan and Norway) have argued for downlisting of certain populations of minke whale – efforts which have been resisted (through IWC Resolutions requesting support from CITES) by anti-whaling countries, which have viewed such efforts as being made to undermine the 1982 ‘moratorium’ on commercial whaling, and even to undermine the authority of the IWC itself. (See, generally, the history of Resolutions at <<http://www.cites.org>> and <<http://www.iwcoffice.org>>) In addition, States Parties to the ICRW have been resistant to formal linkage with Conventions such as CCAMLR and the CBD; except for exchanges of scientific information. The result of such resistance has been that the management of whaling continues to remain as a comparatively isolated area.

killed by Inuit hunters near Barrow in Alaska which was at least 115–130 years old. The evidence for this was a harpoon blade embedded in the whale's blubber, which enabled researchers to work out that the whale must have been non-fatally harpooned in about 1890.⁵⁸

As Hoyt explains, '[a]s predators at the top of the marine food chain with a long lifespan measured in decades, [marine mammals] accumulate man-made polluting substances such as organochlorine compounds and heavy metals, which have implications not only for cetacean and human health but for the basic health of the ocean's ecosystems'.⁵⁹

9 The *Grind* in the Faroes

The Faroe Islands falls under Denmark in international law, but retains many of its own practices and traditions. Locating and driving ashore pods of pilot whales, and other small cetaceans, is a traditional practice in a society where the sea was their only resource until fairly recently. There is an organized infrastructure which responds to any reported sightings; and, where whales are taken, every resident of the Faroes is entitled to a share of each *grind*. The word *grind* means both the hunt itself, and the meat taken. The meat is not sold.⁶⁰

Pilot whales are the species most commonly taken. Also taken are harbour porpoises, various dolphins, killer whales have been taken on occasion, and the Faroese do hope in the future to gain permission to take the occasional fin whale (under the authority of the IWC).⁶¹

All of PCBs, mercury and cadmium are found in these species. The Faroese, however, consider it safe to eat *grind* twice a month; although young and pregnant women are advised not to eat it.⁶²

Probably about 800 to 1 500 pilot whales are taken annually; from a total population that might be as high as 800 000. Their levels of chemical contamination apparently vary substantially – probably according to where the whales have been feeding.⁶³

⁵⁸ See, for instance, 'Bowhead whale taken this year held century-old harpoon head' *Anchorage Daily News*, 13 June 2007, available at <<http://dwb.adn.com/news/alaska/wildlife/story/8972512p-8888238c.html>> (visited January 2008).

⁵⁹ Hoyt, *Marine Protected Areas*, *supra* note 24, at 66.

⁶⁰ Personal communication between the present author and Ólavur Sjørðarberg, Head of the Faroese Pilot Whalers' Association; Leirvik, The Faroes, April 2007.

⁶¹ *Ibid.*

⁶² Personal communication between the present author and Dr Dorette Bloch, Director of the Natural History Museum, The Faroes; Torshavn, The Faroes, May 2007.

⁶³ *Ibid.*

10 The Sakhalin Island gray whale (Western gray whale)

This is one of the world's most endangered sub-species of whales – the 2007 IUCN Red List of Endangered Species⁶⁴ refers to photo-identification studies (up to 1999) as showing a possible 88 individuals, of which 55 were estimated to be adult.⁶⁵ The IUCN (World Conservation Union)⁶⁶ lists its status as being 'critically endangered'.⁶⁷

The sub-species faces a number of threats; most notoriously, Shell Oil and certain Japanese oil companies have been in negotiations with the Russian Government for some years over the extraction of oil and gas from the area, and it is feared that prospecting and extraction activities will be disastrous for the whales.⁶⁸ Threats to the whales include chemicals⁶⁹ and general pollution; noise, from sonar and extraction activities; and the danger of fatal or injurious ship strikes.

The Sakhalin Energy Investment Company is a Russian-based company; but Dutch Shell owns a 55% stake and Mitsui Corporation (from Japan) the other 45%. The project involves the extraction of natural gas from an oil field; necessitating the installation of offshore platforms, linked to the shore by offshore pipelines.⁷⁰

A 2005 Report by an Independent Scientific Review Panel, convened (at the request of the Sakhalin Energy Investment Company Ltd) by the World Conservation Union (IUCN), considered the question of whether the proposed Sakhalin II Phase 2 project could be managed without jeopardizing the survival of the Western gray whale population.⁷¹ The Panel identified four pipeline-associated risks: noise and disturbance during construction; ship strikes during construction; physical damage to habitat during construction; and potential exposure to oil spills and gas releases.⁷² The Panel accepted that some, although not all, risks would be reduced once the pipeline project was complete; but concluded that there remained 'considerable uncertainty over many aspects of risk evaluation and [] proposed mitigation measures.'⁷³

⁶⁴ See IUCN Species Survival Commission, available at <<http://www.iucnredlist.org/search/details.php/8099/all>> (visited January 2008).

⁶⁵ *Ibid.*

⁶⁶ See <<http://www.iucn.org>>.

⁶⁷ *Supra* note 65.

⁶⁸ *Ibid.*

⁶⁹ Chemicals are considered by the IUCN to pose a danger both directly to the whales themselves; and to their benthic prey communities; see *supra* note 65.

⁷⁰ See IUCN Press Release, 'Independent Scientific Review Panel Reports On Sakhalin II Project's Impact On Western Gray Whale', 16 February 2005, available at <http://www.iucn.org/themes/business/Docs/ISRP_16_Feb_Press_Release.pdf> (visited 2 July 2006).

⁷¹ *Ibid.*

⁷² *Ibid.*

⁷³ *Ibid.*

The Scientific Committee of the IWC, and the Commission itself, have ‘expressed great concern’ over the ‘critically endangered’ species ‘on a number of occasions’.⁷⁴ In 2007 it was noted by the Commission that further seismic surveys, preparatory to further exploitation, were planned; and pointed out that projections of the female population indicate a high probability of further population decline unless urgent measures are taken.⁷⁵ However, no firm measures were agreed upon; and it would appear that the species is probably going to be reduced still further before ever recovering, if recovery proves possible.

11 The Yangtze River dolphin (baiji)

11.1 The baiji

Extremely sad is the story of the baiji in China, which is now considered to have become extinct – possibly the first species of cetacean to become extinct in recent times.⁷⁶ In 2006 a six-week search, by scientists from six nations, using ‘high performance optical instruments and underwater microphones’, along a 3 500 kilometre stretch of the Yangtze River failed to find a single baiji.⁷⁷ What is saddest is that this was an entirely avoidable tragedy. It has been known for at least twenty years that the baiji – a species that had apparently been alive for some 20 million years⁷⁸ – was in trouble,⁷⁹ and yet too little was done to preserve it.

Although the baiji is classified as a ‘small cetacean’ and did not therefore fall under the auspices of the International Whaling Commission, its impending fate has been regularly discussed at meetings of that body. At IWC 59 in May 2007, the Commission ‘expressed great concern that despite extensive scientific discourse for more than two decades, little effort was made to implement any real conservation measures’; and ‘noted that such highly endangered species require swift and decisive human intervention if extinction is to be avoided’.⁸⁰

There is no proof that it was chemicals that caused the species to become extinct; rather, it was probably a combination of factors. These factors include illegal fishing, despite the baiji having apparently had revered status in China; noise, from a multitude of motorized vessels and industrial activities; general habitat degradation and degradation of food sources; fishing net entanglements; propeller strikes or ves-

⁷⁴ See ‘Chair’s Summary Report, IWC 59’, *supra* note 42.

⁷⁵ *Ibid.*

⁷⁶ See the baiji.org Foundation, ‘Yangtze Freshwater Dolphin Expedition 2006’, available at <<http://www.baiji.org/expeditions/1.html>> (visited January 2008).

⁷⁷ *Ibid.*

⁷⁸ *Ibid.*

⁷⁹ At the beginning of the 1980s there were apparently around 400 individuals alive. *Ibid.*

⁸⁰ See ‘Chair’s Summary Report, IWC 59’, *supra* note 45.

sel collisions; and the effects of chemicals and general pollution from the numerous factories and industrial plants along the Yangtze River.

There has apparently been one reported sighting⁸¹ – in August 2007 – since general acceptance in mid-2007 of the species having become extinct; but this is not confirmed. In any case, one or two stragglers would not make the species less functionally extinct.

11.2 Yangtze finless porpoise

The porpoise is currently in much the position that the baiji was in some twenty or thirty years ago – having declined dramatically within the last decade, and there probably being less than 2 000 individuals left alive.⁸² Time will tell whether the precedent of the baiji will spur China to greater efforts than were made for the baiji. The precedent of the baiji does not bode well for the finless porpoise; which faces essentially the same threats that the baiji faced.

12 Steller's sea lions

These sea lions are found in the North Pacific, from Japan to California. In 2000 it was estimated that there were about 85 000 alive; but this figure means that there has been a decline of more than 50% in population numbers within the last three decades⁸³ – a startling decline by any measure. It seems that since 1980 numbers have dropped from over 300 000 worldwide to less than 100 000.⁸⁴ Scientists do not presently have conclusive reasons to offer for the decline,⁸⁵ although large amounts of money are apparently being put into research projects (especially by various North Pacific universities).

Contenders for blame include fish declines, propeller strikes, gunshots; but for so startling a decline it is probable that chemical pollutants are the leading cause. Pol-

⁸¹ 'Black and white and red all over' *The Economist*, 22 December 2007, at 95. According to the IUCN Red List, the possible sighting is being investigated by Chinese scientists – the species is listed as 'Critically Endangered (Possibly Extinct)'; see IUCN Press Release, 'Extinction crisis escalates: Red List shows apes, corals, vultures, dolphins all in danger', 12 September 2007, available at <http://www.iucn.org/en/news/archive/2007/09/12_pr_redlist.htm> (visited January 2008).

⁸² See the baiji.org Foundation, 'Yangtze Finless Porpoise', available at <<http://www.baiji.org/in-depth/freshwater-dolphins/species-guide/yangtze-finless-porpoise.html>> (visited January 2008).

⁸³ MarineBio, 'Eumetopias jubatus: Steller Sea Lion', available at <<http://marinebio.org/species.asp?id=314>> (visited January 2008).

⁸⁴ ARKive, 'Steller's sea lion', available at <http://www.arkive.org/species/GES/mammals/Eumetopias_jubatus/more_info.html> (visited January 2008).

⁸⁵ It appears that pollution, bycatch, parasites and disease, rookery disturbance and predation by killer whales are all factors which have been mooted – see *ibid.* Almost certainly, it will transpire that a combination of these factors is to blame; however, for so dramatic a decline it may well be that the factors which target the species as a whole rather than individual animals, i.e.: either pollution or disease, will prove to be the primary factor.

lution is, moreover, a leading contender for the explanation – particularly as beluga whales living in the same area are known to be extremely contaminated.⁸⁶ It has even been suggested that when beluga whales in the Gulf of St Lawrence, Canada, die, their bodies are treated as being ‘toxic waste’ – so contaminated are they.⁸⁷

13 Conclusion

It must be of great concern that so many different species of marine mammals, from so many different parts of the world, are showing signs of being influenced by chemical pollution of their environments. The effects on marine mammals carry a number of lessons for humanity – there is the fact that, as reliable bio-indicators, marine mammals are currently showing us that the world’s oceans are badly damaged; again as bio-indicators, marine mammals are demonstrating that the ecosystems within which they live, poorly understood at the best of times, may be in serious trouble; and are reminding us that quick, drastic and misunderstood, collapses of populations are possible.

Further, there are signs that human health is likely to be affected seriously by the use of marine mammals as food resources; or by the chemicals which are contributing to the declines visible in marine mammal populations. Finally, there are important ethical considerations which ought to be given to the damage being done to marine mammals and to the ecosystems within which they live.

While there are numerous causes of, and factors contributing to, the damage being done to marine mammal species; it is clear, or at least very strongly arguable, that pollution by chemicals is a significant factor. However, there is no single international legal instrument which is considering protection of marine mammals from damage caused by overuse of chemicals. While certain regional or single issue international instruments have considered the conservation plight of marine mammals, or the effects of such plight for humans, there has been no overall consideration of all of the issues relating to marine mammals – and to their relations with humanity.

⁸⁶ See, for instance, WWF, ‘Whales threatened by chemical contamination’ (2004), available at <http://www.panda.org/about_wwf/what_we_do/policy/toxics/index.cfm?uNewsID=14452> (visited January 2008).

⁸⁷ See MarineBio, ‘*Delphinapterus leucas*: Beluga Whale’, available at <<http://marinebio.org/species.asp?id=159>> (visited January 2008). See also, however, Nancy Lord, *Beluga Days: Tracking a White Whale’s Truths* (Counterpoint Books, 2004). Lord describes this as a ‘half-truth’ and attributes the original suggestion to a research scientist named Pierre Béland; Béland apparently having said that some belugas in the St Lawrence river in Canada ‘could qualify as hazardous waste’, based on the levels of PCBs found in their blubber.

THE LESSONS FROM MONTREAL AND BASEL FOR ROTTERDAM AND STOCKHOLM: THE ONGOING DEVELOPMENT IN (NON-)COMPLIANCE MECHANISMS

*Tammy de Wright*¹

1 Introduction

In recent decades there has been a significant increase in the number of international agreements covering environmental subject matters. In conjunction with this has come a growing realization that traditional means of enforcing compliance with international law, such as evoking state responsibility and liability, using judicial means of dispute resolution, and the use of counter measures such as reprisals, retorsions and sanctions are inappropriate in the context of international environmental treaties. Three main reasons for this can be identified. First, traditional means are confrontational and repressive, which goes counter to the requirement of preventative rather than repressive instruments to facilitate the protection of the environment. Second, such methods are overly formalistic and fail to adequately take into account the reasons for non-compliance, nor the level of non-compliance. Third, they are designed for bilateral commitments, whereas in multilateral environmental agreements (MEAs) collective responses and measures are required.²

Although a large number of MEAs have been developed, difficulty with the application of traditional international law methods to the field of environmental agreements

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² Markus Ehrmann, 'Procedures of Compliance Control in International Environmental Treaties', 13 *Colorado Journal of International Environmental Law and Policy* (2002) 377–442 at 379–386.

has led to weak and inadequate implementation, compliance, and enforcement of these obligations. Therefore, there has of late been a shift away from developing additional MEAs, toward developing mechanisms to ensure and promote compliance with *existing* MEAs.³ The goal of this shift is to assist Parties who find themselves unable to comply, primarily because of changed circumstances, incapacity or inability.

A broad range of treaty provisions can be considered as part of the wider compliance system. Reporting requirements facilitate information flow, allow for performance review, and the uncovering of situations where Parties are undergoing compliance difficulties. Non-compliance response measures include, ‘carrots’ such as facilitating the provision of financial and technical assistance, helping Parties back into compliance and ‘sticks’ such as warnings or penalties. Other dispute settlement procedures provide a fall back position in case of continued non-compliance. An integral component of this system is the formal Non-Compliance procedure (NCP).⁴ These are designed to ‘identify compliance difficulties and to facilitate better compliance in a non-adversarial manner and before the convention regime is undermined’.⁵ It is the rules governing the operation of these formal NCPs that is the focus of this paper.

The substance and structure of NCPs being developed today are frequently based upon the innovative procedure first developed under the auspices of the Montreal Protocol.⁶ Some scholars have ascribed the high levels of participation and the undeniable success of the Montreal Protocol in drastically reducing the level of emissions of ozone-depleting substances as due to the particular characteristics of the specific problem.⁷ Whilst it is true that the situation dealt with under the Montreal Protocol was somewhat unique,⁸ it is strongly arguable that another reason for the success of

³ Elizabeth Maruma Mrema, ‘Cross-cutting Issues in Compliance with and Enforcement of Multilateral Environmental Agreements’ in Marko Berglund (ed.), *International Environmental Lawmaking and Diplomacy Review 2005*, University of Joensuu – UNEP Course Series 2 (University of Joensuu, 2006), 129–154 at 130.

⁴ There has been a move from the ‘non-compliance’ procedure under the Montreal Protocol, towards greater emphasis in the later mechanisms, on them being *compliance* procedures. This change is likely designed to foster positive feeling of encouraging compliance rather than a process that acts in a negative manner. As a quick survey of titles shows, we have the Montreal Protocol ‘Non-Compliance Procedure’, the Basel ‘Mechanism for Promoting Implementation and Compliance’, the Stockholm, ‘[Non-compliance] [Compliance] procedures under Art. 17 of the Stockholm Convention’ (undecided), and the Rotterdam ‘Draft text of procedures and mechanisms on compliance with the Rotterdam Convention’. However, when referring to the procedure generically the term NCP will be used throughout the paper.

⁵ UNEP, ‘Comparative Analysis of Compliance Mechanisms Under Selected Multilateral Environmental Agreements’ (UNEP, 2005) available at <http://www.unep.org/law/PDF/comp_analysis_compliance_mechanisms.pdf> (visited 12 January 2008).

⁶ Montreal Protocol on Substances that Deplete the Ozone Layer, Montreal, 16 September 1987, into force 1 January 1989, 26 *International Legal Materials* (1987) 154, <<http://www.unep.org/ozone/>>.

⁷ See Cass R. Sunstein, ‘Of Montreal and Kyoto: A Tale of Two Protocols’, 31 *Harvard Environmental Law Review* (2007) 1–66. Using an economically motivated analysis Professor Sunstein asserts that ‘[t]he United States and many other countries appear to have had sufficient reason, from the standpoint of self-interest, to comply with the requirements of the Montreal Protocol even if no other country did the same’. *Ibid.* at 65.

⁸ DeSombre identifies some of these characteristics as, a relatively low (and easier to resolve) level of scientific uncertainty, and that the substances involved are, specific man made chemicals with limited uses, and thus easier to replace. Elizabeth R DeSombre, ‘The Experience of the Montreal Protocol: Particularly

the regime, and one of the innovations of international law under its auspices, has been the creation and ongoing development of its NCP, which has acted as a model for several MEAs developed since.

This paper is structured as follows. In the first part a brief history of the drafting of the four agreements, and the subsequent development of their NCPs will be discussed. This will be followed by a case study, which describes the way the Russian Federation was encouraged and assisted to return to compliance in the late 1990s. From this case study a number of issues will be highlighted, particularly in relation to the procedural steps involved in NCPs. The discussion of the case focuses attention on several areas. The importance of triggers mechanisms for initiating the process, the measures which may be taken to assist the party back into compliance, and how decisions regarding measures are taken. The remainder of the paper will examine the evolution of these NCP provisions in the light of operational experience. How they have been incorporated in the newer Basel⁹ Compliance Mechanism, and in particular concentrating on the controversies surrounding the formulation of provisions into the future, with the ongoing negotiations over the Stockholm¹⁰ and Rotterdam¹¹ NCP.

Despite the undeniable success the Montreal Protocol NCP has had in encouraging compliance, both in the case described here of Russia and in many other cases, the paper then concludes by offering some words of caution against newer NCPs concentrating too heavily on following the Montreal Protocol type of NCP. It is suggested that looking more widely to other international regimes or sources for solutions may prove fruitful.

2 A brief drafting history of the NCPs

2.1 Montreal Protocol

The Montreal Protocol on Substances that Deplete the Ozone Layer (Montreal Protocol) was adopted in 1987 by the parties to the 1985 Vienna Convention for the Protection of the Ozone Layer,¹² and came into force in 1989. Its aim is to reduce and eventually eliminate the production and consumption of all forms of ozone-

Remarkable, and Remarkably Particular' 19 *UCLA Journal of Environmental Law and Policy* (2000/2001) 49–81.

⁹ Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, Basel, 22 March 1989, in force 5 May 1992, 28 *International Legal Materials* (1989) 657, <<http://www.basel.int>>.

¹⁰ Convention on Persistent Organic Pollutants, Stockholm, 22 May 2001, in force 17 May 2004, 40 *International Legal Materials* (2001) 532, <<http://www.pops.int>>.

¹¹ Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, Rotterdam, 11 September, 1998, in force 24 February, 38 *International Legal Materials* (1999) 1, <<http://www.pic.int>>.

¹² Convention on the Protection of the Ozone Layer, Vienna, 22 March 1985, into force 22 September 1988, 26 *International Legal Materials* (1985) 1529.

depleting substances (ODS). Article 8, which calls for the development of a non-compliance procedure, was included into the Protocol's text during the later stages of negotiations, as part of a tough negotiating ploy by the United States.¹³ Due to time constraints, the detailed article tabled by the USA had no chance of being adopted as it stood, and instead the briefer provision calling for the development of such a mechanism by the Meeting of the Parties (MOP) was included.

Although Article 8 envisaged the NCP being adopted at the First Meeting of the Parties, it wasn't until the Fourth Meeting in 1992 that the final 'non-compliance procedure', as well as 'an indicative list of measures that might be taken by a Meeting of the Parties in respect to non-compliance with the Protocol' was agreed upon and adopted.¹⁴ Part of the reason for this delay was because '[t]he MOP looked carefully at the available precedents from the fields of human rights, international trade law-- and arms control, but in the end opted to work with a blank sheet of paper and design its own system from scratch'.¹⁵ The working group identified a number of criteria a NCP should satisfy, which have 'remained the basis on which all MEA compliance procedures have been structured: a compliance regime should aim to avoid complexity; be non-confrontational, conciliatory and co-operative; be transparent; and decisions, should be taken by the MOP, not by a subordinate body'.¹⁶ At this time, a detailed provision going beyond reporting and dispute settlement provisions, and providing for a specialized non-compliance mechanism was a novel feature of environmental conventions.¹⁷ The NCP is considered the 'first procedure of its kind in international environmental law'¹⁸ and, even at the time of its drafting, it was obvious that it would come to act as a precedent in the field and as a model for future NCP in international environmental treaties.¹⁹ This means that the NCP eventually developed by the MOP was very different from the one which the USA had originally imagined.²⁰

¹³ Patrick Széll, 'Introduction to the Discussion on Compliance' in Marko Berglund (ed.), *International Environmental Lawmaking and Diplomacy Review 2004*, University of Joensuu – UNEP Course Series 2 (University of Joensuu, 2005), 117–124 at 119

¹⁴ Report of the Fourth Meeting of the Parties to the Montreal Protocol on Substances That Deplete the Ozone Layer, UN Doc. UNEP/OzL.Pro.4/15 (1992), decision IV/5. [The NCP outlined here is hereinafter the 'Montreal NCP'.]

¹⁵ Széll, 'Introduction to the Discussion on Compliance', *supra* note 13, at 119. Also for a description of the drafting of the NCP and its operation, see O. Yoshida 'Soft Enforcement of Treaties: the Montreal Protocol's Noncompliance Procedure and the Functions of International Environmental Institutions' 10 *Colorado Journal of International Environmental Law and Policy* 95–141.

¹⁶ Széll, 'Introduction to the Discussion on Compliance', *supra* note 13, at 119–120.

¹⁷ As Széll observes, it was the first such agreement to 'fill the gap' between reporting and dispute settlement with a 'meaningful procedure'. Patrick Széll, 'The Development of Multilateral Mechanisms for Monitoring Compliance' in Winfried Lang (ed.), *Sustainable Development and International Law* (Martinus Nijhoff, 1995), Chapter 7 at 99 as noted by Catherine Redgwell, 'Non-Compliance Procedures and the Climate Change Convention' in Chambers, W. Bradnee (ed.), *Global Climate Governance: Inter-Linkages Between the Kyoto Protocol and other Multilateral Regimes* (United Nations University, 1998), available at <<http://www.geic.or.jp/climgov/03.pdf>> (visited 29 December 2007), 13–26.

¹⁸ Ehrmann, 'Procedures of Compliance Control', *supra* note 2, at 394.

¹⁹ *Ibid.* at 395 (footnotes omitted).

²⁰ Széll 'Introduction to the Discussion on Compliance', *supra* note 13, at 119.

The procedure was again reviewed at the Tenth Meeting of the parties in 1998, with only minor modifications being made to the text, in order to clarify particular paragraphs of the NCP.²¹ To date, the mechanism has been used to provide significant assistance to countries struggling to fulfil their commitments, thus securing increased compliance with the Protocol.²² An example of this success will be discussed below, in relation to the Russian Federation.

2.2 Basel Convention

The Basel Convention on the Control of Transboundary Movement of Hazardous Wastes and their Disposal (Basel Convention) was adopted in 1989, and entered into force in 1992. The Convention was designed with the general goal of reducing the movement of hazardous waste between nations, and the specific goal of preventing the transfer of such waste from developed to less developed countries.

The text of the Basel Convention was drafted and adopted prior to the development of the Montreal NCP. If we examine Article 20 of the Convention it seems that a rather different non-compliance system was originally envisaged. However in 1995 calls were made for the current mechanism to be developed.²³ This was finally adopted, after protracted negotiations, in December 2002.²⁴ Although Article 19 on verification hints at a peer-triggered process,²⁵ little indication is given as to how an investigation based on such a submission would operate in practice.²⁶ Therefore, the Basel Compliance Mechanism is adopted pursuant to Article 15(5)(e), which outlines the powers of the Conference of the Parties (COP) as including the competency to establish subsidiary bodies deemed necessary for the implementation of the Convention.²⁷

²¹ Report of the Tenth Meeting of the Parties to the Montreal Protocol on Substances That Deplete the Ozone Layer, UN Doc. UNEP/OzL.Pro.10/9 (1998), decision X/10; modifications were made to paragraphs 2, 3, 5 and 7.

²² For example, decisions on non-compliance have been made in relation to 51 countries. See UNEP Ozone Secretariat, *Handbook for the Montreal Protocol on Substances that Deplete the Ozone Layer* (7th ed. UNEP, 2006), decisions on non-compliance, available at <http://ozone.unep.org/Publications/MP_Handbook/Section_2_Decisions/Article_8/decs-non-compliance/> (visited 11 October 2007).

²³ Iwona Rummel-Bulska, 'Compliance with and Enforcement of the Basel Convention on Control Transboundary Movements of Hazardous Wastes and their Disposal' in Fifth International Conference on Environmental Compliance and Enforcement, Vol. 2 (INECE, 1998), available at <<http://www.inece.org/5thvol2/rummel-bulska.pdf>> (visited 11 October 2007) 419–431 at 422.

²⁴ Report of the Sixth Conference of the Parties to the Basel Convention on the Control of Transboundary Movement of Hazardous Wastes and Their Disposal, UN Doc. UNEP/CHW.6/40 (2003), decision VI/12. [The NCP outlined here is hereinafter 'Basel Compliance Mechanism'.]

²⁵ Art. 19 Basel Convention states: 'Any Party which has reason to believe that another Party is acting or has acted in breach of its obligations under this Convention may inform the Secretariat thereof, and in such an event, shall simultaneously and immediately inform, directly or through the Secretariat, the Party against whom the allegations are made. All relevant information should be submitted by the Secretariat to the Parties'.

²⁶ Rummel-Bulska, 'Compliance with and Enforcement of the Basel Convention', *supra* note 23, at 423.

²⁷ 'Basel Compliance Mechanism', *supra* note 24, preamble.

The change in approach by the Parties, leading to the Basel Compliance Mechanism, followed the widely accepted lead of the Montreal Protocol NCP, and an acknowledgment that non-compliance may be due to practical difficulties in implementation, rather than being due to intent.²⁸ At the time it was adopted, the Basel NCP was 'was only the second such mechanism under the global MEAs currently in force after the renowned Non-compliance Procedure of the Montreal Protocol'.²⁹ Unfortunately, the success of Basel's Compliance Mechanism in assisting a move towards the treaty goal of reducing the international movement of hazardous waste has been far less impressive than the Montreal Protocol's. As of the 2006 COP, no submissions had been made to the Committee under the procedure.³⁰

2.3 Stockholm Convention

In contrast to the Basel Convention, it is clear from the texts³¹ of both the Stockholm and Rotterdam Conventions, which were adopted a number of years after the finalization of the Montreal NCP, that the development of similar NCPs was envisaged from the outset. The Stockholm Convention on Persistent Organic Pollutants was adopted in 2001, and entered into force in 2004. The goals of the Convention include: the reduction or elimination of the 'Dirty Dozen' of 12 persistent organic pollutants (POPs), for example dioxins and furans; to support the Parties' efforts to move to safer alternatives; to clean-up waste facilities and equipment containing POPs; and to work towards a POP free future.³²

Pursuant to Article 17 of the Convention, efforts to develop a NCP have been underway since the First Meeting of the Parties in May 2005.³³ Although substantial progress has been made, negotiations over the text of the NCP have not yet been concluded. At the most recent COP held in May 2007, finalization was yet again

²⁸ More than one expert has noted that '[c]ases of noncompliance were due mainly to ignorance, lack of resources or insufficient capacity. Compliance should not therefore be secured through threats or by creating a mechanism equipped with strong enforcement procedures.' Report of the Fourth Session of the Legal Working Group of the Basel Convention, UN Doc. UNEP/CHW/LWG/4/5 (2002), para. 22.

²⁹ Akiho Shibata, 'The Basel Compliance Mechanism', 12 *Review of European Community and International Environmental Law* (2003) 183–198 at 183.

³⁰ Basel Convention Compliance Committee, Note by the secretariat, UN Doc. UNEP/CHW.8/12 (2006).

³¹ Art. 17 of both the Stockholm and Rotterdam Conventions are worded similarly to Art. 8 of the Montreal Protocol.

³² For a description of the Convention, and the dangers posed by POPs, see Julie B. Truelsen, 'Developments in Toxics in 2004: the Ratification of the Stockholm Convention and the Rotterdam Convention', 16 *Colorado Journal of International Environmental Law and Policy* (2004) 217–230. For a detailed examination of the drafting history and substantive provisions of the Stockholm Convention, see Christian Vanden Bilcke, 'The Stockholm Convention on Persistent Organic Pollutants', 11 *Review of European Community and International Environmental Law* (2002) 328–342, or Peter L. Lallas, 'The Stockholm Convention on Persistent Organic Pollutants', 95 *American Journal of International Law* (2001) 692–708; and Joel A. Mintz, 'Two Cheers for Global POPs: A Summary and Assessment of the Stockholm Convention on Persistent Organic Pollutants', 14 *Georgetown International Environmental Law Review* (2001) 319–332.

³³ Report of the Conference of the Parties of the Stockholm Convention on Persistent Organic Pollutants on the work of its first meeting, UN Doc. UNEP/POPS/COP.1/31 (2005).

deferred to the next Meeting with the urging that ‘States attach great importance to the earliest possible finalization of the procedure’ so that they can facilitate necessary assistance to Parties.³⁴

2.4 The Rotterdam Convention

The Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, although adopted in 1998, only entered into force with ratification by Armenia in early 2004. The Convention is designed to prevent the exportation of dangerous pesticides and industrial chemicals, by creating a legally binding obligation for Parties to implement the Prior Informed Consent Procedure (PIC) before such pesticides and chemicals are traded internationally.³⁵ The Convention codifies the PIC, which was first introduced as a voluntary process in 1989 after several years of development by UNEP and FAO.³⁶

Similar to the Stockholm Convention, efforts have been underway to develop an NCP as called for by Article 17 of the Rotterdam Convention. At the most recent Conference of the Parties in late 2006, the text was still not finalized, and the issue has been scheduled for further deliberation at the next Meeting.³⁷

3 Case Study: Russian Federation

3.1 Russia’s non-compliance with the Montreal Protocol

When, in November 1988, the Union of Soviet Socialist Republics (USSR) became a Party to the Montreal Protocol, it did so as an industrialized country and one of the major producers of Ozone Depleting Substances. Three short years later the Soviet Union had undergone formal dissolution. With hindsight, it was perhaps only a matter of time before the former Soviet States would find themselves in non-compliance with the requirements of the Protocol, as strengthened through the London Amendments, and again in Copenhagen.³⁸ In Copenhagen, in 1992, Russia had already

³⁴ Report of the Conference of the Parties of the Stockholm Convention on Persistent Organic Pollutants on the work of its third meeting, UN Doc. UNEP/POPS/COP.3/30 (2007) at 14. [The Annex to decision SC-3/20, at 58–62 is hereinafter the ‘Stockholm NCP’.]

³⁵ For a description of the Convention provisions, and the dangers posed by the controlled chemicals, see Julie B. Truelsen, ‘Developments in Toxics in 2004’, *supra* note 32.

³⁶ For a discussion of the historic development of the PIC and its later codification in the Rotterdam Convention, see Paula Barrios, ‘The Rotterdam Convention on Hazardous Chemicals: A Meaningful Step Towards Environmental Protection?’ 16 *Georgetown International Environmental Law Review* (2004) 679–762.

³⁷ Report of the Conference of the Parties to the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade on the work of its third meeting, UN Doc. UNEP/FAO/RC/COP.3/26 (2006). [The Annex to decision RC-3/20, at 27–30, is hereinafter ‘Rotterdam Compliance Mechanism’.]

³⁸ For an excellent contemporaneous description and analysis see: Jacob Werksman, ‘Compliance and Transition: Russia’s Non-Compliance Tests the Ozone Regime’ *Zeitschrift für ausländisches öffentliches Recht und Völkerrecht* (1996) 750–773.

announced it was 'experiencing extraordinary political, economic and social difficulties and did not have the capacity to assume the additional obligations under the new amendments and adjustments to the Montreal Protocol'.³⁹ By May 1995, Russia had formally notified the Parties that it (along with four other Parties) would be unable to meet its obligations to phase out the production and consumption of certain ODS by 1 January 1996. Although the formal submissions applied only to failures following 1 January 1996, it was suspected that even prior to 1995, and despite submissions indicating compliance, Russia was not complying with the interim reduction targets and bans on halon consumption and ODS trading.⁴⁰

Originally the five parties (Russia, Belarus, Bulgaria, Poland and Ukraine), had intended to submit a request for a five-year grace-period directly to the Seventh MOP, by-passing the non-compliance procedure.⁴¹ This was attempted by submitting a statement at the 12th meeting of the Open-ended Working Group, in mid-1995, requesting that a draft decision should be forwarded to the MOP which would permit them 'to extend until 2000 the time-limit for implementing the obligations in respect of consumption of CFCs under the Montreal Protocol, as adjusted at Copenhagen, in order to satisfy basic domestic needs and particularly important uses'.⁴²

It is important to note that in the original submission no mention was made of the Implementation Committee, or of the NCP it oversees. Rather, the intention of the countries had been to solve the problem through the modification of the text of the Protocol itself, an option which was rejected by the Parties.⁴³ Therefore, the submission was rerouted to the Implementation Committee, which then separated the request into individual submissions under para. 4 of the procedure (self-submission), and later formally defined them as 'submissions'.⁴⁴ It is probably fair to observe that for 'none of the countries was the submission an entirely voluntary act'.⁴⁵

³⁹ UNEP/OzL.Pro.4/15, *supra* note 14, para. 81.

⁴⁰ David G. Victor, 'The Montreal Protocol's Non-Compliance Procedure', in David G. Victor, Kal Raustiala and Eugene B. Skolnikoff (eds), *The Implementation and Effectiveness of International Environmental Commitments: Theory and Practice* (MIT Press, 1998) 137–176 at 155.

⁴¹ As reproduced in Report of the Implementation Committee under the Noncompliance Procedure for the Montreal Protocol on the Work of its Eleventh Meeting, UN Doc. UNEP/OzL.Pro/ImpCom/11/1 (1995), Annex II.

⁴² The submission stresses the Parties' commitment to the Montreal Protocol's objectives, and that their non-compliance arises out of incapacity, and that they are making every effort to meet the obligations that they had assumed under the Vienna Convention and the Montreal Protocol. However, the processes connected with political, geopolitical and social change, with the break from the previous economic system and the transition to a market economy, have demanded and continue to demand great moral, material and financial outlays.

As reproduced in *ibid.*

⁴³ Ehrmann, 'Procedures of Compliance Control', *supra* note 2, at 407.

⁴⁴ 'To note that the Implementation Committee took cognizance of the joint statement-- regarding possible non-fulfilment of their obligations under the Montreal Protocol-- as a submission under paragraph 4 of the non-compliance procedure of Article 8'. Report of the Seventh Meeting of the Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer, UN Doc. UNEP/OzL.Pro.7/12 (1995) para. 1, Decision VII/18. The issue is further discussed in Victor, 'The Montreal Protocol's Non-Compliance Procedure', *supra* note 40, at 156.

⁴⁵ *Ibid.* at 158.

Since Poland and Bulgaria were already on track to comply in 1996, they required no detailed response. Belarus, Russia and Ukraine, however, were requested to develop and submit plans on how to achieve compliance. When the Implementation Committee considered each of these plans inadequate, more details were then requested from each Party.⁴⁶ Before making its recommendations the Implementation Committee consulted extensively with the Russian Federation, the implementing Agencies of the Global Environmental Fund (GEF), and the World Bank, about a possible phase-out program.⁴⁷ A complication was that although a financial mechanism through the Multilateral Fund had been established to help developing countries, this mechanism was not available to the former Soviet States, which largely do not meet the requirements for funding.⁴⁸ Following these consultations, the Implementation Committee made its recommendations to the Seventh MOP, in 1995. These recommendations formed the basis of the decision made by the MOP, which almost exactly followed the recommendations of the Implementation Committee.⁴⁹

Three core elements of the recommendation can be identified as follows: the observance that there would be a situation of non-compliance; observance of the political commitment to phase out ODS; and a specification of the measures that should be taken to achieve compliance.⁵⁰ In relation to this last element, two different types of measures were described: first, the provision of international assistance through the GEF and World Bank; and second, the restriction of trade of ODS to only non-Article 5 Parties of the former USSR.

As reflected in the indicative list of measures,⁵¹ it is envisaged that provision of support will play an important role in encouraging and enabling countries to return to compliance with their obligations. Unfortunately, as mentioned above, the former Soviet Countries, including Russia, do not have access to the Multilateral Fund. Instead, these countries have turned to the GEF for assistance. The process is facilitated and monitored by the Implementation Committee. As has been noted, '[a]lthough the GEF has no official role within the Montreal Protocol's system of institutions, in general it sees its role as supporting the funding of projects that contribute to the compliance and effectiveness of relevant global agreements'.⁵² The GEF provides the funding; the Implementation Committee plays the central role by regularly reviewing progress; 'in case of any questions related to the reporting requirements and the actions of the Russian Federation, the disbursement of the international assistance

⁴⁶ *Ibid.* at 156–157.

⁴⁷ Ehrmann, 'Procedures of Compliance Control', *supra* note 2, at 407.

⁴⁸ Art. 5(1) provides the consumption criteria which States must have fallen below, in order to be considered developing countries under Article 5. Art. 5(3) calls for the Parties to 'facilitate bilaterally or multilaterally the provision of subsidies, aid, credits, guarantees or insurance programmes to Parties that are developing countries'.

⁴⁹ Ehrmann, 'Procedures of Compliance Control', *supra* note 2, at 407.

⁵⁰ Decision VII/18, *supra* note 44, as discussed in Ehrmann, 'Procedures of Compliance Control', *supra* note 2, at 408.

⁵¹ See list *infra* note 114.

⁵² Victor, 'The Montreal Protocol's Non-Compliance Procedure', *supra* note 40, at 158.

should be contingent on the settlement of those problems with the Implementation Committee'.⁵³

The one area where the Decision of the MOP differed from the Implementation Committee's recommendation was in regard to exports of ODS. In the original draft Russia had intended to continue exporting to developing countries for 'basic domestic needs'. Developing countries, however, objected. This led to a revised version of the document which allows exporting of controlled substances to Parties that are 'members of the Commonwealth of Independent States, including Belarus and Ukraine' while taking care to secure that no re-exports will be made from these countries to 'any Party to the Montreal Protocol'.⁵⁴ This ambiguous wording implicitly banned,⁵⁵ or 'suspended', the right of the Russian Federation 'to export to other non-Article 5 Parties, or to Article 5 Parties, to meet their basic domestic needs'.⁵⁶

The representative of the Russian Federation considered that paragraphs 8 and 9 of the decision meant that the MOP was adopting 'discriminatory measures and sanctions against a Party to the Protocol' and that, as a compliant Party for the past five years, this was unacceptable. The representative implicitly argued that the list of indicative measures progresses from more facilitative to sterner measures. Therefore, since the Russian Federation was still awaiting assistance through the GEF, and no warning had been issued under B, it was not appropriate to immediately take measures under C.⁵⁷ The strong objection to the provisions shown by Russia, led to the decision being made 'by consensus' with an unnamed party (Russia) dissenting.⁵⁸ Whether these trade restrictions were trade sanctions in the traditional sense has been disputed by some commentators.⁵⁹

For each of the three Parties the Implementation Committee 'obtained data, identifying actual or potential non-compliance, obtained plans of action and benchmarks to return to compliance, and monitored their performance in relation to the benchmarks every year'.⁶⁰ In 1996, after acknowledging the current non-compliance, the MOP nevertheless stressed the progress that had already been made, encouraged the development of recycling to meet legitimate domestic means, and that oversight should be maintained. In addition, Russia was reminded that financial assistance

⁵³ Decision VII/18, *supra* note 44, para. 9(e).

⁵⁴ *Ibid.* para. 8.

⁵⁵ Victor, 'The Montreal Protocol's Non-Compliance Procedure', *supra* note 40, at 157.

⁵⁶ K. Madhava Sarma, 'Compliance with the Montreal Protocol' in Seventh International Conference on Environmental Compliance and Enforcement, Vol. 2 (INECE, 2005), available at <http://www.inece.org/conference/7/vol2/64_Sarma.pdf> (visited 11 October 2007) 301–312 at 308.

⁵⁷ Comments made by the Russian Federation at the time Decision VII/18 was adopted, UNEP/OzL. Pro.7/12 (1995) para. 128.

⁵⁸ Victor, 'The Montreal Protocol's Non-Compliance Procedure', *supra* note 40, at 159.

⁵⁹ Ehrmann, for example, has argued that '[t]hese trade restrictions are not trade sanctions in the sense [that] they are punitive measures, but are instead measures to restore full compliance with the Montreal Protocol'. Ehrmann, 'Procedures of Compliance Control', *supra* note 2, at 408.

⁶⁰ Sarma 'Compliance with the Montreal Protocol', *supra* note 56, at 308.

remained ‘contingent on further developments regarding non compliance and the settlement with the Implementation Committee of any problems related to the reporting requirements and the actions of the Russian Federation’.⁶¹

The Implementation Committee closely monitored Russia’s progress throughout 1997. Early in the year, it was observed that Russia had engaged in illegal trade in ODS with both Article 5 and non-Article 5 Parties. The Committee cautioned against the danger which such continued breaches might hold for the credibility of the entire process.⁶² By June, Russia was reporting that, despite financial difficulties, it was attempting to comply with its obligations. Although non-compliance was likely to persist through 1997, some improvements were noted by the Implementation Committee, in the operation of Russia’s recycling facilities, and in export controls on ODS, from June 1996.⁶³ Later in the year, Russia reported it had continued to work on recycling capacity, and that it was largely maintaining export controls. Russia also stressed the importance of GEF funding for its continued improvement.⁶⁴

The constant monitoring played an important role, and by ‘the middle of 1997 the plan and review approach to handling Belarus, Russia, and Ukraine appeared to be working well – all three countries were regulating ODS more than they would have had their cases not been addressed, and thus all [were] moving towards full compliance with the Protocol’.⁶⁵ Of the three, Russia was the most problematic, partially because of delayed data provision, and partly because of a delay in external funding.⁶⁶ Subsequently, the 1997 Decision of the MOP noted the information and clarifications received from the Russian Federation. Importantly, it reaffirmed that GEF assistance should continue, and also its intention to keep the situation under review. It was left open that, should it be necessary, ‘the Implementation committee might have to revert to this question at the appropriate time’.⁶⁷

By 1998, however, despite the significant progress made, Russia expressed a belief that it was likely to remain in non-compliance until (at least) 2000. Therefore, the Parties considered that it was necessary to caution the Russian Federation that if it failed to meet the commitments noted in prior decisions, then:

⁶¹ Report of the Eighth Meeting of the Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer, UN Doc. UNEP/OzL.Pro.8/12 (1996), Decision VIII/25, para. 5.

⁶² Report of the Implementation Committee Under the Non-compliance Procedure for the Montreal Protocol on the work of its seventeenth meeting, UN Doc. UNEP/OzL.Pro/ImpCom/17/3 (1997), paras 23 and 25(d).

⁶³ Report of the Implementation Committee Under the Non-compliance Procedure for the Montreal Protocol on the work of its Eighteenth meeting, UN Doc. UNEP/OzL.Pro/ImpCom/18/3 (1997), paras 19–26.

⁶⁴ Report of the Implementation Committee Under the Non-compliance Procedure for the Montreal Protocol on the work of its Nineteenth meeting, UN Doc. UNEP/OzL.Pro/ImpCom/19/3 (1997), para. 14.

⁶⁵ Victor, ‘The Montreal Protocol’s Non-Compliance Procedure’, *supra* note 40, at 159.

⁶⁶ *Ibid.* at 160.

⁶⁷ Report of the Ninth Meeting of the Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer, UN Doc. UNEP/OzL.Pro.9/12 (1997), Decision IX/31, para. 4.

in accordance with item B of the indicative list of measures, that in the event that the country fails to meet the commitments noted in prior decisions as well as in the above documents in the times specified, the Parties shall consider measures, consistent with item C of the indicative list of measures. These measures could include the possibility of actions that may be available under Article 4, designed to ensure that the supply of CFCs and halons that is the subject of non-compliance is ceased, and that exporting Parties are not contributing to a continuing situation of non-compliance.⁶⁸

During the next couple of years, despite financial crisis and political changeovers, and despite remaining in non-compliance, Russia's compliance steadily improved. Thus, there was no need for the 1998 threats to eventuate. It was acknowledged in 2001 that the Russian Federation had closed CFC production on 20 December 2000.⁶⁹ Return to complete compliance was acknowledged by the Implementation Committee.⁷⁰ This was reaffirmed by the 14th Meeting of the Parties.⁷¹ In total, six decisions were passed by the MOP, from 1995 to 2002, when the Russian Federation was recognized as being in full compliance.⁷² Unlike the 1995 decision, the remainder were taken with the backing of the Russian Federation. The Implementation Committee reviewed, followed and encouraged compliance at its twice yearly meetings. This continual review reflects the idea that there should be ongoing monitoring of a Party during its journey back into compliance.

3.2 Issues highlighted from the case

In the case of the Russian Federation, the importance of effective NCPs was vividly illustrated. In the example we saw that a facilitative cooperative approach can be very effective in assisting Parties to comply with their international obligations. In contrast to more traditional solutions, the Russian Federation remained under the Montreal NCP a 'member in good standing' throughout the entire process. Several factors probably contributed to the success of the mechanism in this case. Of primary importance was the assistance in coordinating of financing through the GEF and the World Bank. This was in conjunction with the assistance in developing phase-out plans and other technical assistance, the constant monitoring, and subsequent encouragement and acknowledgement of positive steps and (mainly) gentle reproach or warnings for under-performance. Thus, we saw all three types of indicative measures were utilized during the process.

⁶⁸ Report of the Tenth Meeting of the Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer, UN Doc. UNEP/OzL.Pro.10/9 (1998), Decision X/26, para 3.

⁶⁹ Report of the Implementation Committee Under the Non-compliance Procedure for the Montreal Protocol on the Work of its Twenty-seventh Meeting, UN Doc. UNEP/OzL.Pro/ImpCom/27/4 (2001).

⁷⁰ Report of the Implementation Committee Under the Non-compliance Procedure for the Montreal Protocol on the Work of its Twenty-ninth Meeting, UN Doc. UNEP/OzL.Pro/ImpCom/29/3 (2002), paras 66 and 67.

⁷¹ Report of the Fourteenth Meeting of the Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer, UNEP/OzL.Pro.14/9 (2002), Decision XIV/35.

⁷² *Ibid.*

However, despite the success, in the Russian Federation example we also saw that there were issues raised about how the process was initiated; what measures should be implemented; how decisions regarding the measures that should be made by the MOP; and how monitoring should be implemented; amongst others. As the discussion below will show, some of these issues remain controversial in the negotiations, currently still underway, as to the final form the NCPs in the Stockholm and Rotterdam Conventions should take. The remainder of this paper will concentrate on discussing these aspects.

4 Initiation of the procedure (triggers)

4.1 Introduction

There are three main types of triggers that have been considered for inclusion in the NCPs under investigation here. The Party-to-Party trigger, the Secretariat-trigger, and the self-trigger. All these triggers are included in the Montreal and Basel NCP. There is still some discussion, however, as to which of these triggers should be included in the Stockholm and Rotterdam procedures. As we will see, the only non-contentious provision at this stage appears to be the self-trigger. Each of these triggers will be discussed below in turn.

4.2 Self-trigger

The Montreal NCP provides that where a Party despite its ‘best, bona fide efforts, is unable to comply fully’ with its obligations under the Protocol, it can make a submission to the Secretariat.⁷³ This procedure should not, however, be invoked against a Party which has notified the Meeting of the Parties that, having taken all practicable steps, they are still unable to implement any or all of the control measures.⁷⁴

Despite the slightly controversial use of the mechanism in the Russian example, the inclusion of the mechanism has been well-accepted by the drafters of the more recent NCPs. The Basel Compliance Mechanism provides for a self-trigger.⁷⁵ This provision may apply when the Party ‘is or will be unable to fully implement or comply with its obligations under the Convention’. This is the same as Montreal paragraph 4 above, except that it also specifically refers to future non-compliance. Prior to making a submission a Party must also have exercised its own best efforts first, and then have concluded that is still unable to comply with its obligations.

⁷³ Montreal NCP, *supra* note 14, para. 4.

⁷⁴ Art 5(7) of the Montreal Protocol, as highlighted by Ehrmann, ‘Procedures of Compliance Control’, *supra* note 2, at 415.

⁷⁵ Basel Compliance Mechanism, *supra* note 24, para. 9(a).

In the negotiations still underway, Paragraph 17(a) of the Stockholm NCP and paragraph 12(a) of the Rotterdam NCP are the only triggers which have been accepted by all Parties to the Conventions, and which do not remain controversial. Both the Rotterdam and Stockholm procedures are similar and provide that self-submissions may be made by a Party which decides that 'despite [its] best endeavours, it is, or will be, unable to comply'. Specific details of the obligations under question must be given, and possible solutions may also be included by the Party.⁷⁶

There have been a number of issues regarding the submission by Parties to the Montreal Protocol under the self-trigger. This option has not been taken by states on a totally voluntary basis. As we saw in the case study above, submissions by Russia requesting a longer grace-period for countries in transition were taken to be a submission under this mechanism, even though this was not Russia's initial intention. This implies that, far from being a completely voluntary procedure, parties may be 'cornered' into self-reporting through diplomatic pressure.⁷⁷ The role of the Secretariat in this context was crucial.⁷⁸ The point stands, even though in the Russia example it may be considered that through the Party's later behaviour it can be seen as having consented to this approach.⁷⁹

Despite any irregularities surrounding the application of the procedure, this option has been described as an innovation in international environmental law, and as emphasizing 'the cooperative approach of the compliance control procedures in international environmental law, since a state doing so is seeking international assistance'.⁸⁰ It is interesting, therefore, to note that the idea of incorporating a self-trigger into the NCP was only introduced quite late in the negotiations, and that it was accepted by the members of the Working Group on the grounds that 'self-reporting was not intended to introduce additional flexibilities into the non-compliance procedure or as a means of circumventing Protocol obligations'.⁸¹

This being the case, the question might be raised as to why the inclusion of this trigger has been the least controversial in the context of developing the Stockholm and Rotterdam NCPs. One answer for this may be that the Parties acknowledge the potentially important role such a procedure has played in bringing about compliance by allowing states to seek assistance in a cooperative way. Additionally, despite how it has been initiated in the past, it is the only type of suggested trigger where states (at least theoretically) retain control over when it is applied to them.

⁷⁶ Rotterdam Compliance Mechanism, *supra* note 37, para. 12(a), and Stockholm NCP, *supra* note 34, para. 17(a).

⁷⁷ Ehrmann, 'Procedures of Compliance Control', *supra* note 2, at 406–410.

⁷⁸ *Ibid.* at 437.

⁷⁹ *Ibid.* at 412.

⁸⁰ *Ibid.* at 436.

⁸¹ Report of the Third Meeting of the Ad Hoc Working Group of Legal Experts on Non-Compliance with the Montreal Protocol, UN Doc. UNEP/OzL.Pro/WG.3/3/3 (1991), para. 25.

4.3 Party-to-Party Trigger

The inclusion of a Party-to-Party trigger was obviously relatively uncontroversial during the negotiations towards the Montreal NCP. Its inclusion into the mechanism was already settled following the first Working Group meeting,⁸² and it features prominently in paragraphs 1 and 2. However, its inclusion is less settled in the negotiations toward the Rotterdam and Stockholm NCPs. As described in the Montreal NCP, this procedure is close to a traditional bilateral dispute settlement procedure. The Secretariat acts as a mediator; the Parties do not confront each other directly.⁸³ The Party submitting a concern about another Party's compliance does not need to show that it is injured or specially affected by the other Party's non-compliance (although corroborating information does need to be submitted, of course).⁸⁴

The Basel Compliance Mechanism provides for a limited Party-to-Party trigger.⁸⁵ Unlike the Montreal NCP, a Party must demonstrate a 'direct involvement' with a situation, that 'concerns or affects' them, and that there has been a 'failure to comply'. Additionally, information substantiating the submission must be provided.⁸⁶ Before making a submission under this procedure the other Party must be informed and the Parties should try to resolve the matter through consultation. If a Party is unable to prove that it is 'directly involved under the Convention', it may still be able to make use of the procedure outlined in Article 19 of the Convention, which has a wider scope, and which has not been subsumed by the adoption of the compliance mechanism.⁸⁷

Paragraph 17(b) of the Stockholm NCP as proposed provisionally provides that a Party which 'is affected or may be affected' may make a submission. There is also a requirement to undertake consultations with the Party prior to making a submission. As yet, whether this provision will be included in the final NCP is in doubt, the Chair of the Open-ended Ad Hoc Working Group on Non-compliance (the Chair) considers that it should be.⁸⁸ A decision regarding this has been deferred to the next meeting of the parties, at the earliest.

Paragraph 12(b) of the Rotterdam Compliance Mechanism as proposed also provisionally provides for a Party-to-Party trigger. If accepted, then prior to making a submission there will be a requirement to undertake consultations with the Party in alleged non-compliance. It is, however, still undecided whether the provision should

⁸² Report on the first meeting of the Ad Hoc Working Group of Legal Experts on Non Compliance with the Montreal Protocol, UN Doc. UNEP/OzL.Pro.LG.1/3 (1989), para. 9(c).

⁸³ Ehrmann, 'Procedures of Compliance Control', *supra* note 2, at 396.

⁸⁴ Montreal NCP, *supra* note 14, para. 1.

⁸⁵ Basel Compliance Mechanism, *supra* note 24, para. 9(b).

⁸⁶ *Ibid.* pursuant to para. 10.

⁸⁷ Shibata, 'The Basel Compliance Mechanism', *supra* note 29, at 197.

⁸⁸ In the Appendix to decision SC-3/20, Chair's Proposal *supra* note 34, at 63, the square brackets that surround this provision in the Stockholm NCP have been removed, indicating that the Chair considers it should be included in the final document.

be included in the NCP. Furthermore, it is undecided whether there should be a requirement to be ‘directly involved under the Convention’.⁸⁹

Although it was originally considered one of the most important and traditional options for uncovering compliance, the Party-to-Party trigger has not yet been used under either the Montreal⁹⁰ or Basel⁹¹ NCPs. It has been argued that ‘[w]hereas this option is firmly rooted in international law, it has never been used in practice because of the general restraint of states in commenting on performance of other states’.⁹² The inclusion of the Party-to-Party trigger should not be considered to transform the compliance mechanism into a dispute settlement system, or ‘even assimilate with it’.⁹³ Rather, it is today more likely that the inclusion of such a provision will be useful mainly to provide leverage to encourage parties to seek assistance and use the self-trigger mechanism. It is likely that Parties will continue not to engage in the use of confrontational means except as a last resort.

An interesting issue in regards to the Party-to-Party trigger is the type of standing required in order to make a submission. In the regimes where the threats are more likely to be between two or more clearly defined Parties, the standing requirements are increased. As we have seen above, no interest is required under the Montreal NCP; direct involvement, or to be ‘concerned or affected’, is required under the Basel Compliance Mechanism. Assuming that a Party-to-Party trigger is included in the NCP currently under discussion, the Stockholm NCP requires a Party at least to have the possibility of being affected. Meanwhile, standing remains undecided under the Rotterdam Compliance Mechanism.

These differences in standing can most likely be partially explained by the type of externalities and risks each of the Conventions addresses. Whereas the risks posed to the ozone layer are global in nature with no one Party being directly affected, the types of breaches expected under the Basel Convention usually only affect two or three countries, and not the protection of the global commons to the same extent.⁹⁴ Therefore, there will likely be defined parties who will be especially affected and with sufficient incentives to seek solutions. The risks posed by POPs and pesticides are likely to fall somewhere in between. Under this rationale, it would not be surprising if the Rotterdam drafters followed the lead of the Stockholm NCP and included the requirement to be ‘directly involved under the Convention’.

⁸⁹ Rotterdam Compliance Mechanism, *supra* note 37, para. 12(b).

⁹⁰ Ozone Secretariat, *Implementation Committee Under the Non-Compliance Procedure of the Montreal Protocol on Substances that Deplete the Ozone Layer – Primer for Members* (Ozone Secretariat, 2006), available at <http://ozone.unep.org/Publications/ImpCom_Primer_for_parties.pdf> (visited 3 August 2007) at 15.

⁹¹ Basel Convention Compliance Committee (2006), *supra* note 24.

⁹² Ehrmann, ‘Procedures of Compliance Control’, *supra* note 2, at 436.

⁹³ Shibata, ‘The Basel Compliance Mechanism’, *supra* note 29, at 197.

⁹⁴ Rummel-Bulska, ‘Compliance with and Enforcement of the Basel Convention’, *supra* note 23, at 425.

4.4 Secretariat (or Committee) trigger

Paragraph 3 of the Montreal NCP provides that if the Secretariat, during the course of preparing its report for the Meetings of the Parties, becomes aware of possible non-compliance by any Party with its obligations under the Protocol it can request the Party to furnish additional information. If there is no response within three months, or the matter is not resolved through administrative actions or diplomatic contacts, then the Secretariat shall include the matter in its report to the Meeting of the Parties and inform the Implementation Committee.⁹⁵ This is the method by which most recent cases regarding possible non-compliance have been drawn to the attention of the Implementation Committee.⁹⁶ Originally Parties were reluctant to include this proposal,⁹⁷ but once all aspects of the non-compliance procedure had been considered, it was included.

The Basel Compliance Mechanism allows the Secretariat to trigger the mechanism when, while acting pursuant to its functions under Article 13 and 16 of the Convention, it becomes aware of the possible difficulties of parties in complying with reporting obligations under Article 13(3) of the Convention.⁹⁸ The purpose of this restriction has been identified as being ‘to limit the authority of the secretariat so that it will not actively investigate and search for possible compliance difficulties faced by parties’.⁹⁹ Three months of prior consultation is required before a submission can be made.

The Rotterdam Compliance Mechanism at this stage provisionally provides for a Secretariat trigger mechanism. At the moment it seems to be unclear to what extent, if included, this power will be prescribed restrictively; or whether it will be quite broadly worded. The formulation as it currently stands is that:

[(c) The secretariat, if, while acting pursuant to its functions under [articles 4, 5, and 10 of] the Convention, it becomes aware of possible difficulties for any Party in complying with its obligations under [articles 4, 5, and 10 of] the Convention [or when it receives submissions from individuals or organizations having reservations about a Party’s compliance with its obligations under the Convention] provided that the matter has not been resolved within three months by consultation with the Party concerned.]¹⁰⁰

Under the strictest formulation, the Secretariat would only be able to make submissions pursuant to information discovered while acting in its functions under Articles

⁹⁵ Montreal NCP, *supra* note 14, para. 3.

⁹⁶ Ehrmann, ‘Procedures of Compliance Control’, *supra* note 2, at 379–386.

⁹⁷ Report of the Second Meeting of the Ad Hoc Working Group of Legal Experts on Non-compliance with the Montreal Protocol, UN Doc. UNEP/OzL.Pro/WG.3/2/3 (1991), para. 16.

⁹⁸ Basel Compliance Mechanism, *supra* note 24, para. 9(c).

⁹⁹ Shibata, ‘The Basel Compliance Mechanism’, *supra* note 29, at 197.

¹⁰⁰ Rotterdam Compliance Mechanism, *supra* note 37, para. 12(c).

4, 5 and 10. This formulation is rather narrow and follows the lead of the Basel Compliance Mechanism. Meanwhile under the broadest version, the Secretariat would be able to make submissions acting on information gathered in any capacity while filling its functions under the Convention, and furthermore, when it receives submissions from individuals or other organizations with reservations about a Party's compliance. This difference represents a dramatic variation in the breadth of the power and possibly an extended role for NGOs in such procedures. This is discussed further below.

Under the negotiations toward the Stockholm NCP, the question of a Secretariat trigger seems even more controversial than those underway for Rotterdam. As recently as April 2007, preceding the last COP, two alternative Secretariat triggers were included in the draft.¹⁰¹ In addition to this, provisions were included providing for a novel form of trigger mechanism, namely a trigger operated by the Committee itself.¹⁰²

At the May 2007, COP these options were consolidated into a document containing one version of the Secretariat trigger, and one of the Committee trigger, in the alternative. The current version of the Stockholm NCP under consideration provisionally provides that if the Secretariat, acting pursuant to Article 20(2), becomes aware that a party may face difficulties, on the basis of the second and subsequent reports submitted under Article 15, and the non-compliance is not resolved within at least 90 days consultation then it may make a submission.¹⁰³ Although it is undecided whether this should be included, the Chair is in favour of the inclusion of this provision.¹⁰⁴

The alternative Committee trigger is formulated in the following way, allowing submissions by '[t]he Committee, if a Party's second or subsequent report to the Conference of the Parties under Article 15 indicates difficulties in complying with its obligations under the Convention'.¹⁰⁵ The Chair appears to support the inclusion of this novel trigger.¹⁰⁶

This method of initiating the procedure is considered to have several positive features, combining 'the advantages of a routine review in the context of institutional control with an ad hoc procedure. The Secretariat, the only treaty body that compiles all information and data, may act ex officio if it becomes aware of any cases of non-compliance'.¹⁰⁷ It has also been noted that the use of the trigger to start NCPs could be commended for realizing 'the cooperative approach of the compliance control

¹⁰¹ Stockholm Convention on Persistent Organic Pollutants, Report of the Open-ended Ad Hoc Working Group on Non-compliance on the work of its second meeting, UN Doc. UNEP/POPS/OEWG-NC.2/2 (2007), paras 18–19.

¹⁰² *Ibid.* para. 20.

¹⁰³ Stockholm NCP, *supra* note 34, para. 17(c).

¹⁰⁴ See Chair's Proposal, *supra* note 88, at 63, where the square brackets surrounding the provision in para. 18(c) are removed.

¹⁰⁵ Stockholm NCP, *supra* note 34, para. 17(c alt).

¹⁰⁶ Chair's Proposal, *supra* note 88, at 63, para. 18(c alt) is underlined.

¹⁰⁷ Ehrmann, 'Procedures of Compliance Control', *supra* note 2, at 397.

procedure' since 'a submission of the Secretariat is without an accusatorial or confrontational atmosphere', and is also likely to detect possible non-compliance in an early phase.¹⁰⁸ However, there currently seem to be two schools of thought. The first is hesitant to include the mechanisms into the NCP, and has a tendency to wish quite strictly to circumscribe the powers of the Secretariat in operating the trigger. This perhaps indicates that some Parties do not want to have a situation where this mechanism assumes the primary role in bringing cases to the Committee, as currently is the case for the Montreal NCP. Alternatively, they do not want the Secretariats actively to investigate non-compliance.

The second school of thought seems to want to expand the role of the Secretariat (or Committee) in instigating compliance proceedings, either by either providing for very wide Secretariat powers, or through the development of the new Committee trigger. It is interesting that the drafters of the Montreal NCP also considered the idea of a Committee trigger; it was not adopted because of fears by some experts that it might create a situation of conflict of interests.¹⁰⁹ The Controversies underway in developing the Rotterdam and Stockholm NCP will hopefully be resolved at the next COPs.

4.5 The role of NGOs and individuals

It is in the context of the Secretariat trigger that the issue of NGO involvement with the NCP is most commonly raised. Although other MEAs, most notably the Aarhus Convention,¹¹⁰ do allow for the submission of information by NGOs, this position was rejected during the negotiation of the compliance mechanism under the Basel Convention and Montreal Protocol.¹¹¹ However, NGOs can still provide information to the Montreal Secretariat about possible non-compliance,¹¹² and the Basel Compliance Mechanism allows a Party to use 'information provided by civil society'.¹¹³ Some authors have observed, particularly in relation to the Montreal Protocol, that increasing the amount of NGO input into the NCP might be advantageous.¹¹⁴

Within the context of the Rotterdam and Stockholm NCPs, the extent to which NGOs should be allowed to participate has been debated. Although the current paragraph 17(c) of the Stockholm NCP no longer makes reference to NGOs, this was still part of the draft prepared by the Open-ended Ad Hoc Working Group for

¹⁰⁸ *Ibid.* at 437.

¹⁰⁹ Un Doc. UNEP/POPS/OEWG-NC.2/2 (2007), para. 17.

¹¹⁰ Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters, Aarhus, 25 June 1998, in force 30 October 2001, 38 *International Legal Materials* (1999) 517.

¹¹¹ As discussed in Svitlana Kravchenko, 'The Aarhus Convention and Innovations in Compliance with Multilateral Environmental Agreements', 18 *Colorado Journal of International Environmental Law and Policy* (2007) 1–50 at 19.

¹¹² Ehrmann, 'Procedures of Compliance Control', *supra* note 2, at 397.

¹¹³ Basel Compliance Mechanism, *supra* note 24, para. 17.

¹¹⁴ Yoshida, 'Soft Enforcement of Treaties', *supra* note 15, at 114.

the 2007 MOP.¹¹⁵ Admittedly, this now discarded draft was not providing for such information sources as a unique trigger, but only as an additional source of information when it had already been made aware of a Party facing difficulties in pursuing its functions under the Convention.¹¹⁶ In any case, since it has been removed from the latest version of the NCP annexed to the Report of the COP,¹¹⁷ it has presumably been rejected at this stage. Meanwhile, as discussed above, it is still undecided under the Rotterdam Convention whether or not to allow for NGO submissions via the Secretariat. If this provision is adopted, it would be the broadest of the Secretariat triggers described, and an important step for promoting NGO participation in such procedures.

4.6 Comments

As the discussion above has shown, the type of trigger mechanism which should be incorporated into an NCP remains controversial. Ironically, it is the self-trigger mechanism which proved most controversial in the Russian case study, which has since, as the only definitely included trigger, proved the least contentious amongst negotiators for the Stockholm and Rotterdam NCPs. Meanwhile, the debate also continues as to the role other Parties, the Secretariat, the Committee, and NGOs should have in initiating the procedure.

5 Facilitation and recommended measures

5.1 Introduction

A number of different traditional types of consequences for non-compliance can be envisaged, such as taking reciprocal actions and reprisals. In contrast, as will be seen in the following discussion, almost all of the measures explicitly referred to in the various NCP are designed to assist and encourage a party back to compliance, rather than being designed with the goal of punishment.

In this section, the structure of the discussion will be as follows. First, the measures available under the Montreal Protocol will be discussed, particularly in regard to how they were implemented to encourage the Russian Federation into compliance. Second, the facilitation and recommended measures in the other three treaties will be discussed. Of particular interest in relation to recommended measures is whether, in addition to measures designed to encourage and assist States, more coercive or punitive measures should also be included.

¹¹⁵ UN Doc.UNEP/POPS/OEWG-NC.2/2 (2007), para. 18(c).

¹¹⁶ 'In such cases, the Secretariat may also consider information received from bodies or agencies having observer status under paragraph 8 of Article 19 of the Convention.' *Ibid.*

¹¹⁷ Stockholm NCP, *supra* note 34.

5.2 Montreal Protocol

Under the Montreal NCP there is no paragraph explicitly outlining which measures may be taken in following a finding of non-compliance under the procedure. The Implementation Committee is unable to take any measures at its own initiative, and must make recommendations to the MOP. Paragraph 9 provides that after receiving the report by the Committee the Parties, taking into consideration all circumstances, can ‘decide upon and call for steps to bring about full compliance with the protocol, including measures to assist the Parties’ compliance’.

An indicative list of measures that may be adopted has been developed, but this is not exhaustive. It includes: appropriate assistance in the collection and reporting of data, technical assistance, technology transfer, financial assistance and information transfer and training; the issue of cautions; and the suspension of specific rights and privileges under the Protocol.¹¹⁸ The recommendation of positive measures is the main focus of the procedure; this is because most non-compliance arises because of technical or financial problems, and, therefore, in such situations sanctions are generally not regarded as a worthwhile option. Flexibility of response process is also important: ‘[a]ny measure to bring about full compliance has to take into account the degree, cause, kind and frequency of the individual case of non-compliance’.¹¹⁹

During the revision of the NCP in 1997, it was proposed that a persistent pattern of non-compliance with key provisions of the Protocol should ultimately lead to treating the non-compliant Party as a non-Party to the Protocol. However, most Parties felt that the use of sanctions was not appropriate, and would run counter to the spirit of cooperation in the Protocol. Therefore, the procedure was not modified in this regard.¹²⁰ However, since the list of indicative measures is not exhaustive, there is still a possibility that more extreme measures could be recommended if necessary.

The list of indicative measures does not, in itself, give any indication regarding the criteria for choice of the measure in a given case. It has been reported that ‘Parties emphasized that, when considering cases of non-compliance, flexibility should be ensured in selecting and administering appropriate response measures’.¹²¹ As the case study described, the Russian Federation raised the issue of whether the measures should be taken sequentially and increasing in severity, with the third option only being used if the others have failed. Arguably, this distinction has been incorporated in the later NCP, through the distinction they have made between Facilitative and Recommended Measures.

¹¹⁸ Montreal NCP, *supra* note 14.

¹¹⁹ Ehrmann, ‘Procedures of Compliance Control’, *supra* note 2, at 438.

¹²⁰ *Ibid.* at 401.

¹²¹ *Ibid.* at 402.

5.3 Facilitative measures

Measures that may be taken under the Basel NCP are included in paragraphs 19 and 20. Under the facilitative procedure, a number of measures may be taken by the Committee at its own initiative. The inclusion of this step represents an improvement on the Montreal NCP procedure, since it allows for some actions to be taken without having to await a decision from the COP.

Steps that may be taken include providing the Party with advice, non-binding recommendations and information. The information provided may relate to: the strengthening of the Party's regulatory regimes; facilitating financial and technical assistance; elaborating on voluntary compliance action plans with the cooperation of the Party concerned; and assisting with follow-up arrangements.¹²² Under these measures the Party has the primary role in resolving the problem. The Committee's role is not to provide direct assistance; only the information regarding assistance and possible access.¹²³ In addition to this, other advice or information may be provided in agreement with the Party.

With regard to facilitative measures, the drafters of the Stockholm and Rotterdam NCPs have closely followed the lead from the Basel NCP. Both drafts include the possibility of Committee-led facilitation (non-controversial and decided), followed by extra measures with the support of the Conference of the Parties if required (this being more controversial, and, as discussed below, raising the undecided question of exactly which measures may be taken). The Stockholm NCP provides that the Committee can give advice; make non-binding recommendations; facilitate technical and financial assistance; request the development of voluntary compliance action plans; and provide assistance in the review of the plan. The Committee should report to the COP on the efforts made by a Party to return to compliance and the matter should remain on the agenda until it has been adequately resolved.¹²⁴ The Rotterdam Compliance Mechanism does not give the Committee quite as much latitude, and only allows the Committee to give a Party advice, make non-binding recommendations, and provide any further information needed to assist the Party in developing a compliance plan.¹²⁵

5.4 Recommended measures

Under the Basel Compliance Mechanism, if the steps taken under the facilitative procedure in paragraph 19 (outlined above) are not effective, then the Committee is authorized to recommend that the COP takes additional action if 'it considers it

¹²² Basel Compliance Mechanism, *supra* note 24, para. 19.

¹²³ Shibata, 'The Basel Compliance Mechanism', *supra* note 29, at 193.

¹²⁴ Stockholm NCP, *supra* note 34, para. 26.

¹²⁵ Rotterdam Compliance Mechanism, *supra* note 37, para. 19.

necessary-- to pursue further measures to address a party's compliance difficulties'.¹²⁶ Any such measures must take into account the 'cause, type, degree and frequency of compliance difficulties, as well as the capacity of the party whose compliance is in question'.¹²⁷

Two possible measures are allowed. One is giving further support under the Convention; this involves the provision of concrete measures that are within the authority of the COP, including requests to fund projects from an appropriate funding scheme.¹²⁸ Alternatively, the Committee can recommend to the COP that it consider 'issuing a cautionary statement and providing advice regarding future compliance in order to help parties to implement the Basel Convention and to promote cooperation between all parties'.¹²⁹ It has been observed that '[t]his is the only measure under the mechanism which has a negative connotation'.¹³⁰ It is unclear, however, what actions might be at the same time cautionary and helpful.

Although discussions under both the Stockholm and Rotterdam Conventions appear relatively settled in relation to the extent of the facilitative measures available to the Committee, it appears that discussions have been less clear when it comes to what measures may be recommended to the Conference of the Parties. Paragraph 27 of the Stockholm NCP remains undecided. It currently contains proposals for several measures. First, the provision of further support, including further advice and facilitation of access to financial resources, technical assistance, technology transfer, training and other capacity building measures. Second, the provision of advice regarding future compliance. Third, making a statement of concern (undecided). Fourth, a request of the Executive Secretary to make public the case of non-compliance (undecided). Fifth, in case of persistent/repeated non-compliance, the suspension of rights and privileges under the Convention (undecided). The last option is any additional action required for the achievement of the objectives of the Convention.¹³¹

It is the fourth and fifth options that seem to be the most contentious, and the most punitive or coercive in nature. There have also been calls by one Party that the harsher measures not be applied against developing countries who are in non-compliance because of a lack of technical and financial assistance.¹³² The Chair has already indicated her disfavour for both options 4 and 5, and in her draft these have been deleted.¹³³

¹²⁶ Basel Compliance Mechanism, *supra* note 24, para. 20.

¹²⁷ *Ibid.*

¹²⁸ *Ibid.* para. 20(a).

¹²⁹ *Ibid.* para. 20(b).

¹³⁰ Shibata, 'The Basel Compliance Mechanism', *supra* note 29, at 194.

¹³¹ Stockholm NCP *supra* note 34, para. 27.

¹³² *Ibid.* para. 28. Footnote 31 to this paragraph states that '[o]ne delegation wished to retain this provision until the outcome of negotiations on paragraph 27'.

¹³³ Chair's Proposal *supra* note 88, at 64, para. 28.

The drafters of the Rotterdam Convention were, until the last Conference of the Parties, also considering the inclusion of such coercive measures into their NCP. However, the original proposals to include the suspension of rights and privileges under the Convention, and the issuing of a caution,¹³⁴ have been provisionally replaced by the less punitive measure of making the party ineligible to serve as President of the COP or as a member of the bureau (although this is also undecided).¹³⁵ Whether the shame involved in being made ineligible for such a role would be sufficient to bring a non-compliant party back into compliance is questionable. However, it is an interesting approach that is clearly designed to work on a country's desire to protect its international reputation.

Measures that have been decided for inclusion in Article 19 include: providing further support, including facilitation of access to financial resources, technical assistance and capacity building; providing further advice regarding future compliance; issuing a statement of concern on possible future/current non-compliance; requesting the Secretariat to make public a case of non-compliance; and recommending a non-compliant situation is remedied (or addressed) by a Party.¹³⁶ The Rotterdam drafters do appear to be decided upon including some marginally less cooperative measures than those favoured by the Chair of the Stockholm Convention. However, which of these provisions are eventually incorporated into the final NCP may still be subject to revision. Within the Rotterdam Convention, it is also not yet clear if the measures that can be recommended are exhaustive or just indicative, as it is currently stated: 'It may recommend to the Conference of the Parties that it consider [appropriate] [the following] measures-- [, including]--'.¹³⁷

In addition to disagreement over which provisions have been included, it has, at least in the case of the Rotterdam Compliance Mechanism, been controversial whether the measures formulated are exhaustive. Although under the Stockholm NCP only 'one or more of the following actions' may be recommended, this is moderated by the inclusion of paragraph (f), which allows for 'any other action'.¹³⁸ The list in the Basel Compliance Mechanism, however, seems to intend to be exhaustive: additionally, the use of 'or' might indicate measures should be recommended in the alternative.¹³⁹ Whilst some may consider that an exhaustive list of available measures is preferable since it indicates the worst possible penalty for non-compliance, this may perhaps be counterproductive for at least two reasons. First, the negotiations over what the most punitive measure will be may create the seeds of distrust in the Parties to the

¹³⁴ Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, Conference of the Parties, Third meeting, Non-compliance: Procedures and institutional mechanisms for determining non-compliance with the provisions of the Convention and for the treatment of Parties found to be in non-compliance, Note by the Secretariat, UN Doc. UNEP/FAO/RC/COP.3/12 (2006) para. 19.

¹³⁵ Rotterdam Compliance Mechanism *supra* note 37, para. 19.

¹³⁶ *Ibid.*

¹³⁷ *Ibid.*

¹³⁸ Stockholm NCP, *supra* note 34, para. 27.

¹³⁹ Basel Compliance Mechanism, *supra* note 24, end of para. 20(a).

Convention and destroy the collaborative cooperative spirit of the process. Secondly, it might lead to the COP having its hands tied as to the measures available in case of egregious behaviour by non-compliant parties. Taking both these factors into account, it might be worth having a non-exhaustive list, in a text that is highly cooperative with only mild sanctions enumerated, but which still has the possibility of imposing more stringent measures if really required.¹⁴⁰

5.5 Comments

As the discussion above has shown, the drafters of newer NCPs have learnt much from the experiences of the operation of the Montreal NCP. All have made a distinction between facilitative and recommended measures, have careful descriptions of lists of possible measures, and have recognized the importance of providing some link between the NCP and access to funding. One of the non-controversial measures in both Stockholm and Rotterdam Conventions is the provision for '[f]urther support--including facilitation-- of access to financial resources'.¹⁴¹ The place of stronger measures within the Non-compliance procedure does, however, remain controversial.

6 Decision-making regarding measures

As we saw in the case study above, the first decision by the MOP was taken by a procedure called 'consensus minus one', without the consent of the Russian Federation. During the deliberations about Decision IIV/18, the Secretariat clarified that 'the practice followed in Meetings of the Parties to the Montreal Protocol was that, when only one Party objected to a draft decision, that decision would be carried by consensus and the position of the dissenting Party would be clearly reflected in the report of the Meeting'.¹⁴² Scholars have noted that '[p]rima facie this seems to be a confrontational approach. The cooperative approach, however, does not require complete consent of the party concerned, only that the party be consulted before any decision of essential importance is taken'.¹⁴³ Arguably though, the approach taken was well within the ambit of the MOP.¹⁴⁴ Russia cooperated in the implementation of the decision, and consented to later decisions by the MOP.

¹⁴⁰ It is, however, important to remember that all the NCPs under examination here operate without prejudice to dispute settlement articles in their respective Conventions. Montreal NCP, *supra* note 14, preamble; Basel Compliance Mechanism, *supra* note 24, para. 27; Rotterdam Compliance Mechanism *supra* note 37, para. 30; Stockholm NCP, *supra* note 34, para. 37.

¹⁴¹ Rotterdam Compliance Mechanism *supra* note 37, para. 19(a); Stockholm NCP, *supra* note 34, para. 27(a).

¹⁴² UNEP/OzL.Pro.7/12 (1995) para. 130.

¹⁴³ Ehrmann, 'Procedures of Compliance Control', *supra* note 2, at 413.

¹⁴⁴ As Yoshida observes, the procedures for adopting decisions are rather complex and controversial. Yoshida, 'Soft Enforcement of Treaties', *supra* note 15, at 137 footnote 204. While Article 11(4) provides that the Meeting 'consider and undertake any additional action that may be required for the achievement of the purposes of this Protocol,' for instance, Article 40 of the Rules of Procedures for the Meeting of the Parties requires a two-third majority of the Parties present and voting on all substantial matters. See Report of the Parties to the Montreal Protocol on the Work of their First Meeting, UNEP/OzL.Pro.1/5 (1989), Annex III.

As we have seen above, under the Basel, Rotterdam and Stockholm NCP, the Committees themselves are able to undertake facilitation measures, without the prior authorization of the MOP/COP. Therefore it is important, not only how the Conference body takes decisions, but also how the Committees do so. Under the Basel Compliance Mechanism, the ‘committee shall make every effort to reach agreement on all matters of substance by consensus’,¹⁴⁵ with a two thirds majority decision to be taken ‘as a last resort’.¹⁴⁶ This is similar to the procedure laid out for the MOP, which presumably applies to any decisions to be made regarding additional measures.¹⁴⁷

For both the Rotterdam and Stockholm Conventions, the procedures to be followed in the case of the decisions of the Committees and the COPs currently remain undecided. A decision on whether Decisions may be made on a two-thirds majority basis, rather than consensus, has been deferred to a later time by the COPs of both the Rotterdam¹⁴⁸ and Stockholm Conventions.¹⁴⁹ In the meantime, the COP will ‘continue to decide substantive matters by consensus’.¹⁵⁰

In regards to decisions by the NCP Committees, the Rotterdam Compliance Mechanism currently provides for decisions by consensus, with a proposal that, if necessary, a two-thirds majority should suffice, remaining undecided upon.¹⁵¹ The draft for the Stockholm NCP also includes a proposal regarding decision-making by the Committee.¹⁵² This provision currently provides for consensus voting, with either

¹⁴⁵ Basel Compliance Mechanism, *supra* note 24, para. 25.

¹⁴⁶ For a more detailed description, see Shibata, ‘The Basel Compliance Mechanism’, *supra* note 29, at 195–196.

¹⁴⁷ Report of the First Meeting of the Conference of the Parties to the Basel Convention, UNEP/CHW.1/24 (1992), Annex III. Rule 40 states that:

[t]he Parties shall make every effort to reach agreement on all matters of substance by consensus. If all efforts to reach consensus have been exhausted and no agreement reached, the decision shall, as a last resort, be taken by a two-thirds majority vote of the Parties present and voting, unless otherwise provided by the Convention.

¹⁴⁸ Report of the Conference of the Parties to the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade on the work of its first meeting, UNEP/FAO/RC/COP.1/33 (2004), Annex to RC-1/1: Rules of procedure, ‘Rules of procedure for the Conference of the Parties’ Rule 45.1, is worded and formatted similarly to above.

¹⁴⁹ UNEP/POPS/COP.1/31 (2005), Annex to decision SC-1/1 ‘Rules of procedure for the Conference of the Parties’ Rule 45(1) states:

[t]he Parties shall make every effort to reach agreement on all matters of substance by consensus. [If all efforts to reach consensus have been exhausted and no agreement has been reached, the decision shall, as a last resort, be taken by a two-thirds majority vote of the Parties present and voting, unless otherwise provided by the Convention, by the financial rules referred to in paragraph 4 of Article 19 of the Convention or by the present rules of procedure.]

¹⁵⁰ UNEP/POPS/COP.3/30 (2007), para. 23, and UNEP/FAO/RC/COP.3/26 (2006), para. 29

¹⁵¹ Rotterdam Compliance Mechanism, *supra* note 37, para. 10; the part pertaining to non-consensus decision-making is in brackets.

¹⁵² Stockholm NCP, *supra* note 34, undecided para. 15.

[15. The Committee shall [make every effort to] reach agreement on all matters of substance by consensus. If all efforts to reach consensus have been exhausted and no agreement has been reached, any decision shall, as a last resort, be taken by a [two-thirds][three-quarters] majority of the members present and voting [or by six members, whichever is greater]. The report of any meeting of the Committee at which consensus is not reached shall reflect the views of all the Committee members.]

a two-thirds, or a three-quarters majority, in the alternative, if consensus is impossible. However, whether this provision will be included in the final procedure at all is uncertain.¹⁵³

From this brief survey of the decision-making provisions above, we see that the Parties to the Basel Convention have adopted a clear decision in favour of two-thirds majority decision-making, if necessary, in the case of substantive decisions. However, the procedures drafted more recently have again returned to a commitment to consensus voting, at least for the time being. No final decisions have been made with regard to these provisions.

7 Conclusions

As we have seen from the discussion above, the Montreal Protocol's NCP proved effective in encouraging and ensuring compliance in the case of the Russian Federation; probably the 'most serious non-complying party to the treaty' to date.¹⁵⁴ Understandably, recognizing this success, the NCP adopted under the Basel Convention draws heavily upon the model provided by the Montreal Protocol NCP. In turn, the treaty regimes currently undergoing the process of developing NCPs have looked to both earlier NCPs for guidance and direction. Although the drafters of the Stockholm NCP have tended towards more elaboration than can be found under any of the other NCPs, the core of the provisions remains similar, and the areas of contention remain the same. A number of issues remain not settled, such as: who can instigate a procedure and under what conditions; the role of NGOs in the process; the capacity in which Compliance Committee Members take on their role; what measures can be taken in the case of non-compliance being found, in particular the role of measures intended more to punish than facilitate compliance; and whether such decisions need to be made by consensus. Several of these issues were highlighted in the case study of Russia in the present paper. As the above comparisons have shown, the Montreal and Basel NCPs have had a great influence on what has been included and what has been left out of the newer NCPs.

However, caution must also be taken before copying too closely the lead provided by the Montreal Protocol NCP. As some writers have correctly observed, '[t]he Protocol's NCP has not often been used to handle difficult problems of non-compliance'.¹⁵⁵

¹⁵³ In the Chairs proposal, *supra* note 88, this para. 16 is struck through.

¹⁵⁴ Duncan Brack, 'Monitoring the Montreal Protocol' in Trevor Findlay (ed.), *Verification Yearbook 2003* (Vertic, 2003), available at <<http://www.vertic.org/publications/verification%20yearbook.asp>> (visited 22 January 2008), 209–226 at 219.

¹⁵⁵ Victor, 'The Montreal Protocol's Non-Compliance Procedure', *supra* note 40, at 165.

Additionally, it is not always clear that negotiators are choosing the best available, over the most familiar, option when drafting international obligations.¹⁵⁶ The introduction of a Montreal type NCP to the Basel regime has yet to lead to the levels of compliance found under the Montreal Protocol. This being the case, it is imperative that when developing NCPs based on the Montreal model, the Conference of the Parties of each MEA should adopt a form of the NCP regime suited to its own characteristics, and dependant on the nature and contents of its established legal obligations and types of potential environmental disputes. In doing so, it is also important not just to look at the text of the Montreal Protocol, but, if seeking to replicate its effectiveness, it must also be acknowledged that today its success relies 'to a considerable extent on custom and precedent'.¹⁵⁷ It is clear from the discussion above that Parties have adapted provisions somewhat to their own circumstances, and have made efforts to develop the procedure further. A particularly good example of this is the current effort to introduce a new Committee-trigger into the Stockholm NCP.

In addition to encouraging this type of innovation, it may also be recommended that the drafters or reviewers of NCPs look not only to how other MEAs are dealing with compliance issues, but also to how these issues are being dealt with in other areas of international law. For example, the Conventions on Nuclear Safety¹⁵⁸ and the Joint Convention on Spent Fuel and Radioactive Waste,¹⁵⁹ both deal with environmental risks very similar to those dealt with by the chemicals and wastes Conventions discussed here. Their approach to non-compliance is, however, quite different, and has been credited with good levels of success. As this paper has shown, it seems that the drafters of non-compliance procedures, particularly those of the Stockholm and Rotterdam NCPs, have, with good reason, taken many lessons from the Montreal and Basel Conventions. Perhaps, however, it is now time to start looking for lessons from elsewhere.

¹⁵⁶ The premise that there is a 'herd mentality' amongst the drafters of international environmental agreements has been suggested by authors, particularly in regards to the choice of economic instruments being used to control international air pollution problems. It being asserted that 'the international diplomatic community favors the use of [certain] instruments-- because such instruments are the most common and prominent tool in the diplomatic toolbox, obscuring from view all other options. We call this the 'herd hypothesis'--'. David G. Victor and Lesley A. Coben, 'A Herd Mentality in the Design of International Environmental Agreements?', 5 *Global Environmental Politics* (2005) 24–57 at 25.

¹⁵⁷ Ozone Secretariat, 'Implementation Committee', *supra* note 90, at 5.

¹⁵⁸ Convention on Nuclear Safety, Vienna, 20 September 1994, into force 24 October 1996, 33 *International Legal Materials* (1994) 153.

¹⁵⁹ *Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management*, 29 September 1997, into force 18 June 2001, 36 *International Legal Materials* (1997) 1436.

PART IV

INTERACTIVE EXERCISES

TRADE AND ENVIRONMENT – A DIFFICULT RELATIONSHIP?¹

Gerhard Loibl²

1 Introduction

The relationship between trade rules and environmental regulations was discussed in the negotiations toward the General Agreement on Tariffs and Trade³ (hereinafter the GATT). This is underlined by the fact that the GATT refers, in Article XX under the title ‘general exemptions’, to measures concerning the environment. Its relevant provisions read as follows:

--[s]ubject to the requirement that such measures are not applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail, or a disguised restriction on international trade, nothing in this Agreement shall be construed to prevent the adoption or enforcement by any contracting party of measures:

[--] (b) necessary to protect human, animal or plant life or health; or

[--] (g) relating to the conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production or consumption.

The relationship between trade and environment was a central issue in the negotiations toward the 1992 Rio Declaration on Environment and Development.⁴ Prin-

¹ This paper is based on an introductory lecture to the interactive exercise on trade and the environment given by the author during the Course. The task of the exercise was to identify the relevant trade-related provisions of the Basel Convention, Cartagena Protocol, the Montreal Protocol and the Rotterdam Convention and to consider whether there are any outstanding questions concerning their conformity with GATT/WTO.

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³ General Agreement on Tariffs and Trade, Geneva, 30 October 1947.

⁴ United Nations Declaration on Environment and Development, Rio de Janeiro, 14 June 1992, UN Doc. A/CONF.151/5/Rev.1 (1992).

principle 12 addresses this issue by referring to language reflecting Article XX of GATT, and by underlining that international agreements on international or regional environmental issues are to be addressed on the relevant level.⁵

At the time the GATT was adopted, the main concern of the negotiators was the issue of unilateral measures taken by the contracting parties which might have the effect of endangering international free trade. In the negotiations leading to the adoption of the World Trade Organisation⁶ (hereinafter WTO) in 1994 the relationship between trade and environmental regulations was discussed intensively. In particular, the question was raised whether the term ‘environment’ should be included in Article XX. Although no agreement could be reached on this issue, reference to the ‘environment’ is found in a number of provisions of the Marrakech Agreement which established the WTO. The General Agreement on Trade in Services (GATS),⁷ the Agreement on Technical Barriers to Trade (TBT Agreement)⁸ and the Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement)⁹ contain specific provisions relevant for the environment.¹⁰

2 Cases before the GATT/WTO

Thus, it is not surprising that the cases brought before the GATT dispute settlement procedure have concerned unilateral measures taken by contracting parties. The *Tuna-Dolphin* cases of 1991 and 1993 set the focus on the relationship between trade and environmental regulations during the negotiations leading to the United Nations Conference on Environment and Development.¹¹ Both cases concerned unilateral domestic United States legislation which prohibited imports of tuna from Mexico, caught by Mexican vessels in Mexican waters or on the high seas, where the fishing methods used allegedly endangered dolphins.¹² The Panel held that the US measures

⁵ Principle 12 reads as follows:

States should cooperate to promote a supportive and open international economic system that should lead to economic growth and sustainable development in all countries, to better address the problems of environmental degradation. Trade policy measures for environmental purposes should not constitute a means of arbitrary or unjustifiable discrimination or a disguised restriction on international trade. Unilateral actions to deal with environmental challenges outside the jurisdiction of the importing country should be avoided.

⁶ The General Agreement on Tariffs and Trade/Agreement Establishing the World Trade Organization, Marrakech, 15 April 1994; see generally <<http://www.wto.org/>>.

⁷ General Agreement on Trade in Services, Marrakech, 15 April 1994; Art. XIV. This provision is similar to Article XX of the GATT.

⁸ Agreement on Technical Barriers to Trade, Marrakech, 15 April 1994; Art. 2(2).

⁹ Agreement on the Application of Sanitary and Phytosanitary Measures, Marrakech, 15 April 1994.

¹⁰ For a detailed description of the WTO and these agreements see, for example, UNEP, *Training Manual on International Environmental Law* (UNEP, 2006), available at <http://www.unep.org/law/PDF/law_training_Manual.pdf> (visited 25 March 2008), Chapter 24 ‘Trade and Environment’.

¹¹ See Principle 12 of the Rio Declaration.

¹² For a detailed description of the two cases see, for example, Patricia Birnie and Alan Boyle, *International Law and the Environment* (Oxford University Press, 2nd ed, 2002) 697–749.

were in contradiction with GATT rules (Article XI¹³), and that Article XX¹⁴ could not be used as a justification. The Panel's reasoning was that domestic US legislation could be used only to protect against environmental damage that occurred within the US's domestic waters.

The second leading case in this context is the *Shrimp-Turtle* case (1998) which concerned unilateral US measures taken for the protection of sea turtles. The US banned imports of shrimps from south-east Asian countries on the basis that shrimps were being caught without the use of a so-called 'turtle excluding device'. This device is a specific net that prevents the incidental catch and killing of turtles. In this case, it was held that the US measures to ban imports from countries was not consistent with Article XI of the GATT, but that the US ban fell within the exception of Article XX(g) for the conservation of exhaustible natural resources. The US measure – prohibiting the import of shrimp from countries which did not have turtle conservation measures in place comparable to those in the US – was, thus, qualified as a measure concerning an exhaustible natural resource (i.e. turtles).¹⁵ However, it did not meet the requirements set by Chapeau of Article XX of not constituting 'arbitrary or unjustifiable discrimination between countries where the same conditions prevail' or a 'disguised restriction on international trade'. It was held that the US had not taken into account the different conditions in other members of the WTO; and that it had not undertaken the same efforts to reach an international agreement on turtle protection with the Asian countries that it had taken with the American and Caribbean states. The crux of the case might be seen in the fact that the Appellate Body of the WTO effectively overturned the result of the *Tuna-Dolphin* case (by finding that the US' domestic measures *did* qualify 'as a measure concerning an exhaustible natural resource').¹⁶

It should be noted that in 2001 this holding was clarified under the WTO dispute settlement system when Malaysia challenged the US measures taken in response to the findings described above. It was stated that the US response to the earlier ruling, i.e. entering into a Memorandum of Understanding with southeast Asian countries, had brought its turtle protecting measures into conformity with Article XX of the GATT.¹⁷

¹³ Article XI GATT aims to encounter non-tariff barriers. This Article prohibits quantitative restrictions to trade, such as bans and quotas on imported or exported products.

¹⁴ Article XX provides for allowable environmental exceptions to the general prohibition on discrimination in international trade.

¹⁵ In the findings on the exhaustibility of sea turtles, explicit reference was made to the fact that all the recognized seven species of sea turtles are listed in Annex I of the CITES Convention (Convention on International Trade in Endangered Species of Wild Fauna and Flora, Washington, D.C., 3 March 1973, 993 *United Nations Treaty Series* 243). Thus, the WTO explicitly took into account an international environmental agreement.

¹⁶ However, the Appellate Body found also that the US was not entitled to impose unilateral measures in the particular case, as the US had not 'exhausted environmental diplomacy' with the relevant Asian countries before imposing the measures. See, for example, Philippe Sands, *Lawless World: Making and Breaking Global Rules* (Penguin Books, 2006) at 110-113.

¹⁷ For a more detailed description of the case see, for example, UNEP, *Training Manual*, *supra* note 9, at 343.

The cases, described above, under the GATT/WTO may be seen as demonstrating that environmental concerns have intruded into international trade law in recent years. It might be asked, though, why has there been such intensive debate concerning the relationship between trade and environment regulations? The probable answer is that the trade community feared that environmental protection may be taken as an excuse by parties to GATT/WTO to cover their taking measures overly protective of domestic products. The environmental community has criticized international trade law for not adequately addressing environmental concerns. Moreover, trade restrictions have been seen as an effective means to ensure that environmental regulations were implemented and applied by parties.

3 Multilateral environmental agreements

New questions about the relationship between environmental and trade regulations have arisen as the number of international environmental agreements has grown. Trade restrictions under international environmental agreements have been seen as a means to enforce rules concerning the protection of the environment. In particular, trade restrictions under the Montreal Protocol¹⁸ have given rise to discussions as to whether trade restrictions could be imposed in accordance with the GATT in order to protect environmental resources. In a number of international environmental agreements the question of the relationship between trade and environment rules has been discussed intensively.

Provisions that have, or might have, a restrictive effect on international trade can be found today in a number of international and regional agreements. At the international level, the agreements where conformity with international trade law has most been discussed have been the CITES (1973),¹⁹ the Montreal Protocol (1987), the Basel Convention on the Control of Transboundary Wastes and Their Disposal (1989),²⁰ the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade (1998),²¹ the Cartagena Protocol on Biosafety to the Convention on Biodiversity (2000),²² and the Stockholm Convention on Persistent Organic Pollutants (2001).²³

¹⁸ Montreal Protocol on Substances that Deplete the Ozone Layer, Montreal, 16 September 1987, in force 1 January 1989, 26 *International Legal Materials* (1987) 154, <<http://www.unep.org/ozone/>>.

¹⁹ Convention on International Trade in Endangered Species of Wild Fauna and Flora, Washington DC, 3 March 1973, in force 1 July 1975, 993 *United Nations Treaty Series* 243, <<http://www.cites.org>>.

²⁰ Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, Basel, 22 March 1989, in force 5 May 1992, 28 *International Legal Materials* (1989) 657, <<http://www.basel.int>>.

²¹ Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, Rotterdam, 11 September, 1998, in force 24 February, 38 *International Legal Materials* (1999) 1, <<http://www.pic.int>>.

²² Cartagena Protocol on Biosafety, Montreal, 29 January 2000, in force 11 September 2003, 39 *International Legal Materials* (2000) 1027, <<http://www.cbd.int/biosafety/>>.

²³ Convention on Persistent Organic Pollutants, Stockholm, 22 May 2001, in force 17 May 2004, 40 *International Legal Materials* (2001) 532, <<http://www.pops.int>>.

Although until now no conflict has arisen between GATT/WTO and an international environmental agreement in practice, the issue may become contentious in the future – in particular, in the context of living modified organisms (LMOs) as these are regulated under the Cartagena Protocol. The potential for future conflicts concerning LMOs is demonstrated by the EC-Biotech case.²⁴

The potential clash between international trade rules and environmentally protective legislation has become relevant in the context of chemicals. For instance, the question of the restriction of international trade through an international environmental agreement was discussed intensively during the negotiations leading to the adoption of the Montreal Protocol. The question arose whether import and/or export restrictions on substances that deplete the ozone layer, as well products which have been produced by using such substances, are in conformity with international trade rules. Although such restrictions may be seen as violations of Articles I (the ‘most-favoured nation’ clause), III (national treatment obligation) and XI (non-tariff barriers, quantitative restrictions and licenses) of GATT; they ought probably to be seen as fitting the exception contained in Article XX (b), as they are the ‘least trade restrictive measure’ available to protect human, animal and plant life or health. A similar reasoning might be used for the provisions under other international environmental agreements which restrict or limit international trade in regard to their compatibility with GATT/WTO provisions.

To illustrate the current state of discussions, reference may be made to the Cartagena Protocol. During the negotiations, the question of the relationship between the Protocol and GATT/WTO played a very important role. In particular, countries which were already at that time using, or planned to permit the use of, LMOs in agriculture feared that the Advanced Informed Agreement Procedure could be a competitive disadvantage for their agricultural exports. A compromise was reached in this regard which is reflected in a number of provisions of the Protocol.²⁵ Particular note should be taken of the preamble which refers to the relationship. The relevant paragraphs read as follows:

²⁴ See European Communities – Measures Affecting the Approval and Marketing of Biotech Products (2007). This case, which was brought by the United States, Canada and Argentina against the EC, concerned measures on Biotech Products taken by the EC and some of its member states. The Disputes Settlement Body of the WTO found that the EC had acted inconsistently with its obligations in certain regards. The relevant EC Parties to the dispute then agreed to enact the DSB’s recommendations within a reasonable time. (See <http://www.wto.org/english/tratop_e/dispu_e/cases_e/ds291_e.htm> (visited 2 April 2008).) The Convention on Biodiversity (Convention on Biological Diversity, Rio de Janeiro, 5 June 1992, in force 29 December 1993, 31 *International Legal Materials* (1992) 822, <<http://www.biodiv.org>>) and the Cartagena Protocol were not taken into account in the findings, as not all parties to the dispute were also parties to these two international environmental agreements.

²⁵ See e.g. Article 11 entitled “procedure for LMOs intended for direct use as food, feed or for processing”.

--[r]ecognizing that trade and environmental agreements should be mutually supportive with a view to achieving sustainable development;
[e]mphasizing that this Protocol shall not be interpreted as implying a change in the rights and obligations of a Party under any existing international agreement;
[and]
[u]nderstanding that the above recital is not intended to subordinate this Protocol to other international agreements--

Through these statements the intention was expressed that environmental and trade regulations should be treated on an equal level. Primarily the underlying understanding of these paragraphs is to apply the rules of the Vienna Convention on the Law of Treaties²⁶ in case of conflict between trade rules and environmental rules. Moreover, the understanding reached is that in cases of conflict between parties the relevant rules of the respective international agreements are to be applied.

4 Concluding remarks

Although until now no major conflict between an international environmental agreement and international trade rules has arisen, it is likely that this may happen in the future as some international environmental agreements which have entered into force in the last years deal with areas that are more controversial. In particular, the Cartagena Protocol dealing with LMOs, which have been controversial in recent years, may lead to conflicts between States. Living modified organisms are nowadays widely used in a number of countries which are the largest producers of agricultural products. Thus, restrictions imposed by countries which are more anxious in regard to LMOs, concerning the import of agricultural products which are LMOs or which result from LMOs, may give rise to conflicts in the future. So far, the Cartagena Protocol has not been ratified or acceded to by all countries which are major agricultural producers. Therefore, the likelihood is that at some stage import restrictions concerning LMOs will be dealt with before the Dispute Settlement System of the WTO.

Moreover, the relationship between trade and environmental regulations may be tested in regard to any post-2012 arrangement concerning climate change and the production of chemicals which might contribute thereto. Recent discussions on possible trade measures addressing issues that concern climate change due to anthropogenic emissions underline that the relationship between trade and environmental regulations may give rise to conflicts in the future. It remains to be seen whether measures taken by states unilaterally, or as provided for in international environmental agreements, fall within the general exceptions provided for by Article XX of GATT.

²⁶ Vienna Convention on the Law of Treaties, Vienna, 22 May 1969, in force 27 January 1980, 1155 *United Nations Treaty Series* 331.

Although this short paper has not focused solely on international trade in chemicals, it needs to be understood that much international trade – and much environmental damage – concerns, and will increasingly concern, chemicals and their effects. The difficulties are great when it comes to reconciling international laws which guarantee free trade with international (and national) laws designed to be protective of the environment – and these difficulties are likely to become much greater in the near future. As such, resolution of many chemicals-related environmental problems demands understanding of both the international trade regime and the international environmental regime – and is likely to require fine diplomacy to bridge the gaps between the two.

INTRODUCTION TO THE GLOBAL MERCURY PROBLEM, ITS ANALYSIS AND SOLUTIONS

Hannu Braunschweiler¹

1 The problem

Mercury is a pollutant of priority concern, globally, as is confirmed in the United Nations Environment Programme (UNEP) *Global Mercury Assessment*.² Mercury, originating both from natural sources and from sources associated with human activities, causes adverse environmental and health effects. The global mercury problem is driven by atmospheric mercury emissions, by transport and deposition, by subsequent biological transformations to methylmercury,³ and by biomagnification within aquatic ecosystems. During the past 20 years, both North American and European emissions have decreased substantially. However, the atmospheric global pool of mercury has not decreased; which implies that there have been increased emissions from other regions, such as Eastern Asia where emissions are expected still to increase. The chemical's potential for long-range transport, and its subsequent bioaccumulation, has the effect of exposing humans and wildlife in one location to mercury that has been released in another location, sometimes even on another continent.⁴

¹ Senior Scientific Officer, European Chemicals Agency, from 1 November 2007; former Senior Adviser, Chemicals Division, Finnish Environment Institute.

² UNEP Chemicals/IOMC, *Global Mercury Assessment* (2002), available at <<http://www.chem.unep.ch/MERCURY/Report/Final%20report/final-assessment-report-25nov02.pdf>> (visited 15 October 2007).

³ When mercury combines with carbon, the compounds formed are called 'organic' mercury compounds. There is a potentially a large number of organic mercury compounds; however, by far the most common organic mercury compound in the environment is methylmercury. The mercury form can change primarily by microbial metabolism to methylmercury. Nearly all of the mercury in fish is methylmercury. *Global Mercury Assessment*, *supra* note 2, at 2.

⁴ Lea Kauppi, 'Mercury – background for abating mercury pollution', presentation at the International mercury conference – How to reduce mercury supply and demand, Brussels, 26–27 October 2006, <<http://ec.europa.eu/environment/chemicals/mercury/conference.htm>> (visited 15 October 2007).

Mercury has caused a variety of adverse impacts on human health – especially to children – and on the environment throughout the world; sometimes as far away from the actual pollution sources as in the Arctic. As mercury accumulates in fish and mammals, it even represents a threat to global food supply. Mercury pollution is a cause of widespread dietary restrictions on fish in northern Europe, USA and Canada.⁵ In large areas of Scandinavia and the Arctic, mercury levels in fish are not expected to decrease unless more efficient emission control strategies are implemented.⁶

Mercury pollution is an increasing problem in developing countries; especially when used in gold mining. While the overall quantities of mercury traded and mined have diminished in recent years, significant amounts are still traded. The growing demand in many developing countries is of particular concern.⁷

National actions to combat mercury pollution have only limited effectiveness due to the long-range transport of atmospheric mercury, the need for product and waste-related control measures on international markets, and illegal trade of mercury.⁸ It is likely that sufficient reductions in exposure to and supply of mercury can only be gained through regional and global international action.

Adverse effects to human health and the environment arise from the release of mercury from a range of sources. These sources can be grouped into the following broad areas:⁹

- production of mercury;
- use of mercury and products that contain mercury;
- disposal of mercury and wastes that contain mercury; and
- releases of mercury from
 - use of fuels (including coal combustion),
 - other incineration,
 - artisanal and small scale gold mining; and
 - other sources.

⁵ *Global Mercury Assessment*, *supra* note 2, at 51–55. A dietary restriction refers to a maximum allowed or recommended level of mercury in fish intended for consumption.

⁶ *Ibid.* at 110.

⁷ *Ibid.* at iv–v and 132–133.

⁸ Kauppi, ‘Mercury – background for abating mercury pollution’, *supra* note 4.

⁹ Donald Hannah, *UNEP Mercury Mission: Committee of Permanent Representatives Discussion*, UNEP Special Envoy’s report for the UNEP Committee of Permanent Representatives (2007), available at <<http://www.chem.unep.ch/mercury/GC24/CPR%20Special%20Envoy%20report%2016011.pdf>> (visited 15 October 2007).

2 Measures taken to date

There is widely accepted evidence of significant global adverse impacts from mercury and from mercury compounds. This evidence warrants international action to reduce the risks to human health and the environment. National, regional and global actions, both immediate and long-term, should be initiated as soon as possible. The UNEP Governing Council (GC) has urged all countries to adopt goals and take national actions with the objective of identifying exposed populations and ecosystems, and of reducing anthropogenic mercury releases that might have negative impacts on human health and on the environment. At its 21st session in February 2001, the UNEP Governing Council invited UNEP to undertake a global assessment of mercury and its compounds; the results to be presented to the Governing Council at its session in February 2003.¹⁰ The Global Mercury Assessment Report was published in December 2002.

UNEP has initiated technical assistance and capacity-building activities to support the efforts of countries to take action on mercury pollution. To meet these needs under a single framework, UNEP has established a mercury programme within the UNEP Chemicals division in 2003, as a result of GC decision 22/4 V. The long-term objective of the programme is to facilitate national, regional and global actions to reduce or eliminate, as far as possible, anthropogenic uses and releases of mercury and mercury compounds; and thereby significantly to reduce the global adverse impacts on health and the environment of these compounds.

Partnerships between governments and other stakeholders have been established by the 23rd Governing Council session; representing one approach to reducing risks to human health and the environment from the release of mercury and its compounds into the environment. Governments, the private sector and international organizations are further encouraged to take immediate actions to reduce the global risks to human health and the environment posed by mercury in products and production processes. The UNEP GC urges governments, intergovernmental and non-governmental organizations, and the private sector to develop and implement such partnerships in a clear, transparent and accountable manner. 'Mercury partnerships' are an important voluntary opportunity that complement and enhance government and stakeholder commitments on mercury. The Governing Council Decision 24/3 requests UNEP, working in consultation with governments and other stakeholders, to strengthen the Mercury Partnerships Programme.¹¹

¹⁰ Mandates of the UNEP Mercury Programme, available at <<http://www.chem.unep.ch/mercury/2003-mandates.htm>> (visited 15 October 2007).

¹¹ 'UNEP Mercury Partnerships', available at <http://www.chem.unep.ch/mercury/partnerships/new_partnership.htm> (visited 15 October 2007).

Already in 1998 a Protocol on Heavy Metals¹² was adopted under the UN Economic Commission for Europe (UNECE) Regional Convention on Long-range Transboundary Air Pollution (CLRTAP) and it was signed by 36 out of 49 CLRTAP Parties.¹³ The Protocol entered into force on 29 December 2003. It is currently ratified by 28 Parties. Out of 27 European Union Member States 20 have so far ratified the Protocol. Seven non-EU countries (Canada, Lichtenstein, Monaco, Norway, the Republic of Moldova, Switzerland and the USA) have so far ratified the Protocol. Belarus and the Russian Federation have neither signed nor acceded to the Protocol. The Protocol targets three particularly harmful metals: cadmium, lead and mercury. As one of their basic obligations, Parties will have to reduce, in accordance with the conditions and timescales specified in the annexes of the Protocol, their emissions of these three metals to levels below 1990-levels (or an alternative year between 1985 and 1995) according to Article 3 of the Protocol. The Protocol aims to reduce emissions from industrial sources (the iron and steel, and the non-ferrous metal industries), combustion processes (power generation, road transport), and waste incineration processes. Stringent limit values are laid down for emissions from stationary sources; and best available techniques (BATs) are suggested for these sources, such as special filters or scrubbers for combustion sources or mercury-free processes. The Protocol also introduces measures to lower heavy metal emissions from other products, such as mercury in batteries; and proposes the introduction of management measures for other mercury-containing products, such as electrical components (thermostats, switches), measuring devices (thermometers, manometers, barometers), fluorescent lamps, dental amalgams, pesticides and paints.¹⁴

3 The need for further action

In the five years since the Global Mercury Assessment was published, a number of international, national and regional actions have occurred; and a number of voluntary activities have been initiated. The Stockholm¹⁵ and Rotterdam¹⁶ Conventions have come into force; and the Strategic Approach to International Chemicals Management (SAICM) has been adopted. As a result, along with the Basel Convention,¹⁷ the international governance framework has been strengthened.

¹² Protocol on Heavy Metals to the 1979 Convention on Long-Range Transboundary Air Pollution, Aarhus, 24 June 1998, in force 29 December 2003.

¹³ Convention on Long-Range Transboundary Air Pollution, Geneva, November 13 1979, in force 16 March 1983, 18 *International Legal Materials* (1979) 1442, <<http://www.unece.org/env/lrtap/>>.

¹⁴ UNECE, Information on the 1998 Aarhus Protocol on Heavy Metals, available at <http://www.unece.org/env/lrtap/hm_h1.htm> (visited 15 October 2007).

¹⁵ Convention on Persistent Organic Pollutants, Stockholm, 22 May 2001, in force 17 May 2004, 40 *International Legal Materials* (2001) 532, <<http://www.pops.int>>.

¹⁶ Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, Rotterdam, 11 September, 1998, in force 24 February, 38 *International Legal Materials* (1999) 1, <<http://www.pic.int>>.

¹⁷ Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, Basel, 22 March 1989, in force 5 May 1992, 28 *International Legal Materials* (1989) 657, <<http://www.basel.int>>.

Previous discussions at the UNEP Governing Council have resulted in broad agreement that actions to address the global issue of mercury are required. However, there have been divergent views regarding the options most appropriate for addressing the various problems. A number of governments have also indicated to UNEP that they feel that renewed and greater efforts are required to address this issue, both from UNEP and from stakeholders.¹⁸

As a result, there is broad acceptance that more needs to be done if the risks of mercury are to be adequately addressed. However, there are divergent views on what this 'more' should comprise; particularly where its international components are concerned. There is widespread acceptance that a multifaceted programme of action is required to cover the issues outlined in the Global Mercury Assessment successfully. The main points of variance that have emerged involve the relative roles which legally binding instruments and voluntary activities should play in the programme.¹⁹

Indeed, the UNEP GC recognized at its 24th Session in February 2007 that current efforts to reduce risks from mercury are not sufficient to address the global challenges posed by mercury.²⁰ The GC24 concluded, therefore, that further long-term international action is required to reduce risks from mercury to human health and to the environment. For this reason, the options of enhancing voluntary measures, and enhancing new or existing international legal instruments, should be reviewed and assessed in order to make progress in addressing this issue. The GC24 recognized also that a range of activities is required to address the challenges posed by mercury; including substitution of products and technologies, the provision of technical assistance and capacity-building, the development of national policy and regulation, and data collection, research and information provision. The GC24 recognized further that there is a need to provide assistance to developing countries, and countries with economies in transition, should especially be borne in mind.

The GC24 established an Ad Hoc Open-ended Working Group (AHOWG) on mercury; with the aim of reviewing and assessing options for enhanced voluntary measures and new or existing international legal instruments. The AHOWG met for the first time in 2007, in Bangkok from 12 to 16 November. The Working Group is to submit a progress report for the 10th UNEP GC Special Session in February 2008 which may give further guidance toward the second AHOWG meeting in 2008. This second meeting has the objective of preparing a final report reflecting all views expressed in the AHOWG; and of presenting options and any consensus recommendations to the GC at its 25th Session for political decision-making in early 2009. The GC24 also initiated the creation of an over-arching framework for mercury partnerships. The relevant business plans, goals and operational guidelines

¹⁸ Hannah, *UNEP Mercury Mission*, *supra* note 9, at 2.

¹⁹ *Ibid.* at 2–3.

²⁰ Mandates of the UNEP Mercury Programme, *supra* note 10.

are to be discussed in a UNEP mercury partnership meeting scheduled for the first quarter of 2008.

There are different possibilities for the legal framework for mercury; such as a new stand-alone convention, a new framework convention, the enlargement of an existing instrument, or an amendment of an existing instrument. The decision of UNEP GC-24/3 begins the international process of analyzing in detail those global challenges which need to be met to reduce risks from mercury releases; looking at a defined set of mercury-related priority areas for action.

4 The Exercise

4.1 Introduction

Three topics, under the headings of 'Problem', 'Analysis' and 'Solution', were explored and discussed by three sub-groups and presented to the course as a whole for general discussion. The aim was to simulate typical preparations for international negotiations on a chemicals control issue. The sub-groups considered their topics from different perspectives; highlighting the issues from various viewpoints, for instance, as emitter countries and as affected countries. The groups selected a Chair and a *Rapporteur* from amongst themselves.

4.2 'Problem'

In exploring the global mercury problem in more detail, the following elements were considered:

- Which features make mercury particularly a global problem?
- Which fields of chemicals control and environmental protection are relevant for the mercury problem?
- How can different countries or regions be grouped in relation to the causes and consequences of the mercury problem and countries' priorities?²¹

²¹ Further information on the global mercury problem: 8th International Conference on Mercury as a Global Pollutant, 6–11 August 2006, Madison, USA; Conference Declaration, available at <<http://www.mercury2006.org/Default.aspx?tabid=1568>>. See also European Commission's report on the international mercury conference – How to reduce mercury supply and demand, available at <<http://www.chem.unep.ch/mercury/GC24/report.pdf>> and US-EPA: Basic Information on mercury, available at <<http://www.epa.gov/mercury/about.htm>>. Useful links to other mercury related information can be found at <<http://www.chem.unep.ch/mercury/useful-links.htm>> (all visited 15 October 2007).

4.3 'Analysis'

In analyzing the situation addressing the global mercury problem, the following elements were considered:

- Which could be possible options for addressing risks in each of the priority areas for action on mercury?
- In developing action plans, strategies and making proposals, which could have been the reasons that different parties have used to select a specific approach?
- Which could have been the reasons why other options for actions have not been considered appropriate by different parties?²²

4.4 'Solution'

In discussing possible solutions, the following elements were considered:

- Are there other available response measures or strategies to address the global mercury problem that could be considered in addition to the options for enhanced voluntary measures and new or existing international legal instruments?
- Which are their advantages and disadvantages? Which are their costs and benefits?
- Which are their implementation needs (need for capacity-building, technical assistance, technology transfer and suitable sources of finance, etc.)?
- What is their overall and specific feasibility and effectiveness?
- Are there ways to fit the different options together to deliver an integrated program?
- Which kind of options there are for the legally binding approach within the existing international legal framework? Which are their advantages and disadvantages?
- What problems would there be in achieving an agreed common view for the best way forward with mercury? Can they be overcome?²³

²² Further information for the analysis of the situation: Status report for the 24th Session of UNEP GC on mercury partnerships as one approach to reducing the risks to human health and the environment from the release of mercury and its compounds into the environment; and report on supply, trade and demand information on mercury, UN Doc. UNEP/GC/24/INF/17 (2006), available at <http://www.chem.unep.ch/mercury/GC24/K0653912_GC24-INF17_revised.pdf>; the fifth IFCS Budapest statement on mercury, lead and cadmium (2006), available at <http://www.chem.unep.ch/mercury/GC24/HeavyMetalsBudapestStatement290906_revised_3.pdf>; decisions adopted by the 24th session of the UNEP Governing Council (2007), available at <http://www.unep.org/gc/gc24/docs/GC24_decisions.pdf>; and Earth Negotiations Bulletin summary report on UNEP 24th Governing Council meeting and daily reports, available at <<http://www.iisd.ca/vol16/enb1660e.html>>; and <<http://www.iisd.ca/unepgc/24unepgc/>> (all visited 15 October 2007).

²³ Further information for possible solutions of the situation: UNEP Mercury partnerships for different sectors, available at <http://www.chem.unep.ch/mercury/new_partnership.htm> and Nordic Council of Ministers, Mercury. Global Challenge – Global Solutions, available at <http://www.chem.unep.ch/mercury/GC24/Nodic_Council_FactSheet.pdf>. (all visited 15 October 2007).

4.5 Conclusion

Due to the very short time available for the general discussion of this Exercise only few general concluding observations could be made. These may, therefore, not give a full picture of possible conclusions on this topic.

It was highlighted that the essential tools for solving the global mercury problem are the three 'T's: training, technical assistance, and technology transfer; these being commonly used for solving this kind of international environmental problems. Overall, it was concluded that voluntary measures alone are not sufficient; a combination of voluntary measures and a legally binding instrument is needed for solving the global mercury problem. So, the tools are available and what is missing is a political agreement on these and their financing.

It seemed that this kind of systematic analysis of a current international problem and its possible solutions from various angles of the stakeholders concerned provides a very useful tool for preparations for international negotiations on a chemicals control issue or on other similar environmental issues.

NEGOTIATING RULES OF PROCEDURE: A MULTILATERAL SIMULATION EXERCISE BASED ON THE STRATEGIC APPROACH TO INTERNATIONAL CHEMICALS MANAGEMENT (SAICM)¹ - PrepCom II -

*Cam Carruthers*²

1 Overview

This note sets out the elements, structure, background and an assessment of a simulation exercise on negotiating rules of procedure for the UNEP – Joensuu University Course on International Environmental Law-making and Diplomacy. The one-day simulation took place in August 2007. The scenario for the exercise is based on the negotiation of the rules of procedure for the Strategic Approach to International Chemicals Management (SAICM), as if participants were at the second session of its Preparatory Committee (PrepCom II).

1.1 Importance of the rules of procedure

The simulation and the materials produced to support it were designed to elucidate the importance of the rules of procedure in multilateral environmental fora. The

¹ These materials are for educational purposes and may not be used, reproduced, revised or translated in whole or in part, by any means, without written permission of the author. The materials are not intended to represent any official policy, positions or views of any state, government, organization, legal entity or individual, and the specific negotiation task is entirely fictional. Any views expressed are solely those of the author.

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relevant rules of procedure generally cover subjects such as membership, officers, conduct of business, decision-making, agendas, secretariat functions, languages and amendments to the rules. Among other things, the rules reflect fundamental principles of transparency and procedural fairness, the latter of which is based largely on the principle of equality of sovereign states. Another principle reflected in the rules is that in international law, authority is ultimately derived from states. While the fundamental principles are common, each set of rules is adapted to its specific context. A good knowledge of the rules of procedure of the forum a negotiator works in is invaluable. Knowing the rules means knowing what one can do to advance or protect one's position, and how to it.³

All too often, negotiators in multilateral environmental fora have only a limited awareness of the rules that define the arena in which they operate. The rules and related issues may seem either mundane or arcane, and only incidental to the more compelling questions of substance. Negotiators are often more concerned with strategy or technical priorities. Some may not even be aware of the influence of the rules on the process, which can be subtle. Even when no reference is made to the rules they have a profound influence on outcomes. A key example is decision-making: votes are generally avoided, but whether and how consensus is obtained on a given issue may depend to some degree on the understanding of how Parties would vote if they did vote. Negotiators who fail to understand the underlying dynamics on such issues can make serious strategic errors.

Indeed, ignorance of the rules can lead to major failures and frustrations with the process, especially since problems may be discovered after key decisions have been taken. It is difficult, if not practically impossible, to undo multilateral process decisions, once taken. And such decisions can have far-reaching consequences. Thus, it is important to consider strategic issues about decision-making processes and relevant rules early in any multilateral endeavour. Once a process is underway, it may result in a proliferation of sub-processes based on a set of interrelated decisions. While these processes are susceptible to congestion and inertia, it is also possible that they can move toward an unexpected direction or conclusion very quickly, with major outcomes in the balance.

The simulation was designed to open up the rules of procedure so that participants can strengthen their knowledge and understanding of the rules as a tool for more effective and efficient negotiation of individual and common objectives. The idea is for participants to negotiate conceptual ownership of the rules while they negotiate practical textual solutions. The premise is that the rules of procedure constitute a code which reflects the values and interests of Parties and informs the way negotiators work together to take decisions. The rules frame what happens, who can make

³ For an analysis of the importance of the rules of procedure in a particular MEA, see Joanna Depledge, *The Organization of Global Negotiations: Constructing the Climate Change Regime* (EarthScan, 2005) particularly at 80–102.

it happen, when, where and how. The higher the level of common understanding and agreement of the rules of procedure in any given body, the more efficiently and effectively that body can operate and attain common objectives.

1.2 Simulation objectives

The simulation exercise was designed to focus on the negotiation of rules of procedure for a multilateral environmental body, in this case the SAICM. The general objectives set out in the materials provided were to promote among participants, through simulation experience:

- 1) understanding of the principles and practices of multilateral negotiation and appreciation of the value of the rules of procedure;
- 2) familiarity with specific substantive and drafting issues related to rules of procedure;
- 3) discussion, and appreciation of different perspectives on the issues and principles involved in the rules of procedure.

It was noted that within the exercise, the objective of the contact group was to produce agreement on revised rules of procedure for approval by PrepCom. The exercise was not intended to focus on the particulars of the SAICM. However, in this case the SAICM context gave rise to particularly important considerations for the development of rules in order to meet specific needs.

What was not noted in the materials provided to the participants, but is reflected in the present review, is that the simulation was designed to be very difficult and challenging, with agreement essentially impossible, so that participants were forced to confront difficult issues related to the rules of procedure.

1.3 Scenario

The scenario drew on but slightly modified the situation and texts approved by the first meeting of the contact group on the rules of procedure for SAICM, which took place in Bangkok in 2003. At the meeting, the contact group developed draft rules of procedure, which were subsequently approved by the plenary of PrepCom I, ad referendum.⁴ However, in the simulation PrepCom II is required to address the issue again. The premise was that after consulting officials in their capital, one delegation was bound to object, given concerns about participation of inter-governmental organizations (IGOs) and non-governmental organizations (NGOs). In the opening session, they informed the plenary, noting that the rules were only adopted ad referendum. Once the item was re-opened, a vocal minority of Parties from all regions

⁴ See Cam Carruthers (ed.), *Multilateral Environmental Agreement Negotiator's Handbook*, University of Joensuu – UNEP Course Series 5 (2nd ed. 2007, University of Joensuu).

also raised concerns (often touching on fundamental principles of the multilateral system), echoing concerns about the same rules in the original negotiations. The contact group was, therefore, asked to reconvene to revise four rules, for approval by PrepCom II, in one day. The bureau of the PrepCom directed that NGO and IGO participants be treated as observers by the contact group. It also agreed to apply the rules of procedure as adopted ad referendum, with the exception of the rules put in question by the PrepCom. In the UN system, in the absence of a rule, decision-making is by consensus, so any governmental participant can block a decision. The rules/issues in question were:

- A) controls or limits on admission of NGO participants (Rule 2 (d));
- B) exclusion of IGO/NGOs from consideration of some issues (2 bis);
- C) exclusion of IGO/NGOs from election of the bureau (Rule 8);
- D) limits on participation of IGO/NGOs in decision-making (Rule 24.1, 24.2).

(For B: There is no rule 2 bis in the text. It was to be added by participants.)

1.4 Introduction to the exercise

The Co-Chairs, facilitators and the Secretariat played an important role, setting up and managing the process – and managing time – to produce agreement. They were encouraged to consult whenever they felt it was appropriate. Thoughtful organization of the work of the contact group was highlighted as the key to success, including strategic management of how smaller drafting groups and the plenary sessions function and are linked.

Individual delegates often face situations like this where they have little opportunity to prepare, but should still define objectives and develop a strategy. Among other things, the agenda can be a key tool to structure a meeting in a certain way to obtain certain results.

Informal diplomacy is where most progress toward agreement on concepts is made, while drafting and contact group discussion is often required for agreement on specific texts. Drafting often involves a fine balance between accommodation and clarity. Decision-making in plenary may be pro-forma, but there can be surprises. Decisions in the plenary are critical and can sometimes moves very quickly, at times moving back and forth on an agenda, so that being prepared with an effective intervention at any moment is essential.

With respect to approach, participants were encouraged to play their part in the overall scenario for the simulation, following general and individual instructions. Where possible, it was noted that it is a good idea to make alliances and to develop coordinated strategies to intervene in support of others, or to take the lead in other cases. Some roles, including the Co-Chairs and the secretariat officials, perform a

resource function, and can be useful to participants. Those who played such roles were to serve all participants and work for a positive outcome.

Participants were encouraged to keep in mind their interests and positions with respect to all four rules in question, but focus on the rule assigned to their drafting group. The groups were to narrow their focus as quickly as possible to identify issues to be addressed, and to dispose of issues quickly where possible. Participants were to work hard to obtain their objectives, keeping in mind the applicable decision-making rules, and the possible consequences of being identified as the cause of failure by the PrepCom to reach agreement.

Participants were encouraged to follow their instructions, and to elaborate interventions with a compelling rationale to advance their positions; but also to take the initiative and be inventive; to intervene in contact groups and in plenary even if they have no specific instructions on a particular issue. In developing rationale, participants were asked to consider how the SAICM is different from, or similar to, other multilateral environmental fora. Participants were also asked to think about issues for discussion in the post-mortem following the exercise.

The simulation was designed to focus on the negotiation process more than on the substantive issues, and it was explicitly designed to be very difficult, with failure to reach agreement a real possibility. Finally, the scenario was entirely hypothetical, and was not intended to reflect specific positions of particular Parties or the views of individuals.

2 Instructions

2.1 General instructions

The following general instructions were provided to all participants:

[a]t a minimum, please review the general and individual instructions, the back-grounder and the draft rules of procedure.⁵

Please do your best to achieve the objectives in your instructions. Develop a strategy and an integrated rationale to support your positions. Do not share your individual instructions with other participants. Do not concede to a fall back position without a serious effort to achieve your primary objective. It is a good idea to consult with others before the session, to identify and coordinate with those who have similar instructions. You should try to support anyone with a

⁵ See also the *MEA Negotiators' Handbook*, in particular sections 3.1, 3.2, 3.3, 3.6, 2.4, 4.3 and 5.

similar position who is out numbered. At any time, you may receive supplementary instructions.

You have been assigned a role with specific instructions as the representative of a governmental, IGO or NGO participant. You are to participate under your own name, but in the role and nationality of another participant, with whom you have been 'twinned'. You should consult that person and draw on their perspectives and experience as much as possible – and with respect.

Please use only the materials provided, as well as advice and information from other participants, and don't be distracted by internet resources or use any precedent found there or elsewhere (even though this is often a good idea in real life!).

The contact group should work in plenary, to organize itself and take a decision on what to recommend to the PrepCom. It should break into drafting groups to elaborate textual changes to the current rules. The first task of the contact group is to elect Co-Chairs. The usual practice is that one is from a developing country, the other from a developed country. For this exercise, selection should be based on informal consultations, and decided by consensus, or a vote by show of hands if needed.

In the plenary, the Co-Chairs sit at the head of the room, with the two secretariat officials. Participants will be provided with a 'flag': a country or organization nameplate (to use, fold it twice, so the name is in the mid panel). If you are in the role of a government participant, and the flag of your 'twin' has been taken, select the flag of another relatively similar country (same region, same negotiation group). To speak, please raise your 'flag' and signal the secretariat official who keeps a speakers list.

When the plenary breaks into drafting groups, please join the group identified in your individual instructions. The group will operate much like an informal drafting group (see the *MEA Negotiator's Handbook*).

Drafting groups should be run on an informal basis, with reference to participants by name not country. As in the plenary, the first task is elections, but here both a facilitator and a rapporteur. The rapporteur records textual proposals (see the *MEA Negotiator's Handbook*, on drafting, especially use of brackets).

Please follow the rules of procedure adopted, ad referendum, by the PrepCom, mutatis mutandis, with the exception of the rules now subject to negotiation again. IGOs and NGOs are to be treated as observers (who can provide input through members). In the absence of a decision rule, UN bodies take decisions by consensus.

2.2 Individual instructions

The core of the simulation was set out in confidential individual instructions for each participant. Individual instructions were very brief, only one page in length, except for the Chairpersons who received supplementary instructions. The instructions provided very brief positions and fall-back positions on each of the four issues under discussion, but no rationale or strategy (this must be developed by each participant). In some cases, the instructions may have seemed contradictory – which happens in real life, as participants were warned. For this exercise, instructions were provided in a simplified form rather than that of official delegation instructions. Feed-back from participants in a previous simulation run by the author had indicated that they wanted more freedom to develop their roles and make their own strategic choices, based on a few simple objectives. In some cases, instructions stipulated that a position cannot be abandoned for a fall back without consulting a designated senior official in the state's capital. For further guidance in dealing with procedural and strategic issues, participants were referred to the *MEA Negotiators' Handbook*.

2.3 Roles

Participants were cast in the role of a governmental, IGO or NGO participant; and were also able to be elected to the role of one of two Co-Chairs of the contact group; or as facilitator of a drafting group; or, be asked to play the role of an official of the UNEP Chemicals Secretariat. All but Secretariat officials were assigned to a drafting group. Governmental, NGO and IGO participants were all bound to follow their instructions and represent their constituencies according to their own internal rules. IGO and NGO participants were observers only in the contact and drafting groups (though observers were able and encouraged to make suggestions to full participants).

Participants played a role with specific instructions, under their own name, but representing the country of and using the background of a co-participant with whom they were twinned. Participants were encouraged to consult their 'twin', in order to draw on each other's actual perspectives and experience as much as possible within the scenario.

The intention was to have as many developing country participants as possible take on a developed country perspective, and vice-versa. Where this was not possible, NGO or IGO roles were assigned to participants with experience as governmental representatives and vice-versa. Instruction sets and roles were otherwise initially assigned randomly, but were then adjusted for regional, gender and sectoral balance. Participants were twinned and assigned governmental, IGO, NGO or secretariat roles and positions based on instruction sets numbered 1–40 (not all were used). Countries, NGOs and IGOs were selected from the 2007 list of SAICM focal points. The group was divided into 4 drafting groups (A–D), based on instruction set

number. Each drafting group dealt with a matching issue (A–D). In addition, there were secretariat roles. The groups and roles were set out as follows:

Drafting Groups:

Group A, controls on admission of NGOs (R2(d)): 1, 5, 9, 13, 17, 21, 25, 29, 33, 37.

Group B, exclusion of IGO/NGOs on some matters (2bis): 2, 6, 10, 14, 18, 22, 26, 30, 34, 38.

Group C, election of Bureau (R8): 3, 7, 11, 15, 19, 23, 27, 31, 35.

Group D, limits on participation in decision-making (R24): 4, 8, 12, 16, 20, 24, 28, 32, 36.

UNEP Secretariat and other officials:

Coordinator, UNEP Chemicals Programme Secretariat

Legal Advisor, Secretariat, UNEP Chemicals Programme Secretariat

The simulation facilitator (Cam Carruthers) may, as needed play the role of Deputy Secretary, UNEP Chemicals Programme Secretariat; and/or of the designated senior government official in state's capital.

3 Background note: SAICM⁶

The participants were provided with the following brief background note on the Strategic Approach to International Chemicals Management (SAICM):

Introduction

Chemicals are used in a variety of ways in modern society that contribute to a higher overall standard of living. However, sound policies are needed to protect public health and the environment from risks associated with the production, use and/or disposal of chemicals. It comes at a time when global chemical production is set to climb by as much as 80 per cent over the next 15 years. Between 70,000 and 100,000 chemicals may be already on the market with an estimated 1,500 new ones being marketed each year. At the same time, production is shifting from developed to developing countries. Accordingly, the Governing Council of the United Nations Environment Programme (UNEP) and the World Summit on Sustainable Development, initiated a multi-stakeholder process to develop a strategic approach to international chemicals management (SAICM). Discussions began in 2003 (PrepCom I) and culminated in adoption in 2006.

⁶ More information is available at: <<http://www.chem.unep.ch/saicm/>> and at <http://www.iisd.ca/process/chemical_management.htm> (visited 15 October 2007).

The SAICM is essentially a policy framework for international action on chemical hazards. It is interesting for a number of reasons. One reason is that there are a number of treaties that related to different specific sets of issues related to chemicals but there is no framework convention on chemicals. There may be a number of reasons to think that there ought to be such an agreement, including concerns about comprehensive coverage and reporting, as well as consistency and coherence of approach. But in many ways, the SAICM addresses these concerns. It also performs the general functions of a framework convention of providing a forum for discussion and decision-making. By comparison for example, the United Nations Framework Convention on Climate Change (UNFCCC) is legally binding, but in the final analysis, its commitments are relatively soft (with no clear standard or specific attribution to specific Parties). The more specific legally binding climate change commitments are found in the Kyoto Protocol. So in terms of potential effectiveness, the SAICM may not be much different than a framework convention. In addition, the SAICM fora operate very much like MEA fora, using similar rules of procedure, among other things.

The SAICM is also interesting for another reason related to the rules of procedure which is particularly relevant for this simulation: participation of intergovernmental organizations (IGO) and non-governmental organizations (NGOs). Historically, these organizations have acted very much like full participants in multi-lateral discussion in this area. Moreover, collaboration with IGOs and NGOs is generally seen as particularly important with respect to international chemicals management. And the rules of procedure used for the decision-making in relation to the SAICM were elaborated accordingly.

Development

The SAICM was mandated by the United Nations Environmental Programme (UNEP) Governing Council, and based largely on the foundation of the Bahia Declaration, which was adopted by the Intergovernmental Forum on Chemical Safety (IFCS) in 2000. The initiative was subsequently endorsed by the World Summit on Sustainable Development in Johannesburg, which called for the completion of the SAICM by 2005 and aimed to achieve, by 2020, the goal of chemicals being produced and used in ways that lead to the minimization of significant adverse effects on human health and the environment. It was subsequently endorsed by the New York World Summit in September 2005. It was developed by a multi-stakeholder Preparatory Committee, co-convened by UNEP, the IFCS and the Inter-Organization Programme for the Sound Management of Chemicals (IOMC), which also included industry, business, labour, environment, health, agriculture, development and other civil society groups.

SAICM texts

Adopted by the International Conference on Chemicals Management (ICCM) on 6 February 2006 in Dubai, the SAICM is comprised of three core texts:

- 1) The *Dubai Declaration*, which expresses the commitment to SAICM by Ministers, heads of delegation and representatives of civil society and the private sector.
- 2) The *Overarching Policy Strategy*, which sets out the scope of SAICM, the needs it addresses and objectives for risk reduction, knowledge and information, governance, capacity-building and technical cooperation and illegal international traffic, as well as underlying principles and financial and institutional arrangements. The ICCM adopted the Overarching Policy Strategy, which, together with the Dubai Declaration, reflects a firm commitment to SAICM and its implementation.
- 3) A *Global Plan of Action*, which sets out proposed 'work areas and activities' for implementation of the Strategic Approach. The ICCM recommended the use and further development of the Global Plan of Action as a working tool and guidance document.

In addition, the ICCM adopted 4 *resolutions* on, among other things, implementation arrangements, the Quick Start Programme and the IFCS.

Coverage

SAICM covers risk assessment, harmonized labelling and obsolete and stockpiled products. It includes provisions for national centres to help countries, especially developing countries, train staff in chemical safety including dealing with spills and accidents. It also reflects broad agreement to use and produce chemicals in ways that minimize adverse effects to health and the environment, and is among the first concrete outcomes of the 2005 World Summit.

Quick Start

In advance of the 9th Special Session of the UNEP Governing Council/Global Ministerial Environment Forum, a multi million-US dollar programme and fund called 'Quick Start' was approved. It is aimed at providing financial support to national action plans especially in Least Developed Countries and Small Island Developing States.

Implementation

The initial phase for implementation of Strategic Approach activities will include a Quick Start Programme, regional meetings and the establishment of a network of focal points. In order to oversee planning and advance work on the development of reporting modalities for SAICM implementation, an international steering committee was established. Supported by the UNEP SAICM secretariat,

the committee is to develop transparent and comprehensive indicators, provide advice on the best mechanism and process for reporting, and identify methods for data compilation and analysis. Ten international organizations are on the committee, including the IOMC, the IFCS, UNDP and the World Bank and the seven IOMC members, the FAO, ILO, OECD, UNEP, UNIDO, UNITAR and WHO.

4 Official Texts

4.1 Negotiation text: SAICM Rules of procedure

Below is the text provided to participants for the negotiation in the exercise. It is based on the actual rules of procedure of the SAICM (SAICM/PREPCOM.1/7), with modifications to support simulation objectives and issues – including being somewhat shorter.

RULES OF PROCEDURE FOR THE MEETINGS OF THE STRATEGIC APPROACH TO INTERNATIONAL CHEMICALS MANAGEMENT

Annex I

RULES OF PROCEDURE

I. APPLICATION

Rule 1

These rules of procedure apply to the preparatory meetings of the open-ended consultative process to develop a strategic approach to international chemicals management (the ‘Preparatory Committee’) called for by the Governing Council of the United Nations Environment Programme⁷ and in the Plan of Implementation of the World Summit on Sustainable Development.⁸

⁷ See decisions SS.VIII/3 of 15 February 2002 and 22/4 IV of 7 February 2003.

⁸ See Plan of Implementation of the World Summit on Sustainable Development, UN Doc. A/CONF.199/20 (2002), Chapter I, Resolution 2, annex, para. 23(b).

II. DEFINITIONS

Rule 2

For the purposes of these rules:

- (a) 'Governmental participant' means any Member State of the United Nations, of its specialized agencies or of the International Atomic Energy Agency as well as any associate member State of a specialized agency;
- (b) 'Governmental participants present and voting' means those governmental participants present at the session at which voting takes place and casting an affirmative or negative vote. Governmental participants abstaining from voting shall be considered as not voting;
- (c) 'Intergovernmental participant' means any United Nations body, regional economic integration organization⁹ or other intergovernmental entity with expertise and responsibilities in the field of international chemicals management;
- (d) 'Non-governmental participant' means any international non-governmental organization having expertise and responsibilities in the field of international chemicals management that has informed the secretariat in writing of its wish to be represented at sessions of the Preparatory Committee;
- (e) 'Participant' means any governmental, intergovernmental or non-governmental participant;
- (f) 'President' means the President of the Preparatory Committee elected in accordance with rule 9;
- (g) 'Steering Committee' means the committee comprising representatives of the Intergovernmental Forum on Chemical Safety (IFCS), the seven participating organizations of the Inter-Organization Programme for the Sound Management of Chemicals,¹⁰ the United Nations Development Programme (UNDP) and the World Bank, the role of which as a facilitative steering mechanism to deal with practical aspects of the strategic approach to international chemicals management was noted in United Nations Environment Programme (UNEP) Governing Council decision 22/4 IV.

⁹ A 'regional economic integration organization' is an organization constituted by sovereign states of a given region, to which its member states have transferred competence in respect of matters within the mandate of the Preparatory Committee. [This is a footnote from the actual rules of procedure.]

¹⁰ The seven participating organizations of the Inter-Organization Programme for the Sound Management of Chemicals are the Food and Agriculture Organization of the United Nations (FAO), the International Labour Organization (ILO), the Organisation for Economic Co-operation and Development (OECD), the United Nations Environment Programme (UNEP), the United Nations Industrial Development Organization (UNIDO), the United Nations Institute for Training and Research (UNITAR) and the World Health Organization (WHO). [This is a footnote from the actual rules of procedure.]

III. VENUE, DATES AND NOTICE OF SESSIONS

Rule 3

The venue and dates of each session shall be decided by the governmental participants after consulting the secretariat and inviting comments by the intergovernmental participants and non-governmental participants.

Rule 4

The secretariat shall notify all participants of the venue and dates of a session at least eight weeks before it is due to commence.

IV. AGENDA

Rule 5

1. The secretariat shall, in consultation with and under the guidance of the President, prepare a provisional agenda for each session. Any participant may request the secretariat to include specific items in the provisional agenda.
2. The provisional agenda shall be communicated to participants at least eight weeks before the session is due to commence.
3. Between the date of communication of the provisional agenda and the date of adoption of the agenda by the Preparatory Committee, participants may propose supplementary items for inclusion in the agenda, provided the items are of an important and urgent nature.

Rule 6

At the beginning of each session, the governmental participants shall, after consulting the intergovernmental participants and non-governmental participants, adopt the agenda for the session on the basis of the provisional agenda and any supplementary items proposed in accordance with rule 6.

Rule 7

During a session, the governmental participants may, after consulting the intergovernmental participants and non-governmental participants, revise the agenda for the session by adding, deleting or amending items. Only items which the governmental participants consider to be of an important and urgent nature may be added to the agenda during a session.

V. OFFICERS

Rule 8

1. At the commencement of the first session, the participants shall elect from among the representatives of the governmental participants present at the meeting a Bureau composed of a President and four Vice-Presidents, one of whom shall act as Rapporteur.
2. In electing the officers, the governmental participants shall have due regard to the principle of equitable geographical representation. Accordingly, each of the five regional groups of the United Nations shall be represented by one member.

Rule 9

1. In addition to exercising the powers conferred upon him or her elsewhere in these rules, the President shall:
 - (a) Declare the opening and closure of each session;
 - (b) Preside at meetings of the session;
 - (c) Ensure the observance of these rules;
 - (d) Accord participants the right to speak;
 - (e) Put questions to the vote and announce decisions;

Rule on any points of order; and

Subject to these rules, have complete control over the proceedings and maintain order.

2. The President may also propose:
 - (a) The closure of the list of speakers;
 - (b) A limitation on the time to be allowed to speakers and on the number of times a participant may speak on an issue;
 - (c) The adjournment or closure of debate on an issue; and
 - (d) The suspension or adjournment of a meeting.
3. The President shall decide when a sufficient time for consultation under rules 4, 7, 8 or 18 has elapsed.
4. The President, in the exercise of his or her functions, remains at all times under the authority of the Preparatory Committee.

Rule 10

The President shall participate in sessions of the Preparatory Committee in that capacity and shall not at the same time exercise the rights of a representative of a governmental participant. The governmental participant concerned shall designate another representative who shall be entitled to represent it at sessions and exercise the right to vote.

Rule 11

1. The President, if absent from a session or any part thereof, shall designate a Vice-President to act as President.
2. A Vice-President acting as President shall have the same powers and duties as the President and shall not at the same time exercise the rights of a representative of a governmental participant.

Rule 12

If an officer of the Bureau resigns or is otherwise unable to complete his or her term of office or to perform the functions of that office, a replacement from a governmental participant in the same United Nations regional group shall as soon as possible:

- (a) Be nominated by that regional group; and
- (b) Be elected by the governmental participants in the Preparatory Committee to succeed the said officer for the remainder of the Committee's mandate.

VI. SECRETARIAT**Rule 13**

The secretariat shall, in accordance with these rules:

- (a) Arrange for interpretation at sessions;
- (b) Receive, translate, reproduce and distribute the official documents for the sessions;
- (c) Arrange for the custody and preservation of the documents of each session in the archives of the secretariat; and
- (d) Perform such other tasks as the Preparatory Committee may require in relation to its functions.

VII. SUBSIDIARY BODIES

Rule 14

1. The governmental participants may, after consulting the intergovernmental participants and non-governmental participants, establish such subsidiary bodies as are necessary for the effective discharge of the functions of the Preparatory Committee. They shall determine the matters to be considered by a subsidiary body and establish its terms of reference.
2. The present rules of procedure shall apply mutatis mutandis to the proceedings of any subsidiary body, except that:
 - (a) The Bureau of a subsidiary body shall not exceed three in number;
 - (b) The Chair of a subsidiary body shall be appointed by the governmental participants after consultation with the intergovernmental participants and non-governmental participants;
 - (c) Any Vice-Chair and Rapporteur of a subsidiary body shall be appointed by the governmental participants represented in the subsidiary body after consultation with the intergovernmental participants and non-governmental participants represented in the body; and
 - (d) Subject to subparagraph (c), a subsidiary body shall not take votes.

VIII. CONDUCT OF BUSINESS

Rule 15

The President may declare a meeting of the session open and permit debate to proceed when the representatives of at least one-third of those participating in the session are present. The presence of two-thirds of the participants so participating shall be required for any consensus decision to be taken and the presence of two-thirds of the governmental participants so participating shall be required for any vote to be taken.

Rule 16

1. No one may speak at a meeting of the session without obtaining the permission of the President. Without prejudice to rules 18, 19, 20 and 22, the President shall call upon speakers in the order in which they signify their desire to speak. The secretariat shall maintain a list of speakers. The President may call a speaker to order if the speaker's remarks are not relevant to the subject under discussion.

2. The Preparatory Committee may, on a proposal from the President or from any participant, limit the time allowed to each speaker and the number of times each participant may speak on a question. Before a decision is taken, two representatives may speak in favour of and two against a proposal to set such limits. When the debate is limited and a speaker exceeds the allotted time, the President shall call the speaker to order without delay.

Rule 17

The chairperson or rapporteur of a subsidiary body may be accorded precedence for the purpose of explaining the conclusions reached by that subsidiary body.

Rule 18

During the discussion of any matter, a participant may at any time raise a point of order which shall be decided immediately by the President in accordance with the present rules. A participant may appeal against the ruling of the President. The appeal shall be put to the vote immediately and the ruling shall stand unless overruled by a majority of the governmental participants present and voting. A participant may not, in raising a point of order, speak on the substance of the matter under discussion.

Rule 19

Any motion calling for a decision on the competence of the Preparatory Committee to discuss any matter or to adopt a proposal or an amendment to a proposal shall be decided upon before the matter is discussed or a vote is taken on the proposal or amendment in question.

Rule 20

Proposals and amendments to proposals shall normally be introduced in writing by the participants and handed to the secretariat, which shall circulate copies to delegates. As a general rule, no proposal may be discussed or put to the vote at any session unless copies of it have been circulated to the participants at least 24 hours before the proposal is debated. The President may, however, permit the discussion and consideration of proposals, amendments to proposals or procedural motions even though these proposals, amendments or motions have not been circulated or have been circulated only the same day.

Rule 21

1. Subject to rule 22, the following motions shall have precedence in the order indicated below over all other proposals or motions:
 - (a) To suspend the session;
 - (b) To adjourn the session;

- (c) To adjourn the debate on the question under discussion;
 - (d) To close the debate on the question under discussion.
2. Permission to speak on a motion falling within paragraph 1 (a) to (d) shall be granted to the proposer and, in addition, to one speaker in favour of and two against the motion, after which it shall be put immediately to a vote.

Rule 22

A proposal or motion may be withdrawn by its proposer at any time before voting on it has begun, provided that the proposal or motion has not been amended. A proposal or motion thus withdrawn may be reintroduced by any other participant.

Rule 23

When a proposal has been adopted or rejected, it may not be reconsidered at the same session, unless the Preparatory Committee by a two-thirds majority of the governmental representatives present and voting decides in favour of reconsideration. Permission to speak on a motion to reconsider shall be accorded only to the mover and one other supporter, after which it shall be put immediately to a vote.

IX. ADOPTION OF DECISIONS

Rule 24

1. The participants shall make every effort to reach agreement on all matters of substance and procedure by consensus.
2. If a consensus is not achieved within 24 hours of the President putting a matter to the participants for decision or such other period as the President deems appropriate to the circumstances, the decision shall, unless otherwise provided by the present rules of procedure, be taken:
 - (a) On a matter of substance, by a two-thirds majority vote of the participants present and voting; and
 - (b) On a matter of procedure, by a majority vote of the participants present and voting.
3. Where there is disagreement as to whether a matter to be voted on is a substantive or procedural matter, the issue shall be decided by a two-thirds majority of the governmental participants present and voting.

Rule 25

If two or more amendments to a proposal are moved, the Preparatory Committee shall first decide on the amendment furthest removed in substance from the original proposal, then on the amendment next furthest removed, and so on until decisions have been made on all the amendments.

Rule 26

Voting on a single proposal shall normally be by show of hands. A roll-call vote shall be taken if one is requested by any governmental participant. It shall be taken in the English alphabetical order of the names of the countries which the governmental participants represent, beginning with the country whose name is drawn by lot by the President.

Rule 27

The vote of each governmental participant in a roll-call vote shall be recorded in the report of the session.

Rule 28

After the President has announced the beginning of voting, no participant shall interrupt the voting except on a point of order in connection with the actual conduct of the voting. The President may permit governmental participants to explain their votes, either before or after the voting, and may limit the time allowed for such explanations.

Rule 29

In the absence of consensus, elections shall be decided by secret ballot.

Rule 30

1. If, when one person is to be elected, no candidate obtains in the first ballot a majority of the votes cast by the governmental participants present and voting, a second ballot restricted to the two candidates obtaining the largest number of votes shall be taken. If in the second ballot the votes are equally divided, the President shall decide between the candidates by drawing lots.
2. In the case of a tie in the first ballot between three or more candidates obtaining the largest number of votes, a second ballot shall be held. If a tie results between more than two candidates, the number shall be reduced to two by lot and the balloting, restricted to them, shall continue in accordance with the procedure set out in paragraph 1.

X. PUBLIC AND PRIVATE SESSIONS

Rule 31

The plenary sessions of the Preparatory Committee shall be held in public unless the governmental participants decide otherwise.

Rule 32

The meetings of subsidiary bodies, other than those of any drafting group that may be set up, shall be held in public unless the governmental participants in the Preparatory Committee decide otherwise.

XI. LANGUAGES

Rule 33

The official languages of the Preparatory Committee shall be Arabic, Chinese, English, French, Russian and Spanish.

Rule 34

1. Statements made in one official language shall be interpreted into the other official languages.
2. A participant may speak in a language other than an official language if the participant provides for interpretation into one of the official languages.

Rule 35

Official documents of the Preparatory Committee shall be drawn up in one of the official languages and translated into the other official languages.

XII. AMENDMENTS TO RULES OF PROCEDURE

Rule 36

Amendments to these rules of procedure shall be adopted by consensus of the governmental participants.

4.2 PrepCom I Report

Below is an excerpt from the report of the first session of the SAICM Preparatory Committee of 19 November 2003 (SAICM/PREPCOM.1/7¹¹), which was provided to the participants.

F. Rules of Procedure:

26. The PrepCom had before it draft rules of procedure (SAICM/PREPCOM.1/3), which the Secretariat introduced. Following an initial discussion on the issue, the Committee agreed to establish a contact group to further consider the rules set out in the Secretariat text and report back to plenary on the results of its deliberations.
27. In carrying out this task, the contact group was requested to take into consideration the queries raised by participants in plenary in relation to the draft text submitted by the Secretariat as well as any other issues participants in the group had concerning that text.
28. The Chair of the contact group presented a report to plenary on the results of the group's deliberations. The group had sought mainly to achieve a balance between the goal of having an open and inclusive SAICM process and the need to give due consideration to the particular needs of the governmental participants, taking into account the views that participants had expressed during the earlier discussion in plenary. He reported that after robust debate, the group had agreed on a number of amendments to the draft rules. The rules as amended by the contact group were before the Committee for its consideration in a conference room paper.
29. All participants who spoke welcomed the draft rules as amended by the contact group, and several called for their adoption. A number of participants, however, indicated that while they had no objections to the rules in their current form, they would need to consult with their capitals before agreeing to their unconditional adoption and, therefore, proposed that the Committee adopt the rules ad referendum. The Secretariat explained that, while the draft rules thus adopted would take effect immediately, any governmental participant would have the right to re-open debate on them at the next session of the Committee; if no governmental participant exercised that right, the adoption of the rules would be automatically confirmed, without any further action by the Committee.
30. Following that explanation, the Committee agreed to adopt the draft rules of procedure as revised by the contact group ad referendum, rather than continue to rely on the rules of procedure of the UNEP Governing Council, applied *mutatis mutandis*. It noted that the rules of procedure had been developed for use in the SAICM process only and hence did not constitute a precedent. The adopted rules of procedure are set out in annex I to the present report.

....

¹¹ The International Conference on Chemicals Management has established a practice of applying the rules of procedure for the Preparatory Committee, *mutatis mutandis* (See for example, SAICM/ICCM.1/6, and the report of the first session of the ICCM, SAICM/ICCM.1/7.

The secretariat noted that the draft texts used as a starting point were the rules of procedure of the UNEP Governing Council and the IFCS terms of reference. During contact group discussion, there were three areas where views diverged: stakeholder participation, bureau composition, and voting requirements.

4.3 ICCM Report

The report below was included in the simulation materials for information only, and was not intended for use in the simulation exercise.

International Conference on Chemicals Management

First session

Dubai, 4–6 February 2006

SAICM/ICCM.1/7

Report of the International Conference on Chemicals Management on the work of its first session.

Excerpt from the report, under organizational matters:

A. Adoption of the rules of procedure

- 8) The Conference agreed to apply the rules of procedure of the Preparatory Committee for the Development of a Strategic Approach to International Chemicals Management, *mutatis mutandis*, to the current session, on the understanding:

That decisions on substantive matters would be taken at the current session by consensus of all participants;

That the participatory nature of the Strategic Approach would be maintained and, in that regard, the European Community would, within its competence, participate fully;

That the Conference would adopt its own rules of procedure at its second session.

- 9) The Conference also agreed that the groundwork for the second session on the issue of rules of procedure would be carried out by an open-ended legal and technical working group, which would meet a few months prior to the second session.

5 Review of the Exercise

The following is a brief summary of the proceedings and analysis based on observations made by the facilitator during the simulation as well as the post-mortem conducted immediately following the simulation, written evaluations forms from 24 participants (see the evaluation questions below) and specific verbal feedback from a further 7 participants. There were 37 participants in all, not including the facilitator. Key issues raised included:

- specific rules of procedure;
- instructions;

- perspectives and issues of different types of roles, Party, IGO and NGO representatives, as well as chairing; and
- twinning of roles.

Participants overcame many of the numerous challenges in the scenario and were able to reach agreement on one of the four issues, including a revised text of rules of procedure. Each working group was able to come up with a revised text to present to the plenary, however, three groups were unable to secure consensus in the plenary.

This result was considered a success by the facilitator and by all of the participants who provided feedback. Indeed, it should be strongly emphasized that the simulation was explicitly designed to produce a situation where agreement was essentially impossible; where participants would be confronted with situations which were untenable; and where they would be forced to grapple with the constraints of the rules of procedure, as well as the frustrations of being unable to reach agreement.

The underlying objective was to highlight the importance of knowing the rules of procedure in the very rare instances where participants could be involved in actual negotiations with such difficulties. The assumption behind this objective is that many negotiators are ill-prepared to deal with such challenges. It should be noted that some instructions, and the roles of some groups, particularly IGO participants, were somewhat exaggerated in order to give these participants stronger roles, and to contribute to the inter-locking sets of challenges confronting participants.

Most of the challenges facing participants were based on actual experience, all were based on real issues, and only a few of the IGO and NGO instructions were somewhat unrealistic. (This was partly in response to comments from a previous simulation where NGOs and IGOs were effectively denied a meaningful role in the outcome.) Certainly, the facilitator is not aware of any negotiations where so many challenges were at play. All of the feedback received indicated that the participants very much appreciated the risks taken in this approach. Specific comments highlighted the importance of being confronted with a demanding and frustrating situation, that it helped them recognize the importance of abstract-sounding rules, and that they appreciated being pushed.

While the objective of the simulation was not to explore the SAICM per se, it appeared that the participation issues which arose in the SAICM context generated a high level of interest among participants, not only with respect to the general principles behind the rules of procedure, but also with respect to development in the SAICM context, and the evolution of rules on these issues in other MEA contexts.

Despite the challenges, working groups were nonetheless able to find solutions and reach agreement and draft text that they felt was reasonable and defensible, given their instructions. Almost all participants were each provided with a position and

a fall-back on each of the four issues, though some participants had no fall-back on one or more issues. However, in response to feedback from a previous simulation exercise, participants were not given detailed substantive background to their instructions, nor were they provided detailed rationale for the linkage – or lack of linkages between their positions. Instead, participants were encouraged to develop their own rationale. Feedback indicated that participants were generally pleased to have flexibility, though some, particularly those representing IGOs, indicated that they would have preferred to have some more detail on both the substance and the strategic context of their roles.

Participants overwhelmingly agreed that the twinning of roles and the mutual mentoring between roles was a particularly useful way of exploring and learning about different perspectives, and of initiating further discussion on the issues, on regional and country-specific views, as well as having the social consequence of enabling participants to get to know fellow-participants.

In this simulation, it was clear that those in Chairing roles were working hard on substantive and procedural issues, so that keeping track of the real and simulation names of all participants became a concern. Based on comments from previous simulations, the Chairs were left with greater flexibility to design the process and respond to developments in the simulation. This was particularly challenging, and increased the intensity of the simulation. However, the Chairs were well-supported by participants in Secretariat roles, and effectively used their time between sessions and during sessions to consult with each other. Indeed, the Chairs were confronted with a particularly challenging situation involving a vote on point of order, which they nonetheless dealt with effectively. The Chairs of the Working Groups likewise faced different challenges which they also dealt with effectively.

The simulation materials were introduced one day preceding the exercise, and the simulation continued for one full day. Many participants indicated that they would have benefited from more preparation time, and more time for the exercise itself. Some suggested that it a two-day or one-and-a-half-day format would be preferable. A few suggested that more time be allotted for debriefing and post-mortem discussion. Lack of time appears to be a chronic challenge, given the number of substantive and procedural issues involved.

Participants strongly agreed that the simulation exercise achieved its objectives with respect to promoting engagement and familiarity with the principles of multilateral negotiation and related issues within the context of negotiation on rules of procedure; putting the rules and principles into practice, in simulation context; and above all, participants strongly agreed that the exercise met its objectives with respect to promoting discussion of the issues from different perspectives.

Evaluation questionnaire

Following the exercise, participants were requested to respond to the evaluation questions below.

- What is your nationality or UN regional group (see the MEA Handbook for Negotiators' for UN regional group country listing)?
- What is your profession/education?
- What is your current position/occupation?
- Please briefly indicate what experience you have had in an MEA negotiation(s), if any.
- Please indicate on a scale of 1–10 the level of your knowledge on issues related to rules of procedure for MEAs before this exercise (1 being very little, 10 being complete understanding).
- Please indicate on a scale of 1–10 the level of your knowledge on issues related to rules of procedure for MEAs after this exercise (1 being very little, 10 being complete understanding).
- What role (number) did you play in this simulation?
- Do you have any comments or suggestions on the instructions for the role?
- Did you have the opportunity to read the materials before the exercise?
- Do you have any comments or suggestions on the materials?
- Do you have any comments or suggestions on the facilitation of the exercise?
- Do you have any other comments or suggestions on the simulation or the MEA Negotiator's handbook?

