ECOLOMIC POLICY AND LAW

Journal of Trade & Environment Studies

Volume 5/6 - Special Edition 2008/09

UNIVERSITÉ DE GENÈVE
FACULTÉ DE DROIT

Trade and Environment Research Group

Réseau Universitaire International de Genève

EcoLomics International

THE GENEVA-BASED CONVENTIONS ON CHEMICALS AND WASTES

Part One

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This publication has been made possible thanks to the financing of the Geneva International Academic Network (RUIG/GIAN) in 2006/2008.

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PREFACE

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The Geneva-based Conventions on chemicals and wastes show evidence of the difficult balance between different legal approaches concerning environmental goods and services, promotion of trade and protection of the environment (including health, both human and animal), long term and short term approaches, technical measures and respect of legal as well as ethical requirements. The key word to reconcile the different approaches underlying different conventions is *mutual supportiveness* of international agreements. Applying this concept consistently is the only answer to the complexity of the relation between international commitments often based on similar basic philosophies (such as *sustainable development,* a goal common to the WTO and multilateral environmental agreements), but with substantially different interests at stake.

The Need to Work Together: Cooperation, Coordination and Mutual Supportiveness

In addition to mutual supportiveness, *systemic approaches* are necessary to make the best use of the opportunities offered by the development of environment-friendly technologies on one hand, and the search for sustainable policies, on the other hand. The example of the three "chemicals" conventions is from this point of view striking. And yet they are often largely ignored in the public discussions about trade, environment, transfer of scientific knowledge and technology, even by professional negotiators. For example, the importance taken by *environmentally sound management* as a framework for the technical solutions that those conventions require confirms the limits of a purely "trade" approach. Yet it is often ignored when considering trade in potentially harmful goods. To address the ultimate problems of waste disposal, of handling dangerous chemicals or accepting new chemicals, it is not sufficient to open the door to environmental goods and services, or even to deliver environmentally sound technology.

Like most international conventions, the ones dealing with chemicals and wastes reflect the moment and the conditions under which they were adopted. They provide different legal instruments to achieve their goals. They do not always take into account the opportunities offered by other conventions or their impact on a specific kind of trade. They tend to be implemented “in isolation” according to their specific objectives. Yet, those three conventions deal with a common set of problems: wastes and chemicals are products which have a deep and long term impact on the environment. To a large extend they escape control once they have been put to use or discarded as useless. In addition, their impact must be considered within their *lifecycle*, and not for a specific, punctual use. Moreover, they are often related to each other, waste being the ultimate destination of all goods and products subject to trade. Thus, it is necessary to consider the *problems* created in the long

term by those products rather than the conditions under which they are put on the market or used.

The Instruments of a Common Approach

Waste is the object of a single convention, the Basle Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, adopted in 1989 and entered into force in 1992. Chemicals are subject to different conventions including the Basel Convention (reflecting different approaches to the problems they raise) and initiatives from the international community. A common approach therefore relies on the coordinated implementation of those conventions, but also on the use of common concepts and principles. *Similar instruments* should be used for performing the *risk analysis* which is a necessary tool for implementing the three conventions, as the effects of hazardous wastes and chemicals on the environment can be very similar. The concept of *environmentally sound management*, inspired by the Basel Convention, should be basic to the implementation of both the wastes and the chemical legislations. Actually, managing waste means looking at what it was before being defined as waste, and managing chemicals implies taking into account their becoming hazardous waste soon or later. In addition, the very nature of a chemical product is likely to determine the problems to address when dealing with waste containing, or resulting from the use of, such chemicals. Environmentally sound management of one is not possible without the same approach for the other. This is the consequence of an increasing awareness that there is no control of the negative impact of specific substances without considering their total lifecycle, 'from cradle to grave.'

An additional way of fostering a common approach is through joint implementation of the conventions. This includes providing joint recommendations for the interpretation of the three conventions and their translation into national legislation. It can hardly be done from a strictly formal point of view, as the parties to those conventions are not exactly the same, and they are, as usual, rather concerned about having to comply with rules or principles they did not fully approve. Nevertheless, they did, through adoption of similar recommendations by their Conferences of the Parties or through cooperation of their secretariats, try to enhance consistency and cooperation in view of achieving environmentally sound management in both areas.

Mutual supportiveness between international conventions also depends on their being based on the same *principles*. This is to a large extent the case for the management of wastes and chemicals. The three conventions rely on the *principle of prevention,* as well as an extensive application of the *polluter pays principle.* Even if it does not appear as clearly in the Basel Convention as in the two others, the *precautionary principle* is another common feature of the three conventions. It implies that the management of waste and chemicals should not be limited to avoiding the consequences of the danger they involve, but should try to control and restrict their use whenever some serious risk for the environment is identified, without waiting for certainties which are often only obtained by the destruction of the goods at stake.

Avenues toward a Common Approach

Cooperation between the secretariats which are implementing the conventions is a first step toward having a global approach to those problems. A further step toward ensuring that chemicals are going to serve the benefit of societies and not to be a burden for future generations has been taken by the adoption of the *Strategic Approach to International Chemicals Management (SAICM)* by the International Conference on Chemicals Management, in February 2006. This approach underlines the link between sound management of chemicals and sustainable development, and, as sound management of chemicals cannot be achieved without taking into account their terminal stage as waste to be disposed of, it implies a long term lifecycle approach to the common management of wastes and chemicals.

Yet, initiatives like SAICM do not provide legal frameworks for action. They are neither conventions, nor international organisations. While they enable states, organisations and private partners to cooperate, they cannot prevent inadequate behaviour in the field of wastes and chemicals management or trade. They must therefore rely on the existing legal framework to achieve full efficiency. There is presently a momentum to bring together international organisations such as UNEP, specific institutions such as those in charge of the Basel, the Stockholm or the Rotterdam Conventions, and more flexible instruments such as SAICM, in order to integrate into a tighter system these means and measures to ensure a better control of the chemicals and wastes environmental issues. We hope that the articles published in this *EcoLomic Policy and Law Special Edition* can help to understand both the importance of the problem and the interest of the efforts made to address it globally.

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STRATEGIC APPROACH TO INTERNATIONAL CHEMICALS MANAGEMENT: DEVELOPMENT AND OPPORTUNITIES

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SELECTED ACRONYMS

ADB	Asian Development Bank
ADF	African Development Fund
ADF	Asian Development Fund
ADR	Alternative Dispute Resolution
AfDB	African Development Bank
AIMS	Acceptance and Implementation of Multilateral Environmental Agreements in South Eastern Europe
AMCEN	African Ministerial Conference on the Environment
ARA	Academic Research Agreement
BAT	Best Available Technology
BCRCs	Basel Convention Regional Centers
BERCEN	Balkan Environmental Regulatory Compliance and Enforcement Network
BoC	Bureau of Customs (e.g. Philippines)
CAI	Clean Air Initiative
CACMA	Central Asia, Caucasus, Moldova, and Albania
CARICOM	Caribbean Community
CCAD	Central American Commission for Environment and Development
CDI (GEF)	Capacity Development Initiative
CDM	Clean Development Mechanism
CEC	Commission on Environmental Cooperation (NAFTA)
CEE	Central and Eastern Europe Region
CEITs	Countries with economies in transition
CEL	Commission on Environmental Law (IUCN)
CEN	Compliance Enforcement Network (World Customs Organization)
CEPA	Communication, Education and Public Awareness
CERN	Caribbean Environmental Reporters Network
CFCs	Chlorofluorocarbons
CID	Criminal Investigation Division (e.g. of the US EPA)
CISIEN	Center for International Earth Science Information Network

CLEEN	Chemical Legislation European Enforcement Network (EU)
COP	Conference of the Parties (various MEAs)
CRA	Commercial Research Agreement
DAC	Development Assistance Committee (OECD)
DEC	Division of Environmental Conventions (UNEP)
DECRG	Development Research Group
DENR	Department of Environment and Natural Resources (e.g. Philippines)
DEPI	Department of Environmental Policy Implementation
DESA	Department of Economic and Social Affairs (UN)
DEWA	Department of Early Warning and Assessment (UNEP)
DOJ	Department of Justice (e.g. US)
DPDL	Division of Policy Development and Law (UNEP)
DRC	Division of Regional Cooperation
DTIE	Division of Technology, Industry and Economics
EA	Executing Agency (of the GEF)
EAB	Environmental Appeals Board (e.g. US)
EAJA	Equal Access to Justice Act (US)
EBR	Environmental Bill of Rights (Ontario, Canada)
EBRD	European Bank for Reconstruction and Development
ECENA	Environmental Compliance and Enforcement Network for Accession
ECHO	Enforcement and Compliance History Online (US EPA)
ECLAC	Economic Commission for Latin America and Caribbean (UN)
EDN	Earth Day Network
EECCA	Eastern Europe, Caucasus, and Central Asia
EET	Environmental Education and Training
EHF	Environmental Health Fund
EIA	Environmental Impact Assessment
ELC	Environmental Law Center (IUCN)
ELI	Environmental Law Institute
ELNI	Environmental Law Network International
EMAS	Eco-Management and Audit Scheme (EU)
EMB	Environmental Management Bureau (e.g. Philippines)
EMG	Environmental Management Group (UNEP)
EMS	Environmental Management System
ENB	Earth Negotiation Bulletin (IISD)
EPA	Environmental Protection Agency (e.g. Ghana, US)
ENRM	Environment and Natural Resources Management (ENRM)
ER	Environmental Registry (Canada)
ERP	Environmental Response Policy (e.g. US)
ESM	Environmentally Sound Management (e.g. of Chemicals)
EUFJE	EU Forum of Judges for the Environment
FAO	Food and Agriculture Organization of the United Nations
FEPA	Federal Environmental Protection Agency (e.g. Nigerial)
FOIA	Freedom of Information Act (e.g. US)
GEN	Global Ecolabeling Network
GEF	Global Environment Facility
GEO	Global Environment Outlook (UNEP)
GLOBE	Global Legislators Organization for a Balanced Environment
GMEF	Global Ministerial Environment Forum (UNEP)
GRULAC	Latin American and Caribbean region

GTZ	Gesellschaft for Technische Zusammenarbeit (Germany, Agency for Technical Cooperation
HCWH	Health Care Without Harm
IA	Implementing Agency (of the GEF)
IBRD	International Bank for Reconstruction and Development
ICAD	International Compliance Assurance Division (US EPA)
ICCA	International Council of Chemical Associations
ICCM	International Conference on Chemicals Management
ICIPE	International Center of Insect Physiology and Ecology / African Insect Science for Food and Health (Nairobi)
IDA	International Development Association (World Bank Group)
IDB	Inter-American Development Bank
IFI	International Financial Institution
IGO	Inter-governmental Organization
ILO	International Labour Organization
IFCS	Intergovernmental Forum on Chemical Safety
IFIs	International Finance Institutions
ILEA	International Law Enforcement Academy
ILO	International Labor Organization
IMPEL	Network for the Implementation and Enforcement of Environmental Law (EU)
INECE	International Network for Environmental Compliance and Enforcement
INC	Intergovernmental Negotiations Committee
IGO	Intergovernmental Organization
IOMC	Inter-Organization Programme for the Sound Management of Chemicals
IPEN	International POPs Elimination Network
IPM	Integrated Pest Management
IPPM	Integrated Pollution Prevention and Control
ISDE	International Society of Doctors for the Environment
ISO	International Organization for Standards
IUCN	International Union for the Conservation of Nature
IW	International Waters (GEF focal area)
JUSCANZ	Japan, US, Switzerland, Canada, Australia, Norway and New Zealand (group of countries in multilateral negotiations)
MA	Millennium (Ecosystem) Assessment
MARPOL	International Convention on the Prevention of Pollution from Ships
MEA	Multilateral Environmental Agreement
MENA	Ministry of Environment and Natural Resources (e.g. Seychelles)
MDGs	Millennium Development Goals
MLF	Multilateral Fund for the Implementation of the Montreal Protocol
MOE	Ministry of the Environment
MOE	Memorandum of Understanding
MOP	Meeting of the Parties (Multilateral Protocols)
NAAEC	North American Agreement on Environmental Cooperation
NACEC	North American Commission for Environmental Cooperation
NEA	National Environment Agency (e.g. Gambia)
NEAP	National Environmental Action Plan
NIP	National Implementation Plan (for the Stockholm Convention)
ODA	Official development assistance

OECD	Organisation for Economic Co-operation and Development
OEJ	Office of Environmental Justice (US EPA)
OP	Operational Program (of the GEF)
OPCW	Organization for the Prohibition of Chemical Weapons
PADELIA	Partnership for Development of Environmental Law and Institutions in Africa (UNEP)
PAN	Pesticide Action Network International
PEEM	Public Environmental Expenditures Management
PIC	Prior Informed Consent
POPs	Persistent Organic Pollutants
PrepCom	Preparatory Committee (SAICM development)
PRTR	Pollutant Release and Transfer Register
PSC	Project Steering Committee
RAED	Arab Network for Environment and Development
RDBs	Regional Development Banks
REC	Regional Environmental Center (e.g. for Central and Eastern Europe)
RMCs	Regional Members Countries (African Development Bank)
RIA	Regulatory Impact Assessment
RIEW	Regional Inspectorates on Environment and Water (e.g. Bulgaria)
RMPs	Refrigerant Management Plans
RMS	Resource Mobilization Strategy
ROA	Regional Office for Africa (UNEP)
ROAP	Regional Office for Asia and Pacific (UNEP)
ROE	Regional Office for Europe (UNEP)
ROLAC	Regional Office for Latin America and the Caribbean (UNEP)
RONA	Regional Office for North America (UNEP)
ROWA	Regional Office for West Asia (UNEP)
RPIU	Regional Project Implementation Unit
SAICM	Strategic Approach to International Chemicals Management
SBC	Secretariat of the Basel Convention
SEA	Strategic Environmental Assessment
SEAP	South East Asia and Pacific (Network)
SEE	South Eastern Europe
SEP	Supplemental Environmental Project
SEPA	State Environmental Protection Agency (e.g. in China, Nigeria)
SIA	Sustainability Impact Assessment
SOE	State of the Environment (Reports)
SMC	Sound Management of Chemicals
SRG	Scientific Review Grour (EU)
TEAP	Technology and Economic Assessment Panel
UNCLOS	United Nations Convention on the Law of the Sea
UNDP	United Nations Development Programme
UNECE	United Nations Economic Commission for Europe
UNEP	United Nations Environment Programme
UNIDO	United Nations Industry Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNITAR	United Nations Institute for Training and Research
USAID	US Agency for International Development
USEPA	US Environmental Protection Agency
VOC	Volatile Organic Compound

WB	World Bank
WCO	World Customs Organization
WECF	Women in Europe for a Common Future
WFPHA	World Federation of Public Health Associations
WHO	World Health Organization
WIPO	World Intellectual Property Organization
WPIEI	Working Party on International Environmental Issues (EU)
WRI	World Resources Institute
WTO	World Trade Organization
WSSD	World Summit on Sustainable Development
WWF	World Wide Fund for Nature (in US and Canada: World Wildlife Fund)

ECOLOMIC POLICY AND LAW

Journal of Trade & Environment Studies

© **Volume 5/6 (1) January 2008**

Published by Global EcoLomics http://www.EcoLomics-International.org/

THE INTERNATIONAL MANAGEMENT OF RISK: AN OVERVIEW OF THE BASEL, ROTTERDAM AND STOCKHOLM CONVENTIONS

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ABSTRACT

This paper has two parts. First of all I am exploring the role of science and technology in the wider context of the protection of public health and the environment. The successful implementation of the Basel, Rotterdam and Stockholm Conventions depends greatly on a proactive role of scientists, engineers and educators. Unfortunately, as the tragic case of the very numerous asbestos victims shows, scientific knowledge and evidence does not necessarily translate into regulations which are based on scientific facts. There is a parallel here in the sense that in both the asbestos and the chemicals cases, certain concerned industries have resisted transparency and cooperation with governmental authorities when it was not in their interest.

Despite an international consensus on the importance of technology transfer and capacity building, relatively little research has been undertaken on the effectiveness of institutional cooperative arrangements for promoting the development and dissemination of environmentally beneficial technologies, especially with a focus on these conventions. Part II presents an application of this science policy related discussion by means of a short introduction to these three Geneva-based chemicals and wastes conventions

1. TRADE IN HAZARDOUS SUBSTANCES AND THE ROLE OF SCIENCE AND TECHNOLOGY

The three Geneva-based Conventions on Transboundary movements of hazardous wastes and chemicals, i.e. the Basel Convention,[2] the Rotterdam Convention[3] and the Stockholm Convention,[4] address certain trade-related environmental issues, that is they are Multilateral Environmental Agreements (MEAs) which are included in the ambit of the WTO's Division on Trade and Environment as well as in the discussions and negotiations of its Committee on Trade and Environment (CTE). Furthermore, it is important to emphasize that issues related to trade and environment are negotiated in other WTO fora, especially the SPS and the TBT Committees, and the GATT Council under Art. XX covering exceptions to the WTO agreements. The relationship with the WTO is different here from certain other MEAs such as the Cartagena Protocol on Biosafety of the Convention on Biological Diversity[5] or the FAO's International Treaty on Plant Genetic Resources for Food and Agriculture[6] because the purpose here is not to maximize trade under specific conditions; to the contrary, the purpose is to ban trade of the most dangerous substances and to regulate and restrict trade in many other cases which are less toxic. Nevertheless, the tree MEAs fall into the general trade and environment debate in which of course the WTO represents the underpinning framework. I should clarify from the outset that I consider the multilateral approach to trade and environment issues through the WTO much preferable to any realistic alternatives, i.e. bilateral or regional trade agreements which in most cases are worse for both the environment and for poverty alleviation in developing countries than the global trade regime.

The purpose of this exploratory study is to investigate the role of science and technology in the negotiation, in the further development, and in the implementation of these three conventions, and more generally in related risk management at the intergovernmental level. The role and the importance of scientific and technological issues, questions – and also controversies – clearly vary considerably among MEAs. In the case of these three Conventions the technical ramifications are particularly important. At the scientific level one might perhaps assume that the understanding of the potential risks to public health and to the environment which is generated by trade in hazardous chemicals and wastes is relatively well understood in comparison for instance to genetically modified organisms and biodiversity, or climate change – let alone in comparison to nanotechnology products which are not even covered yet by an MEA in spite of the fact that they have become an international industry weighing many billions of dollars with very serious potential threats to the environment and to public health.[7] Nevertheless, there is a great deal of uncertainty

[2] Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal. Text of the Convention: http://www.basel.int/text/con-e-rev.pdf

[3] The Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade. Text of the Convention: http://www.pic.int/en/ConventionText/ONU-GB.pdf

[4] Stockholm Convention on Persistent Organic Pollutants. Text of the Convention: http://www.pops.int/documents/convtext/convtext_en.pdf

[5] http://www.cbd.int/biosafety/default.shtml

[6] http://www.fao.org/AG/cgrfa/itpgr.htm

[7] Nanotechnology products engender very serious environmental and health risks since they can be highly hazardous (e.g. by passing across the blood-brain barrier), and once they have contaminated a body of water they are too small to be filtered or otherwise eliminated by any known chemical,

about the medium-term effects of the majority of the vast number of chemicals which have accumulated in the biosphere and in human tissues, especially where there are interactions of toxic chemicals.

According to documentation provided by the US Environmental Protection Agency (EPA) in 1998, a complete package of basic information is available only on about 7 per cent of approximately 3000 chemical substances which are produced in large quantities, and for nearly half of them no information is available at all.[8] There is much evidence, however, that some chemicals affect biological systems at very low concentrations, for instance by interfering with hormone systems at specific stages in the lifecycle of an organism. Even less is known about the effects on the human health of interacting chemicals.[9] Chapman provides a fascinating and at the same time worrisome account on industrial stonewalling during the negotiations of the European Union's regulatory framework Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) which has come into force in 2007.[10]

Unfortunately, the role of science is probably even more questionable on the other side of the Atlantic. This role of science is at the center of a book by Chris Mooney *The Republican War on Science*[11] which examines numerous examples of such pressures and cover-ups by commercial interests in the US under Republican Administrations, especially the present one. For instance in the case of mercury pollution, one of industrial society's most intractable and most persistent environmental problems[12] he illustrates how certain industries and their representatives have successfully lobbied for a weakening of the Environmental Protection Agency's regulations in 2003.[13]

The key problems addressed by the three conventions are not only of a scientific but also of a technological and administrative nature. They include the capacity of a country to make available, or to have access to, the necessary financing for required infrastructures at all levels, such as the professional education of the specialists involved, as well as the communication of risks to the public at large, the political will to act upon potential risks in light of other governmental priorities, or the wherewithal to put in place remedial measures once a spill or another chemical-related accident has happened. The legislative and regulatory framework at the national level are also key drivers of technology demand, cooperation, and transfer.

In order to put our discussion into the proper context it should be noted that there are links here to the trading regime at different levels. The CTE distinguishes between *non-binding discussions* on one hand, which are carried out on an ongoing basis in the CTE Regular Session, and *negotiations* on the other hand which are limited to the very narrow and specific mandate provided especially by paragraph 31 of the 2001 Doha Ministerial Declaration.[14] These negotiations are handled

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biological or technological means. See Christof Studer. 2006. L'infiniment petit en question. *Environnement* (2) 43-47 (Published by the Swiss Federal Office of the Environment).

[8] Chapman, Anne. 2007. Democratizing Technology - Risk, Responsibility and the Regulation of Chemicals. London: Earthscan, 181 p., (60).

[9] *Ibid.*

[10] *Ibid.* 75-77.

[11] Chris Mooney. 2005. *The Republican War on Science.* New York: Basic Books, 343 p.

[12] Noelle Eckley and Henrik Selin. 2006. Global Politics of Mercury Pollution: The Need for Multi-Scale Governance. *RECIEL* 15 (3): 258-270.

[13] Mooney, *op. cit.* 136.

[14] Doha WTO Ministerial 2001: Ministerial Decéaratoion, WT/MIN(01)/DEC/1
20 November 2001, Ministerial declaration, Adopted on 14 November 2001

separately by the CTE in Special Session (CTESS). The relationships between these three conventions and the WTO is not really affected by the negotiations in the CTESS except that they are part of a group of about twenty MEAs which are of concern to the WTO because they contain trade-related provisions. Thus they are regularly included in trade and environment discussions among those MEAs which have the strongest trade-related pertinence, together especially with CITES, the Montreal Protocol, and the Cartagena Protocol on Biosafety.[15]

In order to place this study in the appropriate wider context, we should be highly conscious of the *role of science* which indirectly very much underpins the present analysis, and which deserves a short digression. We shall take the case of asbestos which is particularly appropriate here because its difficult and hazardous but important removal from ship wrecks is one of the Basel Convention's ongoing concerns. Scientists have known for more than 100 years that the exposure to asbestos fibers has led to fatal lung diseases among many British asbestos workers.[16] In 1927 evidence of the disastrous health consequences of the inhalation of asbestos fibers was reported in Switzerland (home of the asbestos producer *Eternit*). The Swiss insurance for work-related health problems recognized the disease as a justification for compensations within its mandate for the first time as early as 1939.[17] This did not prevent the Swiss National Exhibition held in Lausanne in 1964 to vaunt asbestos as an exceedingly useful and valuable material for a large number of applications, and only in 1990 did the Swiss authorities prohibit asbestos as a construction material.[18]

Detailed statistics on asbestos-related diseases and fatalities have been maintained in industrialized countries for a long time, and billions of dollars have been spent over the past twenty years or so for the removal of asbestos-containing construction materials from buildings. The countless human tragedies due to asbestos-related diseases across the word have been well known for a very long time. It is truly difficult to comprehend why governments have not acted decades earlier, and why medical and other scientific researchers have not made far greater

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http://www.wto.org/english/thewto_e/minist_e/min01_e/mindecl_e.htm
Trade and environment
Para 31. With a view to enhancing the mutual supportiveness of trade and environment, we agree to negotiations, without prejudging their outcome, on:
(i) the relationship between existing WTO rules and specific trade obligations set out in multilateral environmental agreements (MEAs). The negotiations shall be limited in scope to the applicability of such existing WTO rules as among parties to the MEA in question. The negotiations shall not prejudice the WTO rights of any Member that is not a party to the MEA in question;
(ii) procedures for regular information exchange between MEA Secretariats and the relevant WTO committees, and the criteria for the granting of observer status;
(iii) the reduction or, as appropriate, elimination of tariff and non-tariff barriers to environmental goods and services.
We note that fisheries subsidies form part of the negotiations provided for in paragraph 28.

[15] For a discussion of the policy-related relationship between MEAs and the WTO, including the role of the environmental mandate of the Doha Round in this context, see Urs P. Thomas. 2005 revised v. Oil or Sand in the Trade and Environment Machinery? The Doha Round at the WTO's 10th Anniversary. *EcoLomic Policy and Law* 2 (1): 1-32.
http://www.ecolomics-international.org/headg_ecolomic_policy_and_law.htm

[16] Gary Gardner. 2006. First Do No Harm. *World*Watch* January-February, 30-31, (31)

[17] Urs Fitze. 2006. Impossible de démontrer l'innocuité du rayonnement. *Environnement* 2 (Office fédéral de l'environnement). 47-49 (47).

[18] Bernhard Raos. 2003. Lebensgefährliche Nachlässigkeit. *Beobachter* 28-31 (28).

efforts to communicate the risks that they knew to be inherent in the handling of this material without very elaborate protective measures. The question arose at the WTO Dispute Settlement Body (DSB) whether asbestos and asbestos-containing products on one hand, and substitute products which have been on the market for a long time on the other hand, are equivalent, i.e. so-called "like" products. The DSB has ruled that they are not, and that as a consequence the banning of these products for health reasons is WTO-compatible.[19] As we can see, the long and tragic history of asbestos contamination due to incompetent governmental regulations and industry pressures to cover up scientifically established dangers represents by now a well-known illustration of the importance of the role of science in modern society and of the wide-ranging ramifications that may result from its action -- or from its inaction.

2. The Basel, Rotterdam, and Stockholm Conventions Regulating International Transports of Hazardous Chemicals and Wastes

There is a considerable discussion in the international environmental affairs literature on the issue of reorganizing the structures of global environmental governance, [20] especially the question of establishing a new UN or World Environment Organization, or whether UNEP should be converted into a UN specialized agency.[21] The late Konrad von Moltke has been arguing, from the beginning of this debate, that MEAs ought to be *clustered* according to functional synergies which would make a closer cooperation beneficial,[22] The three Geneva-based chemicals and wastes conventions have frequently been cited as the most likely candidates for increasing synergies by creating such a cluster. The mandate of each one of them is distinct and separate from that of the other two, but they all operate in the same broad issue area. These are the Convention on Transboundary Movements of Hazardous Wastes and their Disposal, i.e. the Basel Convention,[23] the Rotterdam Convention on Prior Informed Consent,[24] and the Stockholm Convention on Persistent Organic Pollutants.[25] Thanks to important commonalities there are important areas where their tasks are to some extent similar and therefore may benefit from targeted efforts at increasing synergies. The three conventions are administered by the United Nations Environment Programme (UNEP)[26] with the exception of the Rotterdam

[19] European Communities - Measures Affecting Asbestos and Asbestos-Containing Products, WT/DS135/AB/R, 12 March 2001.
[20] UNEP uses the term 'International Environmental Governance.'
[21] See for instance *Global Environmental Politics* Vol. 1 No. 1 Current Debate section on "A World Environment Organization."
[22] Konrad von Moltke. 2001. The Organization of the Imposible. *Global Environmental Politics* 1 (1): 23-29.
[23] Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal. Text of the Convention: http://www.basel.int/text/con-e-rev.pdf
[24] The Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade. Text of the Convention: http://www.pic.int/en/ConventionText/ONU-GB.pdf
[25] Stockholm Convention on Persistent Organic Pollutants. Text of the Convention: http://www.pops.int/documents/convtext/convtext_en.pdf
[26] http://www.chem.unep.ch/chemicals/default.htm and http://www.unep.org/themes/chemicals/?page=home
http://www.unep.org/themes/chemicals/?page=home

Convention that is jointly administered by FAO and UNEP. In addition, one should keep in mind -- among a number of related organizations and mechanisms -- especially two important initiatives whose discussion unfortunately goes beyond the framework of this introductory article: (1) The UNEP Chemical's Strategic Approach to International Chemicals Management (SAICM),[27] a new ambitious comprehensive institutional framework being developed with the objective of becoming an effective instrument of international chemicals policy, [28] which has developed a Quick Start Program that has its own trust fund;[29] (2) the Ad Hoc Joint Working Group (AHJWG)[30] whose mandate consists in enhancing cooperation, coordination and synergies among the three conventions. Let us look now briefly at each one of the three conventions.

The Basel Convention

> The Basel Convention addresses the challenges posed by the generation, transboundary movement and management of hazardous wastes and other wastes. In the late 1980s, stricter environmental standards and higher disposal costs in developed countries increased the shipment of hazardous waste to countries that were not always able to adequately manage the waste. Improper management, indiscriminate dumping, and the accidental spill of wastes can result in, *inter alia*, air, water, and soil pollution that endangers entire communities, burdens countries with colossal clean up costs, and undermines prospects for development. A public outcry over the mounting evidence of uncontrolled movement and dumping of hazardous wastes, including incidents of illegal dumping in developing nations by companies from developed countries, led to the adoption of the Basel Convention in 1989. The Basel Convention came into force in 1992. Its fundamental aims are the control and reduction of transboundary movements of hazardous wastes and other wastes subject to the provisions of the Convention, the disposal and treatment of such wastes as close as possible to their source of generation, the reduction and minimization of their generation, the environmentally sound management of such wastes and the active promotion of the transfer and use of cleaner technologies. [31]

The creation of the Basel Convention was further pushed ahead by some highly mediatized disastrous voyages of "toxic ships" such as the 'Pelicano'[32] in 1986 or the 'Karin B' in 1988[33] which focused the mind of the world's environmental authorities on the problem. It is the oldest and largest of the three Conventions in terms of the Secretariat's staff. All industrialized countries are parties except the United States who have signed it but not ratified,[34] it presently counts 170 members.[35]

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[27] http://www.chem.unep.ch/saicm/

[28] Franz Xaver Perrez. 2006. The Strategic Approach to International Chemicals Management: Lost Opportunity or Foundation for a Brave New World? *RECIEL* 15 (3): 245-258.

[29] http://www.chem.unep.ch/saicm/qsptf.htm

[30] http://ahjwg.chem.unep.ch/

[31] UNEP Economics and Trade Branch (DTIE-ETB). 2007. Trade-related Measures and Multilateral Environmental Agreements, prepared by CIEL, 31 p. (15).
http://www.unep.ch/etb/areas/pdf/MEA%20Papers/TradeRelated_MeasuresPaper.pdf

[32] http://query.nytimes.com/gst/fullpage.html?res=940DE1DC163DF93BA15752C1A96E948260

[33] http://query.nytimes.com/gst/fullpage.html?res=940DEFDC1F38F930A3575AC0A96E948260&sec=&spon=&pagewanted=print

[34] On 13 March 1996, the Secretary-General received from the Government of the United States of America, the following communication:
"(1) It is the understanding of the United States of America that, as the Convention does not apply to vessels and aircraft that are entitled to sovereign immunity under international law, in particular to any

The convention is based on the principle of Environmentally Sound Management (EMS) which it subdivides into three separate levels: (1) The minimization of the generation of hazardous wastes is a strategy which takes into consideration the integrated life cycle of a product from mining, growing or otherwise accumulating the raw materials to manufacturing and use all the way to the final disposal. (2) Hazardous wastes should be treated and disposed of as close as possible to the location were they were created. In practice, however, this principle needs to be qualified by the need to dispose of numerous products in industrial incinerators rather than simply burning them close by which tends to release much more toxic emissions. The convention has elaborated a number of technical guidelines for recycling, disposal of specific groups of waste, and for the rehabilitation of old dumps. (3) International movements of hazardous waste should be minimized. Exporters or brokers must obtain from the government of the exporting state prior written consent issued by the competent authorities of the state of import and any transit country.[36]

The incineration of hazardous wastes has become a large industry; it is essentially monopolized by about half a dozen corporations.[37] Significant changes have occurred in business practices with regard to waste management and disposal. The rapidly advancing concentration and globalization process of the waste management industry has led to the adoption of certain industrial patterns ("templates")[38] leading to strong lobbying groups and very serious questions about technical cooperation practices, especially with regard to recycling[39] and the touchy relationship between the Basel ban and illegal trade flows.[40] The pressures and

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warship, naval auxiliary, and other vessels or aircraft owned or operated by a State and in use on government, non-commercial service, each State shall ensure that such vessels or aircraft act in a manner consistent with this Convention, so far as is practicable and reasonable, by adopting appropriate measures that do not impair the operations or operational capabilities of sovereign immune vessels.

(2) It is the understanding of the United States of America that a State is a `Transit State' within the meaning of the Convention only if wastes are moved, or are planned to be moved, through its inland waterways, inland waters, or land territory.

(3) It is the understanding of the United States of America that an exporting State may decide that it lacks the capacity to dispose of wastes in an `environmentally sound and efficient manner' if disposal in the importing country would be both environmentally sound and economically efficient.

(4) It is the understanding of the United States of America that article 9 (2) does not create obligations for the exporting State with regard to cleanup, beyond taking such wastes back or otherwise disposing of them in accordance with the Convention. Further obligations may be determined by the parties pursuant to article 12.

Further, at the time the United States of America deposits its instrument of ratification of the Basel Convention, the United States will formally object to the declaration of any State which asserts the right to require its prior permission or authorization for the passage of vessels transporting hazardous wastes while exercising, under international law, its right of innocent passage through the territorial sea or freedom of navigation in an exclusive economic zone."

http://www.basel.int/ratif/convention.htm

[35] http://www.basel.int/ratif/convention.htm

[36] *Minimizing Hazardous Wastes: A Simplified Guide*. 2005. Basel Convention. 18 p.

[37] Kate O'Neill. 2001. The Changing Nature of Global Waste Management for the 21st Century: A Mixed Blessing? *Global Environmental Politics* 1 (1): 77-98 (83).

[38] *Ibid.* 90.

[39] *Ibid.* 94.

[40] Eric Neumayer. 2001. Greening Trade and Investment Without Protectionism. London: Earthscan, 228 p. (165).

lobbying efforts of local as well as international commercial interests which attempt to maintain a lucrative international trade of recyclable scrap metals and other retrievable substances of commercial value complicate the task of achieving a responsible and transparent control over these very large material flows.[41]

The early negotiations at the Basel Convention were, as the recently appointed Executive Secretary Dr. Katharina Kummer Peiry observed, "emotionally charged"[42] during the first couple of Conferences of the Parties, and have since then become gradually more technically oriented. In 1999 a Liability Protocol was adopted which so far has only 8 Parties out of 20 that are required for entry into force,[43] but which nevertheless represented a significant legal breakthrough for the still new convention.[44] Finally, in 2002 a Compliance Committee was established which consist of 15 members drawn in equal numbers from the five regional groups. Its task is to assist members who encounter difficulties in implementing the convention, e.g. in dealing with illegal shipments or meeting reporting requirements. Submissions can be made to the Committee by a Party about its own compliance or implementation difficulties, or about another Partiy's difficulties, or by the Secretariat when it becomes aware, through national reporting, that a Party may be experiencing difficulties.[45] As a pioneering innovation, it may significantly influence the respective negotiations at the Rotterdam and Stockholm Conventions and other MEAs.[46]

Technical cooperation includes relevant organizational and institutional arrangements such as especially public-private partnerships (PPP) which are particularly important for the Basel Convention.[47] These PPPs represent an important aspect in the context of the rise of private enterprise involved in the execution of tasks in the environmentally sound waste management. The incineration of hazardous wastes is an important example of this increasingly widespread kind of division of work. Thus the Basel Convention's Secretariat cooperates for example with Holcim, one of the world's largest cement suppliers in the management of the incineration of hazardous wastes in cement kilns.[48] The Secretariat is also involved in

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[41] Kate O'Neill, 2001, *op. cit.* 94-96.

[42] Katharina Kummer. 1998. The Basel Convention: Ten Years On. *RECIEL* 7 (3): 227-237, 230.

[43] Protocol on Liability and Compensation for Damage Resulting from Transboundary Movements of Hazardous Wastes and Their Disposal
http://www.basel.int/meetings/cop/cop5/docs/prot-e.pdf

[44] Kanami Ishibashi. 2003. Environmental Measures Restricting the Waste Trade. In *Economic Globalization and Compliance with International Environmental Agreements,* edited by Alexandre Kiss, Dinah Shelton and Kanami Ishibashi, 59-74. The Hague: Kluwer Law International (62). Botswana, Congo (Republic), Congo (Democratic Republic), Ethiopia, Ghana, Liberia, Syria, Togo.

[45] 2002 Compliance Mechanism - The Compliance Mechanism, adopted at COP6 in December 2002, promotes the identification, as early as possible, of implementation and compliance difficulties encountered by Parties.
http://www.basel.int/legalmatters/compcommitee/index.html

[46] Akiho Shibata. 2003. The Basel Compliance Mechanism. *RECIEL* 12 (2): 183-198 (198).

[47] The Basel Convention has a *Partnership Programme* which originates in the 1999 Ministerial Basel Declaration on Environmentally Sound Management. The text of this "Framework for Cooperation with Industry (31 Oct. 2002)" is available at
http://www.basel.int/meetings/cop/cop6/english/32a1e.pdf

[48] Information on this joint venture is provided by the Basel Convention's short description of its involvement in a project in the municipality of Guayaquil, as well as other municipalities in Ecuador at www.basel.int/press/environment-day-2005.doc

the management of electrical and electronic waste,[49] an initiative which illustrates developing countries' difficulties in coping with definitional difficulties such as establishing what kind of wastes falls under which provisions.[50] Another important example is the Africa Stockpiles Programme which involves over a dozen partners such as UNEP, FAO, WHO, WWF and the GEF.[51] PPPs in certain sectors of environmental management have assumed a very important role which has prompted Robert Falkner of the London School of Economics to explore the linkages of Global Environmental Governance with private enterprise, especially with regard to waste management.[52] He concludes that "private governance has become a reality in global environmental politics that few analysts deny," but cautions that there is not enough information available to evaluate the effects of this complex interdependence between private and public actors. He emphasizes in fact that this kind of research "needs to move center-stage in the study of international environmental politics."[53]

The Basel Convention convened its ninths Convention of the Parties (COP-9) in Bali, Indonesia from 23-27 June 2008. In spite of a heavy agenda the negotiations were conducted in a constructive spirit without any of the dreaded all-night sessions which may be interpreted as a reflection of the maturity and good administration of the Secretariat.

The one issue, however, which intractably resisted a comprise consensus was the Basel Ban, more correctly called the Ban Amendment. The Ban Amendment was adopted by the Parties in 1995, it bans hazardous wastes exports for recycling as well as for final disposal from so-called Annex VII countries, i.e. OECD members, to non-Annex VII countries which are composed of all the other Parties. The most important disagreement consisted in the interpretation of the key modality of the adoption of amendments to the Convention and to its Protocols.[54] Do the three-fourth of the Parties refer to the Number at the time of the Convention's ratification in 1995 (*fixed approach*, 82 ratifications) or to those who ratified at any given time, i.e. 170 presently (*current time approach*)? Even a contact group chaired by Switzerland, and later an informal lunch discussion during the high-level segment, hosted by Rachmat Witoelar, the Indonesian Environment Minister, were unable to breach the deadlock.[55]

The Basel Ban is contentious for a number of reasons: it reduces opportunities for profitable recycling operations; it requires knowledge of the toxicity of the products which is not always clearly established e.g. in the case of electronic waste; enforcement of controls and traceability by the exporting country is expensive and

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[49] René Vossenaar, Lorenzo Santucci and Nudjarin Ramungul. 2006. Environmental Requirements and Market Access for Developing Countries: the Case of Electrical and Electronic Equipment. In *Trade and Environment Review 2006*, 61-91. Geneva: UNCTAD.

[50] Constanza Martinez. 2006. Electrical and Electronic Equipment Waste and the Basel Convention, Annex I. In *Trade and Environment Review 2006*, 92-95. Geneva: UNCTAD.

[51] http://www.africastockpiles.org/

[52] Rober Falkner. 2003. Private Environmental Governance and International Relations: Exploring the Links. *Global Environmental Politics* 3 (2): 72-88.

[53] *Ibid*. 84.

[54] Amendments adopted … shall enter into force between Parties having accepted them .. by at least three-fourths of the Parties who accepted them or by at least two thirds of the Parties to the protocol concerned who accepted them, except as may otherwise be provided in such protocol. Basel Convention Art. 17.5.

[55] Hira Jhamtani. 2008. Basel Convention Members again Fail to Agree on Toxic Waste Ban. *Third World Resurgence* No. 214, June, 2-5.

there are no economic incentives to take this matter seriously; the push toward more globalized and integrated markets has resulted in new trade patterns such as inter-Asian or Asia-Africa flows of chemicals and wastes which complicate the Convention's work considerably; illegal shipments may increase as a result of tighter regulations especially if their implementation is deficient.[56] These complexities go a long way in explaining the difficulty in reaching a consensus on the Basel Ban.

Another key item on the agenda consisted in making some progress in the comprehensive process toward improving the synergies among the three chemicals and wastes Conventions. An important achievement therefore consisted in the adoption, in its entirety, of the Report of the third meeting of the Joint Ad Hoc Working Group (JAHWG).[57] Brazil initially requested a section-by-section negotiation which would have jeopardized such a conclusion but in the end it joined the consensus.[58] The report will be discussed by the upcoming COPs of the Rotterdam and the Stockholm Conventions, that is why it was crucial for progress with regard to the enhancement of synergies that the first and biggest Convention would adopt it, especially since in May 2009 the Second International Conference on Chemicals Management (ICCM-2), to be held back to back with the Stockholm COP in Geneva, will attempt to provide a coordinated impetus to this synergies process.

The Rotterdam Convention

> The Rotterdam Convention provides countries considering the importation of certain hazardous pesticides and chemicals the tools and information they need to identify potential risks and exclude chemicals they cannot manage safely. In addition, if a country agrees to import chemicals, the Rotterdam Convention promotes their safe use through labeling standards, technical assistance, and other forms of support. Hazardous pesticides and other chemicals create significant risks to human health and the environment, killing or seriously affecting the health of thousands of people every year and also damaging the natural environment and many wild animal species. Governments began to address the problem in the 1980s by establishing a voluntary Prior Informed Consent (PIC) procedure and in 1998 strengthened the procedure by adopting the Rotterdam Convention, which makes PIC legally binding. The Rotterdam Convention has two primary objectives. First, it aims 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. Second, it seeks to contribute to the environmentally sound use of those chemicals by facilitating information exchange about their characteristics. [59]

An important characteristic of the Prior Informed Consent (PIC) Convention is its bicephalous Secretariat, with its double venues of Rome, where it is administered by FAO, and Geneva, administered by UNEP Chemicals. Adopted in 1998 in Rotterdam,

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[56] The worst recent example is the illegal dumping of 580 tons of toxic chemicals from the *Probo Koala* in Abidjan, Côte d'Ivoire, on 19 August 2006. The vessel started from Amsterdam, under the Panamian flag of conveniance, owned by a Greek shipping company, chartered by the Dutch trading company Trafigura. Isolda Agazzi. La Côte d'Ivoire toujours contaminée par les déchets toxiques. *Le Courrier (Genève),* 30 août 2008 p. 9. Christine D'Anna-Huber. Schmutzige Geschäfte mit Todesfolgen. *Tages-Anzeiger (Zürich)* 20.9.2006, p. 10.

[57] This working group comprised a representative of 15 members of each of the three Conventions.

[58] Earth Negotiations Bulletin Vol. 20 No. 31, 30 June 2009. http://www.iisd.ca/vol20/enb2031e.html

[59] UNEP Economics and Trade Branch (DTIE-ETB). 2007. Trade-related Measures and Multilateral Environmental Agreements, prepared by CIEL, 31 p. (18). http://www.unep.ch/etb/areas/pdf/MEA%20Papers/TradeRelated_MeasuresPaper.pdf

it entered into force in 2004. All industrialized countries are parties except the US and Israel.[60] The framing of technology-related issues in a perspective which emphasizes technical cooperation activities is particularly important for the Rotterdam Convention as Paula Barrios explicitly confirms:

> …[the Rotterdam Convention] reflects the mistaken assumption that information will by itself improve the capacity of developing countries to implement its provisions. Instead, experience gained from the voluntary system reveals that enhancing the ability of these countries to analyze chemical data, to test chemicals under their own conditions, to document and report poisoning incidents, and generally to safely manage hazardous chemicals, is essential for the successful implementation of the PIC procedure. [61]

Indeed, the PIC procedure may be quite difficult for developing countries to implement, yet achieving compatibility between the two regimes is of crucial importance for the effectiveness of the convention.[62] Unlike the Basel Convention -- and also the Cartagena Protocol -- Rotterdam lacks a re-importation obligation.[63] It is crucial for technical cooperation to be effective that importing developing countries have an institutionalized and operationalized understanding of the complex processes and procedures which govern these rights and obligations that are sometimes difficult to reconcile for a WTO Member and MEA Party. [64] [65]

The PIC procedure finds its roots in Article 9 of the FAO's 1986 *International Code of Conduct on the Distribution and Use of Chemicals,* a voluntary set of chemical standards for the handling and transport of pesticides. The transformation of this voluntary standard into a binding procedure occurred in the 1990s, it was pushed to an important extent by two NGOs, the Pesticide Action Network (PAN) and by Oxfam. It was, however, the change of heart of US and UK industry coalitions which provided the decisive momentum. The *Groupement international des associations de fabricants de produits agrochimiques* (GIFAP) in its 1991 annual report announced its support for the FAO/UNEP efforts to implement the PIC procedure because it seems to have feared that the alternative would be an outright prohibition of the export of certain pesticides, specifically a bill debated in the US during 1991-92 which proposed export controls for certain pesticides. GIFAP therefore was able to avoid this worse scenario by supporting the FAO/UNEP PIC

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[60] Ratifications : http://www.pic.int/home.php?type=t&id=63

[61] Paula Barrios. 2004. The Rotterdam Convention on Hazardous Chemicals: A Meaningful Step Toward Environmental Protection? *Georgetown International Environmental Law Review*, Summer issue (online version).
http://findarticles.com/p/articles/mi_qa3970/is_200407/ai_n9429400 (section one)

[62] Katharina Kummer. 1999. Prior Informed Consent for Chemicals in International Trade: The 1998 Rotterdam Convention. *RECIEL* 8 (3): 323-330.

[63] Redgwell, Catherine. 2003. Regulating Trade in Dangerous Substances : Prior Informed Consent under the 1998 Rotterdam Convention. In *Economic Globalization and Compliance with International Environmental Agreements,* edited by Alexandre Kiss, Dinah Shelton and Kanami Ishibashi, 75-88. The Hague: Kluwer Law International.

[64] *Ibid.* 86: *Relationship with the WTO Agreements* "… Controversy on this point appears to be inherent in multilateral environmental negotiations addressing transboundary transfer of potentially hazardous substances, since they deal with the interface of environmental and trade considerations."

[65] Ted L. McDorman. 2004. The Rotterdam Convention on Prior Consent: Some Legal Notes. *RECIEL* 13 (2): 187-200.

procedure as the lesser evil.[66] The list of chemicals which are subject to the PIC procedure are contained in Annex III; Annexes II and IV spell out the criteria for listing chemicals in accordance with the procedures of Art. 5 and 6 respectively, on one hand for banned or severely restricted chemicals, and on the other hand for hazardous pesticide formulation.

Thus the Rotterdam convention represents a compromise between environmental and health objectives on one hand, and export industries' interests on the other hand. At the beginning health objectives were predominant, environmental objectives were resisted during the negotiations but in the end they achieved equal ranking.[67] Interactions on the risk management of pesticides and pesticide residues in food between the Rotterdam Convention, WTO, and also the much older but constantly renegotiated Codex Alimentarius pesticide residue standards don't appear to generate a large amount of interest. This may be explained by the fact that an importing country's basic position on the question of the rights to use a precautionary approach to risk management in the Rotterdam Convention is related with its position toward principles of risk management within the WTO where the question of precaution is still not clarified. This applies also to the Codex where the question of precaution has also long been a touchy issue which is still not resolved.[68] One may hypothesize that Members and Parties of these regulatory frameworks may not want to rock the boat of diplomacy unnecessarily regarding a negotiation issue where it is clear that consensus presently is very elusive. Now what is the position of the Rotterdam Convention with regard to precaution? It mentions the term 'precaution' twice but in a manner which is quite innocuous for the WTO:

> Article 15
> Information exchange
> 3. The following information shall not be regarded as confidential for the purposes of this Convention:
> (d) Information on precautionary measures, including hazard classification, the nature of the risk and the relevant safety advice;
>
> Annex V
> INFORMATION REQUIREMENTS FOR EXPORT NOTIFICATION
> 1. Export notifications shall contain the following information:
> (e) Information on precautionary measures to reduce exposure to and emission of, the chemical;[69]
>
> [Underlining added]

[66] Peter Hough. 2003. Poisons in the System: The Global Regulation of Hazardous Pesticides. *Global Environmental Politics* 3 (2): 11-24 (15-16).
[67] *Ibid.*
[68] *Ibid.* 17.
[69] Rotterdam Convention *op. cit.*

The Stockholm Convention and UNEP/DGEF

> The Stockholm Convention is a global treaty focused on protecting human health and the environment from persistent organic pollutants (POPs). POPs are chemicals that remain intact in the environment for long periods, become widely distributed geographically, accumulate in the fatty tissue of living organisms, and are toxic to humans and wildlife. With the evidence of long-range transport of these chemicals to regions where they have never been used or produced and the consequent global threats they pose to human health and the environment, States recognized the need for global actions to reduce and eliminate releases of these chemicals… In order to achieve its objective, the Stockholm Convention seeks to eliminate or restrict the production and use of intentionally produced POPs. It also seeks to continue minimizing and, where feasible, ultimately eliminate releases of unintentionally produced POPs. In addition, the Stockholm Convention requires Parties to develop strategies for identifying POPs stockpiles and wastes and to ensure that they are managed or disposed of in an environmentally sound manner. [70]

The Convention on Persistent Organic Pollutants (POPs) was adopted in 2001 in Stockholm and has entered into force in 2004. Several industrialized countries have not yet ratified it.[71] POPs are chemicals which are known to bio-accumulate in body tissues, which is what makes them particularly dangerous. The evidence provided by Rachel Carson in 1962 about DDT which, as she was able to demonstrate scientifically, accumulated in living organisms at great distances from spraying locations can be considered to have triggered the awakening of the 20th century to the fact that potent environmental contaminants can travel long distances and threaten public health and the environment. They can be semi-volatile and travel hundreds of kilometers through cycles of evaporation and precipitation. The convention has singled out 12 POPs which can be divided into (I) unintentional by-products (dioxins and furans), (II) industrial chemicals (PCB is the best known), and (III) the remainders which are pesticides, the largest group including DDT. This Convention is situated -- perhaps more than any other MEA -- right at the interface between environmental and health concerns and was shaped substantially by fears over threats to health like cancers or birth defects arising from toxic chemicals.[72]

Technology-related concerns are reflected especially in measures to reduce or eliminate releases from unintentional production (Art. 5 and Annex C). Interestingly, however, the Convention does not use the term 'technology transfer' at all, rather it emphasizes technical assistance, technical feasibility and similar expressions such as best available techniques and best environmental practices. As in the case of the Rotterdam Convention, the human aspects and the discussion of skills and capacities inherent in technical cooperation are stressed. The premises of technology-related debates have changed fundamentally over the past 10-15 years in that industrial production in developing countries has increased very much while at the same time climate change has become a major geopolitical issue.

An important technological and at the same time financial issue are electrical transformers filled with PBCs which need to be emptied and refilled with dielectric mineral oil. This replacement is so expensive that the operation is not carried out with

[70] UNEP Economics and Trade Branch (DTIE-ETB). 2007. Trade-related Measures and Multilateral Environmental Agreements, prepared by CIEL, 31 p. (23). http://www.unep.ch/etb/areas/pdf/MEA%20Papers/TradeRelated_MeasuresPaper.pdf

[71] Ireland, Israel, Italy, Malta, Poland, Russia, US.

[72] Pia M. Kohler. 2006. Science, PIC and POPs: Negotiating the Membership of Chemical Review Committees under the Stockholm and Rotterdam Conventions. *RECIEL* 15 (3) 293-303.

the sole objective to combat unintentional releases of furans and dioxins but other reasons such as the age of the transformer need to be taken into consideration also. These transformers have a life expectancy of about 40 years which is the reason why the phase-out of PCB is planned for 2025, i.e. 40 years from the time when these replacements started to get underway (at least in developed countries).

As far as this convention's positioning toward precautionary approaches is concerned, it does not discuss them in any operational detail, contrary to the Biosafety Protocol which was adopted the previous year in Monréal whose key distinction lies in the operationalization of the Precautionary Principle.[73] Nevertheless, it is significant that precaution appears very prominently at the very beginning:

> Article 1 Objective
> Mindful of the precautionary approach as set forth in Principle 15 of the Rio Declaration on Environment and Development, the objective of this Convention is to protect human health and the environment from persistent organic pollutants.
>
> [Underlining added]

Precautionary measures are not really problematic with regard to the 12 original chemicals, but that is changing regarding new POPs whose addition to the list is being negotiated. In any case, these 12 chemicals may be considered to be the "low hanging fruit," i.e. those chemicals where an agreement was achieved relatively easily because there is a large consensus on their dangers to public health and on their persistency in the environment. In any case, some have been replaced already, e.g. the three --drins[74] due to their particularly high toxicity.

The Rotterdam and the Stockholm Conventions have comparable concerns at the level of technical cooperation through their respective Chemical Review Committees, i.e. respectively the Chemical Review Committee (CRC) and the POPs Review Committee (POPRC).

The Stockholm Convention is the only one of the three which benefits from Global Environment Facility (GEF) financing, which has important organizational and procedural consequences.[75] UNEP's Division of GEF Coordination (UNEP DGEF) is cooperating with UNEP Chemicals and the Convention Secretariat. This cooperation is presently in an organizational transition period. Countries which benefit from GEF financing are expected to have established National Implementation Plans by 2008 when a new phase is starting. The GEF as an organization which was planned as a light structure is also undergoing change in that the original distinction between implementing agencies (World Bank, UNDP, UNEP) and executing agencies (UNIDO, FAO, IFAD) is increasingly getting blurred.[76]

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[73] Boisson de Chazournes, Laurence and Makane Moïse Mbengue. 2007. A Propos du principe du soutien mutuel -- les relations entre le Protocole de Cartagena et les accords de l'OMC. *Revue Générale du Droit International Public.* Numéro 4: 829-863.
[74] Annex A : Aldrin, Dieldrin, Endrin.
[75] Boisson de Chazournes, Laurence. 2005. The Global Environment Facility (GEF): A Unique and Crucial Institution. *RECIEL* 14(3): 193-202.
[76] Interviews at the three Conventions and UNEP Chemicals, 2007.

ECOLOMIC POLICY AND LAW

Journal of Trade & Environment Studies

© **Volume 5/6 (2) December 2008**

Published by Global EcoLomics http://www.EcoLomics-International.org/

ENVIRONMENTALLY SOUND MANAGEMENT – TOWARDS A COHERENT FRAMEWORK BRIDGING THE BASEL, THE ROTTERDAM, AND THE STOCKHOLM CONVENTIONS

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ABSTRACT

The objective of reducing the environmental footprint and adverse health effects of the materials we use and leave behind every day has been addressed with different policies and regulatory frameworks. These efforts can be subsumed under the overarching concept of "environmentally sound management" (ESM), a guiding principle of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal. However, based on the understanding that the notion of "waste" generally consists of a mixture of materials and substances, the concept of ESM is deemed appropriate for a wider scope of applications. From a policy as well as a legal perspective, the principles of ESM should therefore link the different legal frameworks which are applicable, i.e. in addition to the Basel Convention particularly the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, and the Stockholm Convention on Persistent Organic Pollutants. Such a multilateral ESM policy framework could provide the foundation for the development of important cornerstones to ensure an international level regulatory playing field and for the enhancement of proper waste management globally. Its goal is to protect and secure both the environment as well as human health in the long run.

1. OVERVIEW

The generation of wastes has overshadowed economic growth and development throughout history. Vast production and unsustainable consumption patterns and the particularly fast growing waste quantities have lead to the widely shared realization that modern society is facing a waste crisis. Economic globalization additionally challenges the handling of increased flows of materials crossing borders. In order to lead the management of wastes into the right channels, the guiding objective has repeatedly been framed as the reduction of the environmental footprint and of adverse health effects which such materials potentially leave behind during their lifecycle. This goal has been aimed at through minimizing waste generation as such, as well as by managing inevitable wastes in a way that enables the re-introduction of usable materials into the production cycle (thus reducing disposable wastes as a consequence). This strategy facilitates the final treatment and disposal of residual waste materials in an environmentally compatible manner.

Such an approach is conceptualized under the notion of "environmentally sound management" (ESM) and represents the fundamental principle of the *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*.[77] Additional ESM frameworks encompass, *inter alia,* the Organization for Economic Co-operation and Development (OECD) Recommendation C(2004)100 on the Environmentally Sound Management of Waste. Furthermore, non-binding, voluntary agreements have been established both by the International Standards Organization with the ISO 14000 series and by the European Union with the EMAS standards for organizations. ESM has also been framed as an overall objective and guideline for current attempts to address ship dismantling. However, ESM is a broad framework concept in the existing normative structure. In order to enable the concept's effective implementation, a further elaboration of this substantive principle is necessary to provide for a starting point in improving the coherence between the different existing and emerging legal regulations. In terms of a second step, a new approach for the future could be provided by the introduction of an international ESM framework to enhance proper waste management globally. Such an approach would unhinge ESM from its somewhat conceptual regulatory origins and acknowledge ESM as an overarching core principle for the management of potentially harmful and polluting materials.

In framing the subject of ESM, particular attention should be given to the fact that wastes generally consist of a heterogeneous mixture of materials. Environmentally sound waste management encompasses the process of products' reduction to their individual components, in order to separate reusable resources from disposable wastes. Such a complex undertaking reveals the problematic of referring to "wastes" as a uniform and apparently clear term, since wastes consist of diverse materials (products or substances) that call for specific treatments. The growing use of chemicals in production processes generates special challenges at the end of products' usefulness, particularly when hazardous components are involved. Persistent Organic Pollutants (POPs) for instance are organic compounds that resist environmental degradation and possess toxic properties. In light of these

[77] Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, in U.N.T.S., vol. 1673; I.L.M., vol. 28, 125, 657 (1989). http://www.basel.int/text/con-e-rev.pdf

considerations, it makes sense to apply the concept of ESM broadly by striving towards improved coherence between the different frameworks. In light of the hazards of the substances in question, this implies an approach linking the applicable legal frameworks, i.e. the *Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade* (hereinafter: RC),[78] the *Stockholm Convention on Persistent Organic Pollutants* (hereinafter: SC),[79] and the *Basel Convention* (hereinafter BC). Such an approach would facilitate the concrete implementation of ESM, beyond the materials' classification under the Conventions, with a view to covering the entire life-cycle of harmful chemicals.

The elaboration of an international ESM framework could improve the implementation of such core standards globally. Since waste management operations are carried out at a national level, the developing and issuing of domestic legislation become an essential prerequisite for effective waste management schemes. Furthermore, the increased flow of materials across borders calls for more certainty, transparency, predictability and traceability worldwide. Enhanced transparency in particular improves predictability and thereby will help to build a coherent regulatory framework that is an essential precondition for international cooperation. An internationally harmonized legal framework is indispensable for the implementation of a level playing field of regulations and helps ensure that facilities which have invested in environmentally sound technologies maintain their competitiveness; it would also prevent the use and abuse of lower and less stringent waste management standards as pollution havens. Since effective legal frameworks for the protection of the global environment cannot be confined to national borders, the consolidation of domestic regulations and the eventual establishment of a comprehensive international legal framework represent a necessity for safety and sustainability.

Before addressing possible steps towards the development of a coherent international ESM framework, this contribution shall initially outline the concept of ESM within the existing regulations on an international level. After such a delineation of the concept's contents, the rationale for improving a linkage between the Basel, the Rotterdam, and the Stockholm Conventions shall be examined in more detail. Finally, the study is rounded off with a focus on important criteria that need particular consideration in view of the development of a coherent international ESM framework as well as with a conclusion.

2. ESM IN EXISTING LEGAL FRAMEWORKS

1. The Basel Convention Framework

The *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal* (hereinafter: BC)[80] has become the central international

78 Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, in U.N.T.S., vol. 2244; I.L.M., vol. 38, 337; 1734 (1998). http://www.pic.int/en/ConventionText/ONU-GB.pdf

79 Stockholm Convention on Persistent Organic Pollutants, in I.L.M., vol. 40, 532 (2001). http://www.pops.int/documents/convtext/convtext_en.pdf

80 See supra note 77.

legal framework addressing hazardous and other wastes. The BC regulates transnational movements of hazardous and other wastes with the general objective of reducing the generation of hazardous wastes to a minimum and to regulate transnational shipments of wastes when unavoidable. The Convention's guiding principle is the protection of the environment and human health.[81] The BC does not ban the export of hazardous wastes completely – indeed the entry into force of the Ban Amendment[82] is rather uncertain at present – but rather introduces the criterion of ESM as an underlying principle and benchmark for regulating transnational waste trade.[83] Article 2(8) of the Convention introduces the concept of "environmentally sound management" and defines it as

> "taking all practicable steps to ensure that hazardous wastes or other wastes are managed in a manner which will protect human health and the environment against the adverse effects which may result from such wastes."

The Preamble to the Convention holds that transboundary movements of hazardous wastes, especially to developing countries, establish a high risk of not constituting an environmentally sound management of hazardous wastes as required by the Convention (Preambular paragraph 7bis). As a consequence, transboundary movements of wastes should be reduced to a minimum by disposing of them within the states where they were generated, as far as this ensures an environmentally sound and efficient waste management (Preambular paragraph 8; Article 4(2.b) and 4(2.d)), and by enhancing the control over the international wastes' movements (Preambular paragraph 10). The responsibility to ensure the environmentally sound waste management is thus primarily incumbent on the waste generating state;[84] only if the environmentally sound disposal is not possible in a generating state, the transboundary movement of such materials is allowed under the Convention (Article 4(9.a)).

Indeed, the environmentally sound transportation and disposal become a precondition for permitted transboundary movements of hazardous and other wastes under the BC (Preambular paragraph 23): The state parties to the Convention are obliged to prevent the importation or exportation of wastes if they have reasons to believe that the wastes in question will not be managed in an environmentally sound manner (Article 4(2.e), (2.g), and 4(8), as well as Article 6(3.b) and para. 20 of Annex

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81 On the elaboration and guiding principles of the Basel Convention see KATHARINA KUMMER, International Management of Hazardous Wastes. The Basel Convention and Related Legal Rules, New York 1995, 38-77.

82 The Ban Amendment is contained in the Conference Decision II/12, adopted at the Second Conference of the Parties to the Basel Convention (COP2), 25 March 1994, Geneva, Switzerland. Once the decision was adopted, the next step would have been to include a new provision in the text of the Convention. Therefore it was proposed that the ban be incorporated in the Basel Convention as an amendment with the Conference Decision III/1, adopted at the Third Conference of the Parties to the Basel Convention (COP3), 22 September, 1995, Geneva, Switzerland. For further information see http://www.basel.int/pub/baselban.html.

83 PIERRE PORTAS, From Makers to Breakers: A New Dimension in World Wide Waste Management, in Sustainable Waste Management, Ravindra K. Dhir/Moray D. Newlands/Tom D. Dyer (eds.), London 2003, 1-7, 1; see also Basel Declaration on Environmentally Sound Management printed in Annex II of UNEP, Report of the Fifth Meeting of the Conference of the Parties to the Basel Convention, 10 December 1999, UNEP/CHW.5/29, para. 3 (p. 85).

84 KUMMER, supra note 81, 56.

V A). As a consequence, a duty to re-import exported waste arises if the transboundary movement cannot be completed in accordance with the agreement concluded between the parties, and if alternative arrangements securing an environmentally sound disposal are not possible (Article 8). Furthermore, the Convention calls for the cooperation between the parties to improve the environmentally sound waste management (Article 4(2.h), Article 10 and Article 16). In particular, in cases of illegal waste traffic under Article 9 of the Convention, the states concerned are required to ensure the environmentally sound disposal of the waste in question; all the parties are held to cooperate to this end (Article 9(3) and (4)).

The BC constitutes a legally binding agreement for its state parties and firmly roots ESM as a necessary condition to fulfill parties' obligations under the Convention. Nonetheless, the concrete content of the concept requires further clarifications. For example, the manner in which the state of export can verify the importing state's waste management scheme is not described by the BC. Indeed, the general principle of state sovereignty in international law and the principle of territorial integrity limit the extent of a state's permitted survey over a foreign state – over which it has no jurisdiction – to the verification of documentation and materials that the importing state provides by itself.[85] Furthermore, the BC does not stipulate a unique ESM standard. For this reason, every exporting state will rely on its own appreciation on what environmentally sound management means. Nevertheless, the BC has encouraged the use of standardized documents, which contain the information necessary under the Convention, such as the movement document for example, which is required to accompany waste shipments up to their disposal.[86] The ESM concept has been further advanced by technical guidelines adopted by the Conferences of the Parties which provide clear direction and assistance for states to regulate operations based on standards that are in accordance with the provisions of the BC.[87] Furthermore, generally accepted and recognized international rules and standards in the field of packaging, labeling, and transport, as well as internationally recognized practices associated with the materials in question may also provide for valuable approaches (see Article 4(7.b)).

The management of wastes entails many different operational methods. According to the waste strategy hierarchy, preference is given to waste minimization and avoidance. The second-best solutions of final disposal, re-use, recycling and re are recommended mechanisms, preferable to landfilling or incineration.[88] ESM should be a guiding principle at every stage of the waste strategy hierarchy, with the objective that the products attain the longest life possible and cause minimum environmental impacts when reused and disposed of. However, the concrete measures that should be adopted to achieve the ESM objective are dependent on very different parameters: On the one hand the available local technical facilities

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85 Ibid., 22, 57.

86 See Article 4(7.c) and Article 6(9) as well as Annex V B on the information to be provided on the movement document.

87 See also KUMMER, supra note 81, 56-60.

88 PAUL T. WILLIAMS, Waste treatment and disposal, 2nd ed., Chichester 2005, 10; see also Basel Convention, Guidance Document on Transboundary Movements of Hazardous Wastes destined for Recovery Operations, in Basel Convention series / SBC No 02/02, 2002, para. 32-33; see Article 3 Directive 2006/12/EC of the European Parliament and of the Council of 5 April 2006 on waste, OJ L 114, 27.4.2006, p. 9-21.

have to be taken into account as well as the storage possibilities available. On the other hand, the storing or disposing state's climate will need particular consideration. Waste management operations will further depend greatly on the waste material in question. In order to tackle such challenges, the *Technical Guidelines* established by the Technical Working Group of the Basel Convention provide the tools to aim for achieving ESM: Technical Guidelines focus on waste streams such as wastes from the production and use of organic solvents, waste oils, wastes comprising or containing Polychlorinated Biphenyls (PCBs), Polychlorinated Terphenyls (PCTs), and Polybrominated Biphenyls (PBBs), as well as POPs, wastes collected from households, used tires, biomedical and healthcare wastes, waste lead-acid batteries, waste metals and metal compounds, etc. Additionally, Technical Guidelines have been elaborated on waste management operations such as landfill, incineration on land, oil re-refining, dismantling of ships etc.[89] The guidelines are intended to provide for a more precise approach to ESM in the context of specific waste streams including appropriate recommendations on treatment and disposal methods.

The Technical Guidelines form part of the overarching *Guidance Document on the Preparation of Technical Guidelines for the Environmentally Sound Management of Wastes Subject to the Basel Convention*,[90] which was accepted as the "*Framework Document*" by Decision I/19 of the first meeting of the Conference of the Parties to the Basel Convention in December 1992.[91] It follows the purposes of (i) providing information on waste avoidance and the management of wastes, (ii) guiding the national competent authorities in making the decision whether a proposed transboundary movement of waste should be consented to or rejected, and (iii) providing a framework for the further preparation of technical guidelines for the wastes subject to the Basel Convention. On this note, the Document provides some specifics on different elements of an environmentally sound waste management scheme. It addresses the wastes subjected to the Basel Convention,[92] the responsibilities of the concerned parties,[93] the elements of the Technical Guidelines,[94] strategic guidelines,[95] a comprehensive control system for ensuring the environmentally sound waste management,[96] the possibility of interim measures,[97] and further hazardous waste management options and good management practices.[98] According to the Framework Document, national legislation as well as a statutory regulatory framework is seen as an essential prerequisite for

89 The Basel Convention Technical Guidelines are available at http://www.basel.int/meetings/sbc/workdoc/techdocs.html.

90 UNEP, Guidance Document on the Preparation of Technical Guidelines for the Environmentally Sound Management of Wastes Subject to the Basel Convention, Basel Convention Working Documents, Secretariat of the Basel Convention, available at http://www.basel.int/meetings/sbc/workdoc/techdocs.html (hereinafter: Framework Document).

91 See UNEP, Report of the First Meeting of the Conference of the Parties to the Basel Convention, 5 December 1992, UNEP/CHW.1/24.

92 Framework Document, supra note 90, para. 11 and 12.

93 Ibid., para. 12-13.

94 Ibid., para. 13-18.

95 Ibid., para. 19-22.

96 Ibid., para. 23-25.

97 Ibid., para. 31-32.

98 Ibid., para. 33-43.

controlling the transboundary movements and the disposal of wastes[99]. Furthermore, the Document sets up criteria to help assess ESM[100] and lists principles that should be considered in the development of waste and hazardous waste strategies, which stem from different countries' national regulations.[101] They encompass the *source reduction principle*, the *integrated life-cycle principle*, the *precautionary principle,* the *integrated pollution control principle*, the *self-sufficiency principle*, the *proximity principle*, the *polluter pays principle,* as well as the *least transboundary movement principle*. The Framework Document explicitly emphasizes that these principles are not absolute and shall not be applied as definitions going beyond helpful guidance.

The Framework Document supports the understanding of hazardous waste management as an integrated activity connecting different players such as waste generators, carriers, disposers and other handlers, which all share the responsibility for ensuring environmentally sound management.[102] This approach acknowledges the fact that ESM may call for actions necessary prior to final waste disposal. For example, the proper waste classification is crucial for its environmentally sound management and relies primarily on the waste generators, which usually possess the necessary information and are in a position to properly separate waste materials. Furthermore, environmentally sound waste management also encompasses the transportation and storage of waste materials. The proper implementation of ESM therefore requires a multi-stakeholder approach, which takes into account the different stages from waste production until final waste disposal. An illustrative example for such a "cradle to grave approach" is given by the International Maritime Organization's (IMO) current undertaking to develop an international convention on the safe and environmentally sound recycling of ships, which will regulate, *inter alia*, the design, construction, and preparation of the ships, so that their safe and environmentally sound recycling is facilitated at the end of their life-cycle. Similarly, the Basel Convention Technical Guidelines for the Environmentally Sound Management of the Full and Partial Dismantling of Ships[103] lists preparatory procedures that should be implemented on the vessel prior to its voyage, as well as key tasks carried out by the ship dismantling facilities, the implementation of an Environmental Management Plan (EMP) that includes a mechanism on Environmental Impact Assessment (EIA) and an Environmental Management Scheme (EMS). The Guidelines thus address very different actors concerned with ESM issues in the lifecycle of a vessel.

The "International Strategy and Action Programme for the Environmentally Sound Management of Hazardous Wastes," an initiative undertaken by the Preparatory Committee to the United Nations Conference on Environment and

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99 Ibid., para. 7 and 8.

100 Ibid., para. 9(a-e). These include: An existing regulatory infrastructure and enforcement mechanism that ensures compliance with applicable regulations; sites and facilities that are authorized and equipped with adequate standards for technology and pollution control to deal with the hazardous wastes, in particular taking into account the level of technology and pollution control in the exporting country; sites' or facilities' operators at which wastes are managed are required to monitor the effects of those activities; appropriate action is taken in cases where monitoring gives the indication that the management of hazardous wastes have resulted in unacceptable emissions or in cases of accidental spillage; as well as adequate training of persons involved in the management of hazardous wastes.

101 Ibid., para. 10.

102 Ibid., para. 13 and 24.

103 Basel Convention Technical Guidelines for the Environmentally Sound Management of the Full and Partial Dismantling of Ships, 2002, UNEP/CHW.6/23.

Development (UNCED)[104] together with the Basel Convention Technical Working Group on Environmentally Sound Management, was influenced by the elaboration of Chapters 20 and 21 of *Agenda 21*.[105] The chapters' overall objective can be summarized as the prevention to the extent possible and the minimization of the generation of hazardous wastes, as well as the management of those wastes in such a way that they do not cause harm to human health and the environment.[106] Accordingly, the Chapters 20 and 21 further develop the fundamental principles contained in the notion of ESM (by outlining overall targets), the basis of actions and furthermore, propose effective activities and means of implementation.

At the fifth meeting of the Conference of the Parties of the Basel Convention in December, 1999, the *Basel Declaration on Environmentally Sound Management* was adopted together with its enabling *Decision V/33*, pursuing the objective to move towards concrete implementation of the ESM concept.[107] Activities were proposed to achieve ESM in the fields of (i) prevention, minimization, recycling, recovery and disposal of wastes, (ii) active promotion of cleaner technologies, (iii) reduction of transboundary movements of wastes, (iv) prevention and monitoring of illegal traffic, (v) improvement and promotion of institutional and technical capacity-building, and development as well as transfer of environmentally sound technologies, (vi) development of regional and subregional centers for training and technology transfer, (vii) enhancement of information exchange, education and awareness-raising, (viii) cooperation and partnership at all levels between countries, public authorities, international organizations, the industry sector, non-governmental organizations and academic institutions, and (ix) development of mechanisms for compliance with and the monitoring and effective implementation of the Convention and its amendments.[108] By focusing on the implementation through specific actions and by emphasizing a broad scope of application of ESM, this agenda provides for valuable inputs towards an ESM framework.

2. Bilateral, Multilateral and Regional Frameworks Adhering to ESM

According to Article 11 BC, ESM implies an overarching instrument crucial for the admissibility of legal agreements: Parties to the Convention are allowed to enter into bilateral, multilateral and regional agreements and arrangements regarding transboundary movements of hazardous and other wastes with individual parties or non-parties to the BC, provided that they respect the concept of ESM and do not conclude provisions which are less environmentally sound than those under the BC. As their names imply, such frameworks' applicability is limited to the geographical scope of their region and involved states' territories. Nevertheless, valuable inputs can be deduced from such approaches for a more coherent ESM concept.

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104 The UNCED took place in Rio de Janeiro in 1992 under the name of the "Earth Summit".

105 UN Conference on Environment and Development, *Agenda 21: Programme of Action for Sustainable Development*, UN Doc. A/CONF. 151/26 (1992); see KUMMER, supra note 81, 56-60.

106 Chapter 20 of *Agenda 21*, supra note 105, para. 20.6. http://www.un.org/esa/sustdev/documents/agenda21/english/agenda21toc.htm

107 The text of Decision V/33 is found in Annex I to the UNEP, Report of the Fifth Meeting, supra note 83; the text of the Basel Declaration on ESM is found in Annex II of UNEP; Report of the Fifth Meeting, supra note 83.

108 See Decision V/33 para. 1 (a)-(i), reiterated in Basel Declaration on ESM.

An example for the incorporation of ESM as an overall objective in bilateral agreements is given by the *Bilateral Agreement between the Netherlands and the Netherlands Antilles concerning Transboundary Movements of Hazardous Wastes*.[109] The agreement was established in 2005 and allows the imports of wastes into the Netherlands, in order to ensure a more efficient and environmentally sound waste management scheme than is to be expected by the only available land filling methods applied in the Netherlands Antilles.

On 30 January, 1991, the *Bamako Convention on the Ban of the Import into Africa and the Control of Transboundary Movement of Hazardous Wastes within Africa*[110] was adopted and entered into force in 1994. Although this regional Convention adopted a more trade-restrictive approach, its concrete form was strongly influenced by the BC.[111] Indeed, the Bamako Convention refers to the overall objective of the protection of human health and the environment and adheres to "environmentally sound management" in the context of different waste management activities[112] by adopting the same definition of ESM as the BC in its Article 1(10). The *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 (Waigani Convention)*,[113] adopted in 1995, also adheres to the ESM definition as provided by the BC (see Article 1 Waigani Convention) and implements it as an overall objective (see Article 4(4.c) Waigani Convention). Furthermore, the *Centroamerican Agreement on Transboundary Movements of Hazardous Wastes*[114] adopted on 11 December, 1992, has also incorporated Article 4(2.e) of the Basel Convention by not allowing hazardous waste exports into countries which have prohibited such imports by national law or international agreements, or if the exporting party has reasons to believe that the wastes in question will not be treated in an environmentally sound manner according to the policies and principles adopted by the United Nations Environment Programme (UNEP) (Article 3(4) Centroamerican Agreement).

The concept of ESM has also become a fundamental principle for waste management in the European Union's secondary legislation:[115] Although the European Union has established a considerable legal framework related to waste, it has not elaborated further on ESM within a separate legal instrument. Nevertheless, many EC Directives and Regulations adhere to environmental protection and the protection of human health as underlying principles for waste management, and thereby apply ESM schemes. For example, directives on different waste streams, such as the Directive 94/62/EC of 20 December, 1994, on packaging and packaging

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109 Available at http://www.basel.int/article11/frsetmain.php.

110 Bamako Convention on the Ban of the Import into Africa and the Control of Transboundary Movement and Management of Hazardous Wastes within Africa, adopted 30 January 1991, available at http://www.basel.int/article11/multi.html.

111 For more information on the Bamako Convention see KUMMER, supra note 81, 99-107.

112 Such as transport and transboundary movements of hazardous wastes from the contracting parties (Article 4(3.k) and (3.o)), as well as in the context of the notification procedures (Article 6(3.b)), the duty to re-import (Article 8), the intra-African cooperation (Article 10 (2.c and d)), as well as the international cooperation in bilateral, multilateral and regional agreements (Article 11).

113 Available at http://www.basel.int/article11/frsetmain.php.

114 Acuerdo Centroamericano sobre Movimiento Transfronterizo de Desechos Peligrosos, available at at http://www.basel.int/article11/centroamerican.pdf.

115 On EU legislation as a regional "arrangement" under Article 11 BC see KUMMER, supra note 81, 149-151.

wastes[116] as well as Directive 2000/53 of 18 September, 2000, on end-of life vehicles[117] use the notion of environmentally sound waste management.[118]

The more recently enacted Regulation No. 1013/2006 of the European Parliament and of the Council of 14 June, 2006, on shipments of waste[119] explicitly refers to Article 4(2.d) of the BC requiring that "shipments of hazardous waste are to be reduced to a minimum, consistent with environmentally sound and efficient management of such waste."[120] The regulation defines the principle of ESM in accordance with Article 2(8) of the BC,[121] however, applying a broader scope by referring to a definition of wastes according to Article 1(1.a) of Directive 2006/12/EC and not differentiating between "hazardous wastes" and "other wastes". In this regulation ESM is applied as a fundamental principle, particularly with regard to waste shipments within, exports from and imports into the European Community. In particular, Article 49 indicates that the necessary steps are to be taken to ensure that any waste shipped is managed "without endangering human health and in an environmentally sound manner throughout the period of shipment and during its recovery and disposal." Furthermore, the export of wastes to third countries is prohibited if there are reasons to believe that the waste will not be managed in accordance with ESM. The Regulation finally enumerates specific guidelines on ESM in its Annex VIII; this list includes references to the Technical Guidelines adopted under the BC as well as Guidelines established by the OECD on specific waste streams. Furthermore, it refers to IMO's Guidelines on ship recycling[122] as well as the International Labour Organization's (ILO) Guidelines on safety and health in shipbreaking for Asian countries and Turkey.[123] Furthermore, the EU has applied ESM as a decisive element in its more recent approach regarding waste management and recycling strategies.[124]

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116 European Parliament and Council Directive 94/62/EC of 20 December, 1994, on packaging and packaging waste, OJ L 365, 31.12.1994, p. 10-23.

117 Directive 2000/53/EC of the European Parliament and of the Council of 18 September 2000 on end-of life vehicles, OJ L 269, 21.10.2000, p. 34 with several amendments.

118 Directive 94/62/EC refers to ESM in its Preamble as well as in Article 5. Directive 2000/53/EC mentions environmentally sound treatment in its preambular paragraph 10, Article 2(13), and Article 9(2).

119 EC Regulation No 1013/2006 of the European Parliament and of the Council of 14 June 2006 on shipments of waste, OJ L 190, 12.7.2006, p. 1-98.

120 Ibid., Preambular Paragraph 8.

121 Ibid. Article 2(8) which states: "environmentally sound management means taking all practicable steps to ensure that waste is managed in a manner that will protect human health and the environment against adverse effects which may result from such waste."

122 IMO Guidelines on Ship Recycling, adopted at the 23rd Assembly in November-December 2003, A.962(23) and amended in 2005 by Resolution A. 980(24) of the IMO Assembly, available at http://www.basel.int/ships/compilation.html.

123 ILO, Safety and Health in Shipbreaking: Guidelines for Asian Countries and Turkey, adopted at the 289th session of the ILO Governing Body in 2004, available at http://www.basel.int/ships/compilation.html.

124 See for example Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions, Taking sustainable use of resources forward: A Thematic Strategy on the prevention and recycling of waste, 21.12.2005, COM(2005) 666 final.

ESM has also been addressed by the OECD in 2004 with the adoption of the Council Recommendation C(2004)100.[125] The objective of this recommendation is to provide for a level playing field for ESM among the OECD member countries, by providing for a clear definition and a common understanding of ESM.[126] This recommendation provides for valuable inputs when tackling an international normative ESM framework and will be of importance for the subsequent outline. A further advancement can be expected from the IMO International Convention for the Safe and Environmentally Sound Recycling of Ships, which shall presumably be adopted in Hong Kong in May 2009.[127]

3. RATIONALE FOR IMPROVING COHERENT AND EFFECTIVE LINKAGES BETWEEN THE BASEL, THE ROTTERDAM, AND THE STOCKHOLM CONVENTIONS

Chemicals and wastes can have the same harmful effects on human health and the environment. A hazardous waste can be a harmful chemical that has been used or discarded; end-of-life equipment containing toxic chemicals is characterized as a hazardous waste. Indeed, in many instances, it is not possible to distinguish between "chemicals" and "wastes" with regard to the chemical or physical properties. Without carefully linking hazardous waste issues with harmful chemical issues, it is unlikely that the quantity and hazardousness of wastes generated can be reduced. In light of these considerations, it makes sense to apply ESM practices broadly by trying to optimize coherence as a first step, before trying subsequently to introduce a comprehensive international ESM framework for addressing the proper management of waste materials potentially contaminated with POPs or other chemical substances. Such an approach would imply joining together the three Conventions addressing hazardous wastes in these terms, i.e. the *Basel Convention,* the *Rotterdam Convention,* and the *Stockholm Convention*.

The establishment of an ESM framework, sustained by binding legal rules, would represent an important step towards creating a level playing field of high environmental standards for the sound and safe management of the flow of wastes and recyclables worldwide and would help regulators address the implementation of ESM in a coordinated way, particularly avoiding contradictions or duplications between the three international Conventions. Furthermore, a comprehensive

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125 OECD Recommendation of the Council on Environmentally Sound Management of Waste, 9 June 2004, C(2004)100, as amended by C(2007)97. The OECD Council therewith built upon the Basel Convention framework as well as other OECD Council Acts related to transboundary movements of wastes, which had previously already referred to ESM (see C(83)189/FINAL, C(85)100, C(86)64/FINAL, C(90)178/FINAL, C(92)39/FINAL, and C(2001)107/FINAL). On the question whether the OECD Council Decision C(92)39/FINAL could be qualified as an "arrangement" under Article 11 BC see KUMMER, supra note 81, 165-168.

126 For an overview on the background of the OECD Recommnedation C(2004)100 see OECD, Guidance Manual on Environmentally Sound Management of Waste: Guidance Manual for the Implementation of the OECD Recommendation C(2004)100 on Environmentally Sound Management (ESM) of Waste, 2007, 6.

127 IMO, Draft International Convention on the Safe and Environmentally Sound Recycling of Ships, Annex 1 to the Report of the Third Intersessional Meeting of the Working Group on Ship Recycling, MEPC 57/3, 25 January 2008.

regulation of ESM can foster competition between the concerned enterprises,[128] and an ESM framework could constitute the backbone for a global ESM scheme, including, for example, ESM certification, international ESM standards, or traceability systems in order to strive toward improved implementation of ESM on a global scale.

A comprehensive legal framework should capitalize on the existing approaches undertaken so far, *inter alia*, by the Parties to the Basel Convention, the OECD members, or the Bureau of International Recycling.[129] The Basel Convention as well as the OECD Recommendation C(2004)100 pursue the overall objectives of enhancing the sustainable use of natural resources and the general aim of minimizing waste generation.[130] In addition, regarding wastes that cannot be avoided, the concept of ESM stipulates the protection of human health and the environment from adverse effects that may result from waste substances. This definition can be seen as an underlying principle, linking the Basel, the Rotterdam, as well as the Stockholm Convention.[131] All three Convention frameworks apply such a concept of ESM one way or another:

The RC was adopted and opened for signature on 10 September 1998; it entered into force on 24 February 2004. The Convention's elaboration has to be seen in light of accelerating growth in the production and trade of chemicals, which raised concerns about risks due to hazardous chemicals and pesticides. The Convention's objective is to promote shared responsibility and cooperative efforts among the parties with regard to international trade in certain hazardous chemicals in order to protect human health and the environment from potential harm. For this purpose, the Convention focuses on the information exchange between the parties. Informed decisions on import regulations based on the chemicals' characteristics are considered as important conditions for their environmentally sound use. Furthermore, the environmentally sound application is enhanced by the provision of a national decision-making process on the chemicals' import and export and by the dissemination of such decisions to the Convention parties (Article 1 RC). An initiative which had started as a voluntary information-exchange program promoted by UNEP and the Food and Agriculture Organization of the United Nations (FAO) in the 1980s was developed to constitute a binding legal framework on the Prior Informed Consent (PIC) procedure, applicable to banned or severely restricted chemicals and severely hazardous pesticide formulations listed in Annex III of the Convention (Article 3(1) RC).[132]

The SC was adopted on 22 May 2001 and entered into force on 17 May 2004. Its objective is to protect human health and the environment from persistent organic pollutants (so-called "POPs") (Article 1 SC). POPs are organic compounds that resist environmental degradation for long time periods and are widely distributed geographically through air, water and migratory species. The accumulation of POPs in the fatty tissue of human beings and wildlife can lead to serious health effects,

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128 See also OECD Council Recommendation C(2004)100, and its list of its three main objectives.

129 http://www.bir.org/

130 See Article 4(2.a) BC, Preambular paragraph 3 BC; see also Preamble of the OECD Council Recommendation C(2004)100, listing its three main objectives.

131 See Preambular paragraph 4 BC, Article 2(8) BC; Preambular paragraph 1 RC, Article 1 RC; Preambular paragraph 5 SC, Article 1 SC.

132 See the official website at http://www.pic.int; see also URS P. THOMAS, The International Management of Risk: An Overview of the Basel, Rotterdam and Stockholm Conventions, *EcoLomic Policy and Law, Journal of Trade & Environment Studies* 5 (1) 2008, 11-13. http://www.ecolomics-international.org/headg_ecolomic_policy_and_law.htm

such as cancer, birth defects, or dysfunctional immune and reproductive systems.[133] The SC establishes different measures to minimize and eventually eliminate specific releases of POPs. Furthermore, provisions are applied to prohibit and eliminate the import and export of such specific chemicals. The Convention adheres to the notion of "environmentally sound management," however, without providing for a definition of the term. In similar ways as the BC, the SC allows the import and export of chemicals that should be eliminated or restricted according to the Annexes A and B for the purpose of their environmentally sound disposal.[134] Furthermore Article 6 SC establishes provisions to reduce or eliminate releases from stockpiles and wastes, with the overall objective of ensuring that they "are managed in a manner protective of human health and the environment," drawing on the concept of "environmental soundness" for the management of stockpiles (Article 6(1.c)), the handling, collection, transportation, storage and disposal of such wastes and materials becoming wastes (Article 6(1.d)), and the remediation of sites contaminated by chemicals listed in the Annexes A, B, or C (Article 6(1.c)). To determine whether a method is considered as compatible with principles of environmentally sound disposal, the Conference of the Parties is held to cooperate with the appropriate bodies of the Basel Convention (Article 6(2)).

In a nutshell, the BC has clearly influenced the chosen wording of the RC and the SC. Their purposes are very similar to those of the Basel Convention's; indeed, Article 1 RC and Article 1 SC reiterate Article 2(8) BC by emphasizing the same objectives. Furthermore, justification for the linkage of the three frameworks could stem from the associational elements inherent in all of them: For example, the SC explicitly refers to the pertinent provisions of RC and BC including the regional agreements developed under Article 11 BC. Similarly to the RC, the BC has also adopted a PIC-procedure (see Article 6 and 7 BC) for the transnational movements of hazardous wastes and other wastes. Additionally, the SC also enhances information exchange according to its Article 9. Furthermore, chemicals subject to Annex III of the RC and Annexes A, B and C of the SC are partly also contained in Annex VIII of the BC, thus implying hazardous characteristics of the wastes in question, for example, Polychlorinated biphenyls (PCBs) are covered by all three Conventions.

Indeed, the Conventions' wording and contents do not forbid the implementation of an overarching ESM framework. The combination of their regulative elements seems appropriate in view of the fact that often enough the hazardousness of wastes can be traced back to the chemicals inherent in the materials disposed of. Since every imaginable substance is basically a chemical composition, a clear separation between waste materials possessing chemical elements, and chemicals is neither possible nor suggestive.[135] All three Conventions are administered under the auspices of UNEP, except for the RC which is administered jointly by FAO and UNEP. This organizational aspect additionally enhances coordination. Moreover, a harmonized course of action between the three legal frameworks in the field of ESM also corresponds to international attempts to

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[133] For further information see the official website at http://www.pops.int; see also THOMAS, supra note 132, 14-15.

[134] See Article 3(2.a.i), Article 3 (2.b.i), Article 3(2.c.), and Annex A Part II (c) and (d).

[135] See also the Updated General Technical Guidelines for the Environmentally Sound Management of wastes consisting of, containing, or contaminated with Persistent Organic Pollutants (POPs), adopted at the Eight Conference of the Parties to the Basel Convention (COP8), available at http://www.basel.int/techmatters/code/techguid.php.

enhance cooperation between the different instruments. When applying the concept of "environmental soundness," the SC already stipulates the close coordination between the SC Conference of the Parties and the appropriate bodies of the BC to determine the methods considered as ensuring environmentally sound disposal (Article 6(2.b) SC). In fact, the three conventions' Conferences of the Parties have established the Ad Hoc Joint Working Group (AHJWG), with the purpose of preparing joint recommendations on enhanced cooperation and coordination among the three legal frameworks.[136] However, attempts to enhance coherence between the three Conventions are challenged particularly by the different application fields they cover.

The BC has a very broad scope: It defines "wastes" as substances or objects which are disposed of or are intended or required to be disposed of by the provisions of national law (Article 2(1)). Two categories of wastes define the scope of the Convention according to Article 1 and the definition of ESM according to Article 2(8): "hazardous wastes" and "other wastes."[137] The applicability of the BC is fundamentally dependent on the classification and characterization of the wastes in question according to the Conventions' Annexes I, III, VIII, and IX; thereby the Convention draws on criteria regarding the intrinsic properties of waste.[138] The BC's scope of application encompasses waste pesticides and harmful chemicals, including POPs and doesn't distinguish between wastes generated on land or at sea, or between civil and military wastes, a differentiation adopted for example by the EU Directive 2000/59/EC.[139] The RC's field of application is limited to the hazardous chemicals and severely hazardous pesticide formulations contained in its Annex III. Article 3(2.c) RC explicitly excludes wastes from its application scope. The SC is applicable to the 12 POPs listed in its Annexes A and B.

Optimized coherence between the three Conventions is thus particularly challenged by the international "inter partes" principle, according to which a contract cannot create obligations or rights for a third state without that state's consent.[140] As a consequence, the adoption of a new coherent international framework on ESM could be a feasible option.

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136 See the decision SC-2/15 of the Conference of the Parties to the Stockholm Convention, decision RC-3/8 adopted by the COP to the Rotterdam Convention and decision VIII/8 of the COP of the Basel Convention. For further information see the official website of AHJWG at http://ahjwg.chem.unep.ch.

137 "Hazardous wastes" are defined by the categories contained in Annex I, unless they do not possess any of the characteristics contained in Annex III. Furthermore, the Convention acts on the assumption of hazardousness if wastes that are not covered under the Convention are considered as hazardous by the domestic legislation of the party of export, import or transit. "Other wastes" according to the Convention have to belong to a category contained in Annex II.

138 See PIERRE PORTAS, The Basel Convention and Environmentally Sound Management – a Global Concept with Concrete Applications, Presentation held at the Second OECD Workshop on Environmentally Sound Management of Wastes Destined for Recovery Operations, Vienna 28-29 September 2000, Vienna, para. 7.

139 See Directive 2000/59/EC of the European Parliament and of the Council of 27 November 2000 on port reception facilities for ship-generated waste and cargo residues, OJ L 332, 28.12.2000, p. 81-89, amended by Directive 2002/84/EC of the European Parliament and of the Council of 5 November 2002 amending the Directives on maritime safety and the prevention of pollution from ships, OJ L 324, 29.11.2002, p. 53-58 and Commission Directive 2007/71/EC of 13 December 2007 amending Annex II of Directive 2000/59/EC of the European Parliament and the Council on port reception facilities for ship-generated waste and cargo residues, OJ L 329, 14.12.2007, p. 33-36.

140 Article 34 Vienna Convention on the Law of Treaties, United Nations Treaty Series (UNTS), vol. 1155, 331.

4. TOWARDS A COHERENT INTERNATIONAL ESM FRAMEWORK BASED ON PRECAUTION AND RISK ASSESSMENT

A coherent international ESM framework should adhere to the Conventions' shared objective of protecting human health and the environment from adverse impacts stemming from waste generation and management. This entails a *preventive approach*, which can be perceived as a fundamental principle in environmental law.[141] As a golden rule for the protection of the environment in view of the impossibility to remedy numerous instances of environmental damages, and given the prohibitive costs of rehabilitation, the preventive principle tries to anticipate damage, and in cases where damage has already occurred, it tries to ensure it does not spread.[142] Whilst prevention is based on the comprehension of an existing certain risk, the *precautionary approach* goes a step further in cases where no definitive scientific evidence or proof exists of any probabilities that a threat will materialize. In response to such situations the precautionary approach stipulates measures based on anticipation.[143] In light of the acknowledged risks inherent in the handling of hazardous materials, all three Conventions can be interpreted as essentially sharing a preventive approach.

Article 4(2.c) of the BC stipulates that persons involved in the management of wastes under the Convention are to take the steps which are necessary to prevent pollution and, in case such pollution does occur, to minimize its impact on human health and the environment. The principle of prevention is also mentioned by the Framework Document on ESM as a possible strategy to be considered in the context of waste management. It reads:

> whereby preventive measures are taken, considering the costs and benefits of action and inaction, when there is a scientific basis, even if limited, to believe that release to the environment of substances, waste or energy is likely to cause harm to human health or the environment. [144]

Additionally, a preventive approach can be seen in the PIC procedure stipulated both by the RC and the BC.[145] A particularly preventive approach is applied to transnational movements by the three Conventions: Article 4 BC stipulates that Convention parties are held to ensure the availability of adequate disposal facilities, "for the environmentally sound management of hazardous wastes and other wastes, that shall be located to the extent possible, within it, whatever the place of their

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141 See also Chapter 20 of Agenda 21, supra note 105. See also Article 174 (2) of the Treaty establishing the European Community, as in force from 1 February 2003 (Nice Treaty consolidated version), OJ L 325, 24.12.2002, p. 33-159 framing the European environmental policy as adhering to a high level of environmental protection, thereby, "based on the precautionary principle and on the principles that preventive action should be taken…"

142 ALEXANDRE CHARLES KISS/DINAH SHELTON, International environmental law, 2nd ed., New York 2000, 263.

143 On the precautionary principle see NICOLAS DE SADELEER, Environmental Principles. From Political Slogans to Legal Rules, New York 2002, 91-223, see especially the section on distinguishing between Prevention and Precaution p. 74-75.

144 Framework Document, supra note 90, para. 10.

145 See KUMMER, supra note 81, 34.

disposal" (Article 4(2.b)). Transboundary movements of wastes are only permitted as an option in terms of a second step, "reduced to the minimum consistent with the environmentally sound and efficient management of such wastes" and if "conducted in a manner which will protect human health and the environment against adverse effects which may result from such movement" (Article 4(2.d)). These two provisions are referred to as an application of the *self-sufficiency principle* and the *proximity principle*. The former is considered to imply that countries should ensure that the disposal of the wastes generated within their territory is also undertaken there, corresponding to ESM criteria.[146] The latter principle is understood as stipulating that the disposal of hazardous wastes must take place as close as possible to their point of generation.[147] This corresponds to a broad comprehension of the *polluter pays principle* as reaffirmed by the preamble of the SC, which refers to Principle 16 of the Rio Declaration.[148] Accordingly, the polluter should generally bear the costs of the pollution he causes, by implementing a calculation which internalizes the environmental costs the pollution entails. In terms of pollution prevention, this principle stipulates that the potential polluter must actively endeavor to prevent pollution.[149]

Both the self-sufficiency principle as well as the proximity principle have been subjected to criticism in their absolute form.[150] This has led to an interpretation which recognizes that the management of some wastes may be more environmentally sound outside national territories, particularly depending on the availability of specialized facilities, even though they might be located at greater distances from the point of generation.[151] In a nutshell, the two principles could be summarized as a "*least transboundary movement principle"*, according to which transboundary movements of wastes should be reduced to a minimum consistent with efficient ESM.[152] Such an approach constitutes another facet of the preventive approach and enables its application as a guiding element for consolidating different ESM approaches that are not without controversy.

The precautionary principle whose scope of application includes more uncertain forms of risk materialization is explicitly mentioned in Article 1 SC, which refers to Principle 15 of the Rio Declaration on Environment and Development. The objective of the SC is thus to protect human health and the environment from POPs in an anticipatory manner, i.e. independent of acknowledged hazards, thus addressing problems of irreversibility and scientific uncertainties.[153] Such a precautionary approach is also applied by the Bamako Convention, which provides for precautionary measures in its Article 4(3). Within the legal framework of

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146 See definition in Framework Document, supra note 90, para. 10.

147 See definition in ibid., para. 10.7.

148 UN Declaration on Environment and Development, Rio de Janeiro, 14 June 1992 (Rio Declaration on Environment and Development), see Preambular paragraph 17 SC. See also Chapter 20 of Agenda 21, supra note 105, para. 20.38 (b).

149 See wording in Framework Document, supra note 90, para. 10.

150 Amongst others see for example ELLI LOUKA, *Overcoming National Barriers to International Waste Trade: A New Perspective on the Transnational Movements of Hazardous and Radioactive Wastes,* Dordrecht/Boston 1994, 3-6, 24-29; see also Framework Document, supra note 90, para. 39.

151 See corresponding supplementary formulation of the two principles in Framework Document, supra note 90, para. 10.

152 See ibid., para. 10.

153 KISS/SHELTON, supra note 142, 265.

international trade agreements this principle is adopted, for example, in the context of the provisional adoption of sanitary or phytosanitary measures on the basis of available pertinent information, in cases where relevant scientific evidence is insufficient. For a subsequent and more objective assessment of the risks in question, the parties are asked to seek to obtain the additional information necessary within a reasonable period of time (Article 5.7 of the WTO Agreement on the Application of Sanitary and Phytosanitary Measures [SPS Agreement][154]). Appropriate risk assessment[155] entails the taking into account of (i) available scientific evidence, (ii) relevant processes and production methods, (iii) relevant inspection, sampling and testing methods, (iv) prevalence of specific diseases or pests, (v) existence of pest- or disease-free areas, (vi) relevant ecological and environmental conditions, and (vii) quarantine or other treatment.[156]

Since risk is a relative factor with changing perceptions on its extent, it is important to provide for a stable approach based on the intrinsic properties of the waste in question. As a consequence, the environmental conventions establish catalogues of hazardous substances. With this approach, the conventions base their classification of materials and their treatment on deliberations and on risk assessment: under the RC, banned or severely restricted chemicals have to be notified to the Convention's Secretariat. The information requirements for notifications made pursuant to Article 5 RC include the indication whether the national regulatory action was taken on the basis of a risk or hazard evaluation. Furthermore, the hazards and risk to human health or the environment presented by the chemicals in question are summarized as part of the notification.[157] The criteria for listing banned or severely restricted chemicals encompass a review mechanism ensuring that the final regulatory action has been taken as a consequence of a risk evaluation and an assessment whether the regulatory action actually leads to risk reduction.[158]

The SC establishes certain information requirements and screening criteria for chemicals that are to be listed in the Annexes A, B and/or C of the Convention which specify the chemicals that are to be eliminated or restricted and that encompass chemicals which are subjected to measures to reduce or eliminate releases from their unintentional production. The criteria shall include information on the chemical's identity, its persistence, its bio-accumulation, its potential for long-range environmental transport, as well as its adverse effects.[159] The purpose of such a review is the evaluation whether the chemical is likely to lead to significant adverse human health and/or environmental effects so that global action is warranted. As a consequence, Annex E SC stipulates the development of a risk profile that further elaborates on the information and screening criteria provided by the party to the Convention.[160] Based on the risk profile as well as on the risk evaluation which includes an analysis of possible control measures for the chemical in question, the

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154 Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement), 15 April 1994, WTO Doc. LT/UR/A-1A/12.
http://trade.wtosh.com/english/tratop_e/sps_e/spsagr_e.htm

155 The notion of „risk assessment" is defined in Annex A para. 4 SPS Agreement.
http://www.wto.org/english/tratop_e/sps_e/spsagr_e.htm

156 Art. 5.2 SPS Agreement.

157 Annex I RC.

158 Annex II RC.

159 Annex D SC.

160 Annex E SC.

Persistent Organic Pollutants Review Committee shall then recommend whether the chemical should be considered for listing in the Annexes A, B and/or C.[161]

In sum, the risk evaluation in both Conventions is based on national standards; the impetus for amending the Convention's Annexes stems from the parties to the Conventions. The RC merely stipulates that the risk evaluation adopts a review of scientific data in the context of the conditions prevailing in the party to the Convention.[162] The SC provides for further information requirements for the establishment of a risk profile, including particular sources, such as production data, data on releases, hazard assessments, national and international risk evaluations etc.[163] It particularly does not stipulate full scientific certainty for considering a chemical's inclusion in its Annexes.[164]

In order to ensure compatibility between a prospective ESM framework and international trade law, scientific know-how of the environmental and health impact of dangerous properties should be enhanced. Furthermore, the reliance on standardized, international corresponding risk assessment mechanisms would be an important asset. The adoption of an environmental impact assessment (EIA) procedure, for example, could seek to ensure the acquisition of information on environmental consequences that are likely to happen, on possible alternatives, and on measures to mitigate harm. In this function EIAs can provide for a valuable instrument for decision-making processes.[165] A science-based risk assessment mechanism could draw on the Conventions' Annexes for valuable indications on the substances' potential hazardousness, regardless of the classification of the substance in question as waste, as a chemical or as a POP. However, the risk assessment should go beyond the lists provided and further analyze parameters such as:

- Dose responses for the assessment of the concentration and the effect of the substances in question,
- Routes of exposure which effect the exposure of the hazardous substance,
- Estimations of risks, and
- Reductions of risks by substitution of the materials, by reduced generation, by different product designs, and/or cleaner production and/or processes. [166]

Adherence to the integrated life-cycle principle could support such a mechanism, by stipulating that substances and products should be designed and managed in a manner enabling the longest product life possible and minimizing the environmental impact caused during their generation, use recovery, and disposal.[167] An integrated life-cycle principle implies that ESM has to be a leading guideline adopting a preventive approach throughout the life of any product, including its "after-life" once turned to waste. A coherent assessment of these factors could be facilitated, for

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161 Article 8 SC.

162 The documentation provided shall demonstrate that "(I) Data have been generated according to scientifically recognized methods; (II) Data reviews have been performed and documented according to generally recognized scientific principles and procedures; (III) The final regulatory action was based on a risk evaluation involving prevailing conditions within the party taking the action."

163 Annex E SC.

164 Article 8 para. 7 (a) SC.

165 On EIAs in general see, inter alia, KISS/SHELTON, supra note 142, 202-211.

166 See PORTAS, supra note 62, para. 4.

167 See definition in Framework Document, supra note 90, para. 10 and 12.

example, by data compilations and the monitoring of materials' imports and exports.[168]

1. Scope of Application

An ESM framework, linking the three Conventions would need to apply a broad application scope, thus encompassing wastes independently of their physical form, based on their potential environmental or health risks, in order to take into account that the hazardousness of waste substances may be the consequence of contaminations with hazardous chemicals or POPs. On this note, the Basel Convention's ESM definition rightly addresses both waste objects as well as waste substances.[169] It should, however, be remembered that it is the intrinsic property of a material that will determine whether this material is a hazardous waste or not under the BC. A wide working definition of ESM has been applied by the OECD Council Recommendation C(2004)100. Accordingly ESM is defined as

> a scheme for ensuring that wastes and scrap materials are managed in a manner that will save natural resources, and protect human health and the environment against adverse effects that may result from such wastes and materials.

The OECD definition therefore addresses *all wastes* including scrap materials (except radioactive waste).[170] This broad scope supports a holistic perception of materials and promises a most effective approach that does not stop at semantics but provides for a more appropriate conceptualization. The application of a wide scope generally allows all wastes to be assessed. It also permits to take into account the fact that wastes which are not considered as hazardous according to the BC can still pose a risk for the environment when not managed in an appropriate manner; used tires for example fall in this category.[171] The BC ESM Framework acknowledges that every waste has to be managed in a safe and sound way.

As a consequence, the OECD ESM Recommendation also addresses a broad scope of waste management activities, making sure that every step in the waste management hierarchy adheres to the ESM objective.[172] Where further international regulations exist on specific waste management operations, such provisions will need appropriate consideration.[173]

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168 See for example PORTAS, supra note 62, para. 9.

169 See Article 2(1) BC.

170 See also OECD, Guidance Manual on ESM, supra note 126, 11-15.

171 See PORTAS, supra note 63, para 8.

172 Such activities encompass disposal, collection, separation, transport, recovery such as reuse and recycling activities, as well as final disposal including the disposal of residues from recovery operations.

173 See OECD Council Recommendation C(2004)100, which does not address waste transport, however, since transportation is subjected to regulations on the domestic and international level (see OECD, Guidance Manual on ESM, supra note 126, 15).

2. Public/Private Addressees

As international multilateral agreements, the BC, RC and SC primarily address the state parties to the Conventions. These are expected to implement the provisions provided for internationally on the national level. The Basel Convention Framework Document for example lists criteria to assess ESM at the national level, which include the existence of a stringent regulatory infrastructure and enforcement mechanisms.[174] The OECD ESM Recommendation provides for inputs for its member countries in its first part, to elaborate and implement ESM policies and/or programs.[175]

Additionally, the importance of addressing the private sector and all of the stakeholders concerned with the complexities of implementing ESM criteria has been recognized: The Basel Convention has implemented a Partnership Program for improving cooperation with industry.[176] Furthermore, the OECD ESM Recommendation in its second part lists Core Performance Elements for the Environmentally Sound Management of Waste (CPEs) in its Annex I; the CPEs encompass six measures, which should be implemented at the facility level.[177] The Recommendation specially addresses small and medium-sized enterprises (SMEs) in its Annex I, since most waste management activities are conducted by them.[178] As a first core performance element according to the OECD ESM Recommendation, waste management facilities should have an applicable Environmental Management System (EMS) in place, certified by a recognized party.[179] CPE 1 refers to EMS

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174 Framework Document, supra note 90, para. 9.

175 These include: (1) the establishment of an adequate regulatory and enforcement infrastructure at an appropriate governmental level, (2) the development and implementation of practices and instruments that facilitate the monitoring and implementation of the Core Performance Elements for the Environmentally Sound Management of Waste (CPEs) and control compliance, (3) the insurance that waste management facilities operate according to best available techniques, (4) the encouragement of information exchange between the different actors concerned, (5) the integration of the CPEs into national policies and/or programs, (6) the consideration of incentives and/or relief measures for facilities that fulfill the CPEs, (7) the implementation of technical guidance for ESM, (8) the movement towards internalization of environmental and human health costs in waste management, (9) the provision of incentives to take part in ESM schemes, (10) the encouragement of the development and implementation of an environmental liability regime, and (11) the insurance that the CPEs do not discourage recycling in OECD member countries.

176 See COP6, "Partnership with Industry: Elements of a framework for cooperation with industry", 31 October 2002, UNEP/CHW.6/32/Add.1, available at: http://www.basel.int/meetings/cop/cop6/english/32a1e.pdf.

177 These are: (i) The facility should have an applicable Environmental Management System in Place, (ii) the facility should take sufficient measures to safeguard occupational and environmental health and safety, (iii) the facility should have an adequate monitoring, recording and reporting program, (iv) the facility should have an appropriate and adequate training program for the personnel, (v) the facility should have an adequate emergency plan, (vi) the facility should have an adequate plan for closure and after-care.
For an outline see also Bureau for International Recycling (BIR), Tools for Environmentally Sound Management, Version 7.0, 2006, available at http://www.basel.int/industry/compartnership/GuideESMBIR.pdf, 33-36.

178 OECD, Guidance Manual on ESM, supra note 126, 15.

179 According to CPE 1 OECD Council Recommendation C(2004)100 such an EMS would include:

systems as provided by the ISO 14001 Environmental Management or the European Community Eco-Management and Audit Scheme (EMAS) for example:[180] The ISO 14001 voluntary standards are the most widely accepted international standards for EMS. EMAS was established as a voluntary EU Program that provides for instruments helping to improve enterprises' environmental performances.[181]

To conclude, such instruments enable ESM implementation for the private sector, thereby providing for individual but related approaches to ESM as an overarching concept. As a consequence, the expansion of the ESM concept towards an international framework seems achievable and appropriate. The development of a level regulatory or standard-setting playing field, encompassing public as well as private entities, would go a long way in ensuring the competitiveness of businesses adhering to environmental standards.[182] Indeed, the recognition of adhering to ESM principles would enhance the quality image of today's businesses. This objective can be enhanced, where necessary, by a coherent and stringent regulatory ESM mechanism, the main purpose being to facilitate, accompany and stimulate the corporate sector to improve its environmental performance. In certain situations, a flexible framework may be preferable to enable enterprises and other actors from different industry sectors and regions to apply adequate mechanisms for their individual businesses and to work together in public/private multi-stakeholder partnerships.[183]

3. A Two-Tiered Mechanism

Environmentally Sound Management still is a concept that means different things to different people, depending on various factors such as geographical locations, the level of economic development, or the technologies and scientific disciplines involved. In order to establish a single international ESM framework bridging the BC, the RC and the SC, a design would be required which is comprehensive enough to accommodate different perceptions but also provides for a practical mechanism to ensure concrete, effective and efficient implementation.[184] For this purpose, a two-step approach could be outlined:

- The first part of such an ESM framework should stipulate the overarching objective of protecting human health and the environment from the adverse impacts

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"Measurable objectives for continual improvements in environmental performance, including periodic review of the continuing relevance of these objectives;
Regular monitoring and re-examination of progress toward environmental, health, and safety objectives;
Collection and evaluation of adequate and timely environmental, health and safety information regarding facility activities;
Provisions included in CPEs 2-6, and, Applicable ESM technical guidance."

180 On Environmental Management Systems (EMS), see for example BIR, Tools for ESM, supra note 177, 10-31.

181 See Regulation (EC) No 761/2001 of the European parliament and of the council of 19 March 2001 allowing voluntary participation by organizations in a Community eco-management and audit scheme (EMAS), OJ L 114, 24.4.2001, p. 1-29.

182 See OECD, Guidance Manual on ESM, supra note 126, 14-15.

183 See also BIR, Tools for ESM, supra note 177, 37; PORTAS, supra note 63, para. 12-15.

184 PORTAS, supra note 63, para. 11.

stemming from hazardous waste materials, including waste pesticides and harmful chemicals such as POPs. The preventive approach should be implemented as a guiding principle for the environmentally sound management of the respective materials. Generally, this instrument would address all types of wastes and waste management operations on all levels of the waste hierarchy, providing for helpful guidance to all the stakeholders involved. By adopting a voluntary approach, such a framework could take account of the complexities and differences in geographical, social, economical and industrial specificities and situations within the countries or between countries or regions. As a first step, a guiding document could be issued to clarify the scope and content of the ESM framework.

- The second part of an ESM framework should be more specific and focus on the use of ESM norms. As an international regulatory framework, the state parties could consider a risk assessment mechanism, based on the intrinsic properties of the specific materials, as a first step. On one hand guidance towards the application of the appropriate waste management activities should be provided by the waste management steering bodies and on the other hand the emphasis should be placed on references to the different Technical Guidelines adopted by the Technical Working Group under the Basel Convention. Such an approach would lead to a better understanding on how ESM provisions should effectively be addressed nationally within a global context. Stipulating a risk assessment mechanism as a starting point could also endorse the preventive approach necessary for handling such hazardous materials in question. It would help industry to become more familiar with the ESM purpose.

Such a two-tiered framework corresponds to developing incentives and regulatory tendencies in international environmental law that substantiate non-legally binding, flexible framework conventions with subsequently adopted protocols:[185] The adoption of a flexible, non-binding and overarching framework as a first stage facilitates wide-spread acceptance and agreement by the state parties and their industries on the international level and enables the gradual development of equitable and fair basic mechanisms. The second stage which may imply the development of a regulatory mechanism would assist states to build their work on standards incorporated in specific guiding documents such as the Technical Guidelines. Through this mechanism states would be responsible and liable regarding the application of ESM obligations. The actual ESM operations would, however, be left to the different entities in charge, operating on a national level. By referring to existing Convention mechanisms, the establishment of a new competing instrument could be avoided and the present legal frameworks could be supported by consolidating common resources and approaches under a single roof.

5. CONCLUSION: MOVING FORWARD

Industry relies heavily on hazardous materials for its prosperity and has not yet undertaken a significant U-turn to move towards a world free of harmful chemicals. It may happen but when? Climate change disturbances, biodiversity loss, soil erosion, pollution of the oceans are common features of our way of life; we live with the risk of

[185] This approach has been adopted particularly in the context of the United Nations Framework Convention on Climate Change (UNFCCC), which was further concretized by different protocols such as the Kyoto-Protocol for example.

breathing polluted air and eating food contaminated with toxic chemicals. In a society often named a "throw-away society," fed by products and substances that leave a negative environmental footprint, coherent and forward-looking action is necessary. Consequently, it is important to revisit existing successes such as the multilateral environmental agreements to see how to make them stronger and more forceful in their objectives through advocacy and by proposing workable and sustainable solutions. For this purpose, we have opened a discussion on the feasibility of enlarging the concept of Environmentally Sound Management to bridge, in an operational way, the chemicals and waste conventions. By addressing the entire lifecycle of harmful chemicals it is possible to improve the way such chemicals are handled and disposed of. The idea is to create a sense of solidarity between those responsible for the marketing and use of chemicals with those who treat, recycle or eliminate these chemicals at the end of their usefulness in a sound and safe manner.

We share the opinion that the three conventions could be implemented within a coherent common ESM framework that would enhance their effectiveness and make them stronger individually and together. Improving transparency, certainty, predictability and traceability are key factors when implementing ESM standards and also constitute important cornerstones for the functioning of international trade. Such an ESM approach could thus be forged into two phases: first, the development of the tools that could enable the waste operators to increase their environmental performance by a joint initiative of both governments and industry. Designing an international ESM standard supporting a certification scheme could be a possible option for the effective implementation of ESM practices. At a next stage, and in order to ensure a level playing field in the use of universal ESM norms, concrete rules and procedures could be enacted when needed to guide and monitor the process. Cooperation between the BC, RC and SC is an ongoing process that should not be limited to a certain time limit but should be linked to the ongoing negotiations on enhancing cooperation and coordination among the three Conventions through the Ad Hoc Joint Working Group (AHJWG) process.[186] The broader implications that their strengthened coordination entails include a reformulation of the multilateral environmental system and the manner in which to address global environmental issues in general.

Tomorrow the Basel Convention might be weakened by short-sighted policies aiming at reducing its operational dimension. The Stockholm Convention could be blocked due to a push to include in its scope currently manufactured POPs. The Rotterdam Convention risks becoming irrelevant in a world where 83 000 chemicals are in use. Undermining one convention will negatively impact the others. The tool of ESM on the other hand could help nurture a solid base for implementation in which each convention will bring its added value, mutually reinforcing the others. The choice is evident.

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[186] The AHJWG has held three meetings in 2007/08, for further information please consult: http://ahjwg.chem.unep.ch/index.php?option=com_frontpage&Itemid=49

ECOLOMIC POLICY AND LAW

Journal of Trade & Environment Studies

© **Volume 5/6 (3) March 2009**

Published by Global EcoLomics http://www.EcoLomics-International.org/

The Rotterdam Convention on Prior Informed Consent

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• Urs P. Thomas, PhD, is the Administrator of EcoLomics International. The author wishes to express his gratitude to Dr. sc. hum. Bettina Hitzfeld, Head of Section at the Federal Office for the Environment FOEN, Berne, Switzerland, for her knowledgeable and thoughtful comments; all errors and omissions are the author's responsibility.

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ABSTRACT

The Rotterdam Convention on Prior Informed Consent (PIC) has created a PIC procedure which is legally binding for the Convention's Parties. It builds on the experience gathered thanks to a preceding voluntary procedure introduced jointly by UNEP and FAO in 1986. The experience gained over twenty years has been helpful in launching the work under the Convention; the biggest challenge consists arguably in the introduction of new chemicals which are still economically significant, such as chrysotile asbestos and the pesticide endosulfan. UNEP and FAO continue to administer jointly the Convention's Secretariat. The Convention covers certain hazardous chemicals which are listed in Annex III to protect human health and the environment. The emphasis is placed on facilitating information exchange on the characteristics of these substances, on assisting Parties in establishing an effective national decision-making process regarding relevant trade policies, and on sharing the responsibility for trading these chemicals among importers and exporters. The Convention has played an important role far beyond the area of hazardous chemicals in the development of Public International Law thanks to its pioneering introduction of the principle of Mutual Supportiveness. This principle is based on the policy of striving toward sustainable development by attaining a non-hierarchical and complementary relationship between trade and environmental agreements. The principle has subsequently been introduced also in other multilateral environmental agreements and has important legal ramifications for the Parties of both kinds of agreements.

1. The Emergence of the Rotterdam Convention

1. The Antecedents of the Rotterdam Convention

The multilateral regulation of the transport, the environmentally sound management, and the disposal of chemicals and wastes through UN administered instruments consists of three multilateral environmental agreements (MEAs), namely the so-called Basel (BC),[187] the Rotterdam (PIC or RC),[188] and the Stockholm (POPs or SC)[189] Conventions. The Basel Convention is the oldest one among the three, it was adopted 1989, whereas the latter two were adopted in 1998 and 2001 respectively. For completeness' sake, one should also mention as a fourth chemicals convention the 1985 Vienna Convention for the Protection of the Ozone Layer with its 1987 Montreal Protocol.[190]

These conventions were negotiated as a result of the chemicals and waste streams which have enormously increased over the past thirty or forty years, and the concomitant public awareness of the potential health hazards resulting from the accumulation of these chemicals. Reports in the media of serious, sometimes deadly, incidents caused by toxic chemicals repeatedly shook up public opinion. The public started to realize that the increasing trade in food products linked to the mechanization and globalization of agriculture worldwide was only possible thanks to a growing use of pesticides and fertilizers. Industrial chemicals also experienced a huge growth after World War II. There are presently over 70,000 chemicals in use with 1,500 being added every day. A brutal wake-up call occurred in the mid 1950s in Minamata, Japan, with a mercury poisoning disaster in which this metal, originating from a local plastic ingredient factory, permeated the sediments of a bay. Methyl mercury thus entered the food chain via sea food. This catastrophe caused officially over 400 deaths and unofficially over 3000 with thousands more victims suffering from damage especially to the brain, kidney and lungs through a range of diseases.[191] It is a sobering realization to reflect upon the fact that the international community is starting negotiations on a mercury convention only now, half a century later.

The need for regulations covering transports, environmentally sound management and disposal of chemicals and waste was furthermore made more urgent due to the fact that trade in pesticides and other chemicals was booming, with some of them banned in certain countries but not in others. Developing countries often do not have the scientific information and the technical equipment required to handle these pesticides and industrial chemicals with the appropriate care. Thus two

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[187] The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal
http://www.basel.int/

[188] The Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade (PIC)
http://www.pic.int

[189] The Stockholm Convention on Persistent Organic Pollutants (POPs)
http://chm.pops.int/

[190] Vienna Convention for the Protection of the Ozone Layer, with its Montreal Protocol
http://ozone.unep.org/

[191] *Protecting human health and the environment : A guide to the Rotterdam Convention on hazardous chemicals and pesticies.* FAO and UNEP, 16 p. (4), 2004

historical precursors to the Rotterdam Convention (RC) were established in the 1980s. The UN Environment Programme (UNEP) and the Food and Agriculture Organization of the UN (FAO) developed and promoted voluntary information exchange programs: FAO pioneered an International Code of Conduct on the Distribution and Use of Pesticides in 1985 which includes – among numerous other objectives -- recommendations regarding the management and testing of pesticides. UNEP followed with the London Guidelines for the Exchange of Information on Chemicals in International Trade in 1987. The foundation of these Guidelines consisted in the notion of a shared responsibility between exporting and importing states for the stewardship of industrial chemicals and pesticides. These rules were not primarily intended as a first step for a binding set of legal commitments even though UNEP already at that time aimed for such an agreement as a medium or long term goal. For the time being, they were designed pragmatically to serve as a framework which would be useful for countries in the development of national policies, rules, and decision tools in cases where the import of chemicals was to be banned or restricted. Furthermore, they aimed at promoting transparency and information exchange in activities which later became to be known as the environmentally sound management of chemicals and wastes.[192]

Subsequently, in 1989, the two organizations jointly introduced a Prior Informed Consent (PIC) Procedure to facilitate governments' access to information on toxic chemicals. National authorities used these in order to facilitate the assessment of the potential for hazardousness of certain substances. This procedure constituted at that time one of the most successful interagency programs.[193] An important step in joining together these early beginnings occurred at the 1992 Rio Conference on Environment and Development which called in its *Agenda 21* for the negotiation of a binding convention on the PIC procedure by 2000.[194] Then in 1994 and 1995 the FAO Council and the UNEP Governing Council mandated their executive heads to initiate negotiations which officially started in 1996. The fact that it took only a little over two years for the completion of a mandate to negotiate a Convention, two years before the deadline stipulated in *Agenda 21,* can to some extent be explained by the level of urgency which the international community attributed to the establishment of an initial framework governing the international regulation of trade in hazardous chemicals.[195] The most arduous task, however, was still ahead: a relatively very high number of preparatory negotiations through the so-called International Negotiations Committees – eleven meetings – were required in

[192] Katharina Kummer. 1999. Prior Informed Consent for Chemicals in International Trade: The 1998 Rotterdam Convention. *RECIEL* 8 (3): 323-331 (323-24).

[193] Paarlberg, Robert L. 1993. Managing Pesticide Use in Developing Countries. In *Institutions for the Earth*, edited by Peter M. Haas, Robert O. Keohane, and Marc A. Levy, 309-351. Cambridge, MA: MIT Press.

[194] Chapter 19:
Environmentally Sound Management Of Toxic Chemicals, Including Prevention Of Illegal International Traffic In Toxic And Dangerous Products
http://habitat.igc.org/agenda21/a21-19.htm
Chapter 20:
Environmentally Sound Management Of Hazardous Wastes, Including Prevention Of Illegal International Traffic In Hazardous Wastes
http://habitat.igc.org/agenda21/a21-20.htm

[195] *Rotterdam Convention. Share Responsibility – Overview*. 2005. FAO and UNEP, 6 p.

order to achieve the adoption of the Convention through this INC procedure which is the normal diplomatic process for the establishment of an MEA.

2. The Adoption of the Rotterdam Convention

These efforts have led to the successful adoption of the Convention – also called the PIC Convention – by a Conference of Plenipotentiaries in September 1998 in Rotterdam, and to its entry into force in February 2004 after the deposition of the 50th instrument of ratification. The original voluntary PIC procedure continued to be used between the adoption and the entry into force of the Convention. The initial list of chemicals covered by the PIC procedure includes five industrial chemicals and 22 pesticides;[196] a number of others have been added since then and further additions will follow undoubtedly. An original feature, explained by the process which led to its finalization as sketched out above, consists in the fact that the PIC Convention's Secretariat functions are carried out jointly by FAO in Rome and by UNEP in Geneva.

Thanks to the initial impetus of the 1992 Rio Conference, further sustained by the successful conclusion of the RC, a new generation of multilateral environmental agreements has emerged as we shall discuss below, such as the Cartagena Protocol on Biosafety (CPB), the Stockholm Convention (SC), or conventions regulating mercury, lead, and cadmium which are presently being negotiated. As Katharina Kummer Peiry, current Executive Secretary of the Basel Convention, has observed after the adoption of the Rotterdam Convention and the initiation of negotiations on the POPs Convention, these two achievements "may well herald the emergence of an international chemicals management regime."[197]

The objectives of the Rotterdam Convention are the following:

- 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;
- to contribute to the environmentally sound use of those hazardous chemicals, by facilitating information exchange about their characteristics, by providing for a national decision-making process on their import and export and by disseminating these decisions to Parties.[198]

The Convention's Annex III[199] contains a list of three kinds of chemicals which are subject to the PIC procedure which is legally binding for the Parties to the Convention:

- pesticides
- severely hazardous pesticide formulations
- industrial chemicals

[196] Catherine Redgwell. 2003. Regulating Trade in Dangerous Substances : Prior Informed Consent under the 1998 Rotterdam Convention. In *Economic Globalization and Compliance with International Environmental Agreements*, edited by Alexandre Kiss, Dinah Shelton and Kanami Ishibashi, 75-88. The Hague: Kluwer Law International (82).

[197] Katharina Kummer. 1999. *Op. cit.* 323.

[198] http://www.pic.int/home.php?type=t&id=5&sid=16

[199] http://www.pic.int/home.php?type=t&id=49&sid=16

The criteria and the process of the inclusion of additional chemicals are politically sensitive due to economic ramifications, therefore they are subject to a rather complex process. The RC's Chemical Review Committee (CRC) is at the core of this process, it makes recommendations to the Conference of the Parties (COP) regarding the inclusion of additional chemicals in Annex III. The CRC as a subsidiary body of the COP is composed of government-appointed experts in chemicals management. The final decision is taken by the COP.

The core of the Convention consists of the PIC procedure which is characterized by extensive information exchanges between the Secretariat and the Designated National Authorities (DNAs):

> The PIC procedure is a mechanism for formally obtaining and disseminating the decisions of importing Parties as to whether they wish to receive future shipments of those chemicals listed in Annex III of the Convention and for ensuring compliance with these decisions by exporting Parties.
> For each of the chemicals listed in Annex III and subject to the PIC procedure a decision guidance document (DGD) is prepared and sent to all Parties. The DGD is intended to help governments assess the risks connected with the handling and use of the chemical and make more informed decisions about future import and use of the chemical, taking into account local conditions.
> All Parties are required to take a decision as to whether or not they will allow future import of each of the chemicals in Annex III of the Convention. These decisions, known as import responses, are sent to the Secretariat by the DNA. A listing of the import responses given for each chemical subject to the PIC procedure is circulated by the Secretariat to all DNAs every six months via the PIC Circular. Import decisions taken by Parties must be trade neutral, that is, if the Party decides not to accept imports of a specific chemical, it must also stop domestic production of the chemical for domestic use and refuse imports from any source, including from non-parties.
> All exporting Parties are required to ensure that exports of chemicals subject to the PIC procedure do not occur contrary to the decision of each importing Party. They should ensure that import responses published in the PIC Circular are immediately communicated to their exporters, industry and any other relevant authorities, such as the Department of Customs.[200]

The Rotterdam Convention does not make recommendations to ban international trade or use of the chemicals included in its Annex III. Rather, it provides importing Parties with the necessary decision tools for making informed assessments regarding which of the chemicals included in the list they are able to manage safely, and which ones they chose to exclude. Furthermore, the safe use of chemicals that are traded is supported through requirements for labeling and the provision of information on potential threats to public health and the environment through the bi-annual Circulars.[201]

[200] http://www.pic.int/home.php?type=b&id=24&sid=16&tid=5
[201] http://www.pic.int/home.php?type=t&id=50

2. The Negotiation of the Rotterdam Convention

1. The International Negotiations Committee

The negotiation of the Rotterdam Convention differs from that of most other multilateral environmental agreements (MEA) by the fact that the negotiators were able to build the Convention on the basis of the voluntary PIC procedure, jointly having been implemented by FAO and UNEP, The voluntary PIC procedure had been in existence for nearly ten years when negotiations started officially in 1996 through the formation of an International Negotiation Committee. Another distinctive feature of the PIC Convention consists in the fact that from the beginning FAO and UNEP have been administrating the negotiations jointly, upon a clear mandate from their respective governing bodies which in both cases took its root in *Agenda 21* as mentioned above. We may therefore note that the 1992 Rio Conference not only produced, among other achievements, the Climate and the Biodiversity Conventions as well as the Forest Principles and the call to initiate negotiations on desertification, but it has also generated the political consensus necessary for the commencement of negotiations of the Rotterdam and Stockholm Conventions as well as for the Basel Ban Amendment to the then already existing Basel Convention. The INC held five sessions between 1996 and 1998 which included, in addition to about a hundred national delegations, numerous intergovernmental and non-governmental organizations active in the domain of chemicals management.[202]

In spite of the above-mentioned relatively well-prepared negotiation terrain, there were still major hurdles to be overcome. Thus, at INC-3 in May 1997 brackets in the draft text indicating disagreements proliferated, even on fundamental questions such as the purpose or the scope of these PIC negotiations. In any negotiation, when the participants do not agree on the purpose of a legal instrument, then one may assume that they are still far distanced from a consensual solution. A voluntary agreement is one thing, but converting this status into a legally binding instrument is a very different matter. The EU especially argued that in order to benefit from the experience of the voluntary guidelines it was necessary to aim for a broad scope. Many developing countries argued, however, that for them the administrative and technical requisites even with a limited scope would be a major challenge. These matters were made more complicated by the fact that both industrialized and developing countries are often importers and exporters at the same time, depending on the chemicals under consideration. As always in negotiations involving technical assistance and capacity building there were difficult questions to be resolved over the financing of the Convention's activities, which were made more complicated by the double-headed structure of the Secretariat.[203]

NGOs were particularly concerned over the – unsuccessful – attempts of a group of countries under the leadership of the US which had advocated during INC-5 the introduction of a WTO savings clause, i.e. a provision that the rights and obligations of the Parties under "other agreements" shall not be constrained by the PIC procedure. It means in practice that an exporter's rights to market access under

[202] Katharina Kummer. 1999. *Op. cit.*p. 323-325

[203] Earth Negotiations Bulletin, IISD. 1997. Vol. (15) 2:11-12. http://www.iisd.ca/download/pdf/enb1502e.pdf

the trade regime normally cannot be limited based on the PIC procedure. This perspective was strongly opposed by another group under the leadership of the EU.[204] NGOs furthermore expressed misgivings about the effect of such a precedent on future negotiations on the ban of certain persistent organic pollutants. Any such wording would represent a major weakening of the whole idea of effective environmentally sound management since it would be clear from the beginning that the WTO's and other trade agreements' provisions would prevail over those of the PIC Convention – a phenomenon which obviously would diminish the effectiveness of an MEA and which is often called a 'chilling effect.' [205] [206] After their defeat on the savings clause, the US and its allies were nevertheless successful in narrowing down the scope of the Convention against the resistance of a EU-led group which wanted to include in the Convention's scope a third category of products comprised of consumer chemicals.[207] Furthermore, Article 3 lists a number of important product categories which are exempt from the Convention, such as radioactive materials, narcotic and medical drugs, wastes, or food products.

2. The First Four Conferences of the Parties

The eleventh and last INC was held as a one-day closing session back-to-back with the first Conference of the Parties in September 2004 in order to facilitate the transformation of the voluntary to the binding PIC procedure. Among the chemicals which have been added to Annex III during the interim period there are five kinds of asbestos. It turned out to be impossible, however, to include also the most vigorously contested and defended form of asbestos, chrysotile, which is by far the commercially most important variety. The world's largest asbestos mine is situated in the town of Asbestos in Québec, Canada. The independent Paris-based environmental news agency Cogiterra/Actu-Environnement provides some background on this long-standing situation:

> As reported by the Canadian Member of Parliament Pat Martin,[208] who is known for his opposition to asbestos, Canada, one of the most important exporters of chrysotile asbestos seems to have managed to convince its key clients (India, Pakistan, Philippines and Vietnam) to oppose the inclusion of this product in Annex III. While asbestos is prohibited in the European Union, FAO and UNEP have emphasized that *numerous governments have expressed their*

[204] Katharina Kummer. 1999. *Op. cit.* p. 325-26.

[205] Stilwell, Matthew, and Elizabeth Tuerk. 1999. Trade Measures and MEAs - Resolving WTO Uncertainty. A paper prepared for WWF International (Geneva/Gland) by the Center for International Environmental Law, Geneva, 22 p. www.ecolomics-international.org/tandea_chill_meas_and_wto_stilwell_tuerk_ciel_wwf_int_1999.pdf

[206] Urs P. Thomas, The CBD, the WTO, and the FAO: the Emergence of Phytogenetic Governance. In *Governing Global Biodiversity: The Evolution and Implementation of the Convention on Biological Diversity*, edited by Philippe G. Le Prestre, 177-207 (200-203). Aldershot, Hampshire UK: Ashgate.

[207] Katharina Kummer. 1999. *Op. cit.* 325.

[208] New Democratic Party, elected in Winnipeg Centre 1997, re-elected 2000, 2004 and 2006. http://www.ndp.ca/patmartin

> *strong concerns* (italic in the original) regarding this non-listing (author's translation).[209]

At the time of this writing after RC COP-4, chrysotile asbestos is still not listed in Annex III in spite of the fact that concerns over the use of asbestos fibers are one of the oldest known and scientifically supported threats to public health caused by an industrial chemical:

> … the first medically accurate description of the harm done to the lungs by asbestos was published by a British factory inspector in 1898! By 1918, some insurance companies in the United States and Canada were already refusing to cover asbestos workers because of their occupational health risks. By the 1930s, articles in the medical literature in several countries linked asbestos to lung cancer, … Most of the exposure that caused hundreds of thousands of cancer deaths and massive corporate losses occurred decades after there were credible warnings of the dangers of asbestos.[210]

As we can see, the Convention started its official existence as an MEA in 1998 with an unusual amount of practical experience from its interim period but at the same time with some important unfinished business. Progress is slow whenever environmentally sound management has to be balanced with economic interests.

Most importantly, however, in spite of these hurdles, COP-1, in Geneva in 2004, managed to operationalize the legally binding PIC procedures including Annex VI on Settlement of Disputes. A smooth beginning was facilitated thanks to a focus on relatively consensual procedural matters while more contested question such as non-compliance were postponed for another day. Furthermore, it began its activities with the incorporation of fourteen new chemicals into Annex III thanks to the preparations carried out during the interim period. The political will of *a priori* openness toward the addition of new chemicals was expressed in the decision to use seven geographical regions for notification purposes instead of the usual five UN regions, which makes it somewhat easier to obtain the required two regions which must support a chemical's review process in order to trigger the listing process.[211]

In spite of these encouraging signs, it has become clear at COP-2, in Rome in 2005, that the addition of new chemicals to Annex III will be an arduous process requiring intensive negotiations. As far as non-compliance with the PIC procedure is concerned, this was expected to be a difficult issue; the debates therefore were prepared through an Open-ended *ad hoc* Working Group prior to the COP. This group divided this conundrum up into four sub-issues: (I) who will be able to make non-compliance submissions and to trigger this procedure; (II) what are the relevant sources of information to be considered? (III) the composition of the compliance committee; (IV) measures to be taken in case mediation should be unsuccessful. In spite of these preparations, divergent views resulted in a deadlock. Australia was not willing to continue the discussion as long as the question of the trigger was not resolved, whereas many developing countries expressed serious concern about any

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[209] http://www.actu-environnement.com/ae/news/convention_rotterdam_amiante_chrysotile_TBT_endosulfan_liste_PIC_6130.php4

[210] Frank Ackermann. 2008. *Poisoned for Pennies - The Economics of Toxics and Precaution.* Washington and London: Island Press, 318 p. (86).

[211] Earth Negotiations Bulletin, IISD. 2004. Vol. (15) 105: 9-11. http://www.iisd.ca/process/chemical_management.htm#pic

such provisions as long as financing for the fulfillment of their commitments was not ascertained. These concerns were well founded because the debates on financing the Convention's activities ran into serious problems without a solution in sight at COP-2.[212] Both the finance and the non-compliance issues will undoubtedly continue to preoccupy future COPs as they do in other MEAs especially in their early stages.

After a relatively smooth and well prepared start, it is nevertheless fair to say that COP-3, in Geneva in 2006, has shown no easy solution should be expected for those issues which could not be resolved earlier, especially non-compliance and chrysotile asbestos. The listing of chrysotile asbestos was adamantly resisted by the major producer countries which are, according to the International Ban Asbestos Secretariat, in decreasing order Russia, Kazakhstan, China, Canada, and Brazil; India as the third biggest user after China and Russia is also among the key asbestos advocates.[213] Many delegates reminded these countries of the fact that listing a chemical in Annex III does not represent a trade ban but only a requirement for enhanced information exchange. Be that as it may, the failure of listing this carcinogenic chemical could undermine the Convention's primary objective of facilitating the information exchange between exporting and importing countries regarding potentially toxic substances. The International Ban Asbestos Secretariat went a step further in dramatizing this point by distributing a brochure entitled "Chrysotile Asbestos – Hazardous to Humans, Deadly to the Rotterdam Convention."[214] As far as the continuing stalemates over a non-compliance procedure, especially over the triggers which may launch such a step, and over reliable funding commitments are concerned it was pointed out that these two issues are connected because without adequate funding the Secretariat cannot effectively administer non-compliance issues.[215]

Given these disappointments and tensions in the preceding meeting, COP-4, in Rome in 2008, started off with real apprehensions over the very effectiveness of the Convention with regard to those chemicals which embody major industrial and economic stakes, so-called *live chemicals* as opposed to obsolete chemicals which can be banned without major ramifications because their use has already been substantially reduced or discontinued as is more or less the case with those twelve persistent organic pollutants which are banned under the Stockholm Convention. Chrysotile asbestos and endosulfan are classical examples of *live chemicals* and this Conference of the Parties again failed to put them onto Annex III, although another chemical, tributyltin compounds (TBT) has been listed. Endosulfan is a pesticide which the PIC negotiators have discussed for a long time.[216] It is banned in the US and the EU and many other countries, but presently still being used extensively in others such as China and India. The NGO Pesticide Action Network expects that it will be banned under the Stockholm Convention by 2011.[217]

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[212] Earth Negotiations Bulletin, IISD. 2005. Vol. (15) 129: 10-11. http://www.iisd.ca/process/chemical_management.htm#pic

[213] International Ban Asbestos Secretariat http://ibasecretariat.org/

[214] http://www.lkaz.demon.co.uk/chrys_hazard_rott_conv_06.pdf

[215] Earth Negotiations Bulletin, IISD. 2006. Vol. (15) 147: 10-12. http://www.iisd.ca/process/chemical_management.htm#pic http://www.iisd.ca/download/pdf/enb15147e.pdf

[216] RC-4/6: Inclusion of endosulfan in Annex III of the Convention http://www.pic.int/RC4_6/Decision%20RC4_6.pdf

[217] http://www.panna.org/resources/panups/panup_20081023

The whole debate at least had the benefit of a much needed diplomatic soul searching on the question of *live chemicals* as delegates were forced to squarely face the question of the appropriate balance between short term economic interests and long term environmental and health damages. In this sense these debate marked an important beginning, it is to be expected that the question of the appropriate balance between the two priorities will continue to preoccupy negotiators for a long time to come. Some delegations such as especially the EU and Switzerland, and also staff from the Secretariat, pointed to the difficulties in listing economically important chemicals as *the most important obstacle* to the Convention's meaningful implementation and ultimate effectiveness. Throughout these debates it was not quite clear whether the obstacles to listing these two chemicals are tantamount to immovable political interests, or whether stricter notification procedures regarding regulatory action would make it more difficult to oppose the listing based on arguments which emphasize scientific uncertainty, and whether therefore such enhanced procedures might in the end facilitate the addition of *live chemicals*.

COP-4 was successful in making a contribution toward efforts in improving the synergy among the three chemicals and waste conventions. The mechanism which had been designed for this purpose was the *Ad Hoc Joint Working Group on Enhanced Cooperation and Coordination between the Basel, Rotterdam and Stockholm Conventions* (AHJWG). The AHJWG numbers 45 members in total; each Convention has 15 representatives, three for each of the five regional groups of the United Nations. The representatives were nominated by a process of consultations within the regional groups.[218] Three meetings were held in 2007 and 2008, and the conclusions of this process were to be submitted to the three Conventions. Following the example of the Basel Convention, the oldest and largest of the three, the RC also supported the AHJWG's recommendation.[219] There was in fact a somewhat surprising ease with which the Parties supported the proposals of this Working Group in the hope that it will contribute to achieve enhanced synergies in environmentally sound management.[220]

3. Some Policy and Law Aspects

1. The Principle of Mutual Supportiveness and the PIC Convention

Contrary to the traditional (and oft-criticized) focus of general international law which is based on *ex post* remediation of harm, the Rotterdam Convention represents an *ex ante* preventive mechanism aimed at avoiding, managing and resolving conflict.[221] It can be described as a 'first line of defense' against dangerous chemicals particularly in developing countries. The RC rests on three pillars: (I) prior informed consent: (II) exchange of information; (III) national decision-making processes. It is interesting to note that these elements are present also in the Basel Convention and the Cartagena Protocol on Biosafety. Unlike for instance the Stockholm Convention, the

[218] http://ahjwg.chem.unep.ch/

[219] The Stockholm Convention will address these recommendations at its forthcoming COP-4 in May 2009.

[220] Earth Negotiations Bulletin, IISD. 2006. Vol. (15) 168: 10-12. http://www.iisd.ca/process/chemical_management.htm#pic

[221] Redgwell *Op. Cit.* 75.

RC does not constitute a ban on the import or export of any chemicals. The rationale for this relatively permissive regime is that factors such as socio-economics and geographic conditions may vary greatly among the Parties, and in any case governments in different countries often have very different perceptions on issues like toxicity or threats to human health or the environment. Thus the requirement of the prior informed consent of the importing Party before shipment of listed banned or severely restricted industrial chemicals or pesticides may take place represents this Convention's fundamental regulatory tool. Its definition of banned substances is relatively wide and includes the withdrawal of a chemical by industry where there is clear evidence that the protection of human health or the environment was the reason for the withdrawal.[222] This relatively flexible approach indeed was presumably the only pragmatic and feasible strategy. It is nevertheless regrettable that – contrary to the BC and the CPB -- the Convention does not contain a re-import obligation in cases of non-compliance by the exporter.

The RC represents an interesting case of one of those multilateral environmental agreements which embody important trade ramifications, in other words it is one of those MEAs that the WTO includes in its discussions and negotiations on trade and environment. Ever since its first Ministerial meeting in Singapore in 1996 the WTO Members have *discussed* trade and environment issues informally and on a non-binding basis in the Committee on Trade and Environment (CTE). This situation changed with the fourth Ministerial meeting in Doha in 2001: the *Doha Development Agenda* (DDA) for the first time provides a blueprint for *binding negotiations* which are organized separately in the meetings of the CTE in Special Session (CTESS). The most important negotiating provision of the DDA for the RC is paragraph 31 on trade and environment:

> With a view to enhancing the mutual supportiveness of trade and environment, we agree to negotiations, without prejudging their outcome, on:
>
> **(i)** the relationship between existing WTO rules and specific trade obligations set out in multilateral environmental agreements (MEAs). The negotiations shall be limited in scope to the applicability of such existing WTO rules as among parties to the MEA in question. The negotiations shall not prejudice the WTO rights of any Member that is not a party to the MEA in question;
> **(ii)** procedures for regular information exchange between MEA Secretariats and the relevant WTO committees, and the criteria for the granting of observer status;
> **(iii)** the reduction or, as appropriate, elimination of tariff and non-tariff barriers to environmental goods and services.

These negotiations are presently, like the rest of the Doha Round, suspended. Nevertheless, it is important to note that intensive negotiations have been carried out in the domain of trade and environment from 2002-2007 which have shown where progress may be expected once negotiations will resume again. Negotiations on the relationship and information exchange between the WTO and MEAs have been mired in political and inter-organizational sensitivities. The most intensive negotiations have been carried out on paragraph 31(iii) to facilitate trade in environmental goods and services including products like laboratory or testing

[222] Catherine Redgwell. 2003. *Ibid.* 81-82 ; 84-87.

equipment and services which are important for the implementation of the PIC Convention.[223]

Whatever happens to the DDA's environmental provisions and to the Round as a whole, the trade-related aspects of the Rotterdam Convention (and also of the Stockholm Convention) are very significant milestones in the evolution of the whole trade and environment issue area. Professor Laurence Boisson de Chazournes and Makane Moïse Mbengue[224] have demonstrated through an innovative and in depth legal analysis that the RC represents the starting point of an ongoing evolution in the relationship between trade-related MEAs and the WTO agreements. It is linked to the above-mentioned attempts during the International Negotiating Committee phase of the negotiations to introduce a WTO savings clause. Such a clause, which has also been attempted elsewhere, e.g. in the negotiations leading to the adoption of the Cartagena Protocol on Biosafety (CPB) to the Convention on Biological Diversity would establish a hierarchy in the legal weight between WTO agreements and a specific MEA, perhaps with the intention of generalizing this lopsided legal relationship for all MEAs in the long term. This state of affairs is what the drafters of the RC have been able to avoid through the introduction of the concept of 'mutual supportiveness' in the preamble. This concept has subsequently been used also in the 2000 CPB and in the 2001 POPs Convention.

As Boisson de Chazournes and Mbengue point out, the fundamental rationality of this approach is the goal of avoiding of legal conflicts between the trade regime and MEAs. In a wider sense it can serve as an interpretative principle capable of guiding the Parties in a conflict-avoiding implementation of their respective rights and obligations under their MEAs and trade agreements. For good order's sake it should be mentioned that the term *mutually supportive* which in the English version of the RC and SC as well as in the CPB is used as such, and which the title of the article translates correctly as *soutien mutuel* is translated in the respective preambles of the French versions three different ways: *devraient être complémentaires* in the RC,[225] *concourent au même objectif* in the SC,[226] and *devraient se soutenir mutuellement* in the CPB.[227] A correct translation of the above article's fine points would represent a real challenge but the original text is a legal as well as a linguistic masterpiece.

As we have seen above, the WTO also uses mutual supportiveness in the DDA's paragraphe 31 in order to explain the purpose of these trade and environment negotiations. The mutually supportive principle has been described as follows:

> Therefore, while each regime should focus on its primary competence, it is not prevented from adopting measures having an effect on the other regime. However, it should take into account the concerns and interests of the other regime, and it should pay deference to the competence of the other regime.

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[223] For an up to date detailed account of these Environmental Goods negotiations see: Matthew Stilwell. 2008. Advancing the WTO Environmental Goods Negotiations: Options and Opportunities. *EcoLomics Occasional Paper Series* No. 08-1. http://www.ecolomics-international.org/headg_eops.htm

[224] Laurence Boisson de Chazournes and Makane Moïse Mbengue. 2007. A Propos du principe du soutien mutuel -- les relations entre le Protocole de Cartagena et les accords de l'OMC. *Revue Générale du Droit International Public.* Numéro 4: 829-863 (832-834).

[225] http://www.pic.int/en/ConventionText/ONU-FR.pdf

[226] http://www.pops.int/documents/convtext/convtext_fr.pdf

[227] http://www.cbd.int/doc/legal/cartagena-protocol-fr.pdf

> This deference requires that each regime does not judge the legitimacy or the necessity of measures adopted by the other regime. Hence, WTO should not try to decide whether an environmental goal pursued by an MEA is legitimate or whether a measure adopted by MEAs for the realization of such goal is necessary.[228]

The significance of Boisson de Chazournes and Mbengue's analysis lies in the contextualization of the RC within the wider evolution of Public International Law with regards to MEAs and trade law because the drafting of the Convention represents a pioneering step in the arduous process of surmounting the politically very sensitive predicament of the relationship between the rights and obligations which the Parties have acquired under trade agreements and environmental agreements respectively. The binding nature of the RC is strengthened by its call to develop and to implement non-compliance procedures and institutional mechanisms.[229] These highlight the need of finding new ways in bridging the gap between trade-related and environmental perspectives:

> Controversy on this point appears to be inherent in multilateral environmental negotiations addressing transboundary transfer of potentially hazardous substances, since they deal with the interface of environment and trade considerations. The same conflict contributed to the temporary failure of the negotiations on a protocol on the international transfer of GMOs to the UN Convention on Biological Diversity in February 1999.[230]

In the conclusion of their analysis Boisson de Chazournes and Mbengue point out that the principle of mutual supportiveness has two kinds of implications: First of all, it confers the qualities of harmony, coherence and coexistence to the relationship between an MEA containing these clauses in the preamble and other international agreements, especially those of the WTO. Most importantly, the relationship between such MEAs and trade agreements is non-hierarchical and without a legal subordination of either agreement, it is a relationship between agreements of equal weight.[231] Secondly, the relationship between MEAs containing the mutually supportive principle and trade agreements can be considered as legally balanced.[232] This principle therefore, as they point out, is situated at the heart of the sustainable development principle or concept,[233] a connotation which is clearly articulated by the PIC Convention.[234]

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[228] Franz Xaver Perrez. 2000. The Cartagena Protocol on Biosafety and the Relationship between the Multilateral Trading System and MEAs. In "The Biosafety Protocol: Regulatory Innovation and Emerging Trends," edited by Laurence Boisson de Chazournes and Urs P. Thomas, *Swiss Review of International and European Law* 10 (4): 518-528. http://www.ecolomics-international.org/biosa_lbc_upt_etal_bp_regulatory_innov_emerging_trends_rsdie_00_4.pdf

[229] Article 17 - Non-Compliance: The Conference of the Parties shall, as soon as practicable, develop and approve procedures and institutional mechanisms for determining noncompliance with the provisions of this Convention and for treatment of Parties found to be in non-compliance.

[230] Katharina Kummer. 1999. *Op. cit.* p. 326.

[231] Boisson de Chazournes et Mbengue. 2007. *Op.cit.* 853-857.

[232] Boisson de Chazournes et Mbengue. 2007. *Op.cit.* 857-859.

[233] Boisson de Chazournes et Mbengue. 2007. *Op.cit.* 859.

[234] The Preamble of the PIC Convention expresses the principle of mutual supportiveness as follows:
Recognizing that trade and environmental policies should be mutually supportive with a view to achieving sustainable development,
Emphasizing that nothing in this Convention shall be interpreted as implying in any way a

Last but not least, the authors see the mutually supportive principle as *the compass* guiding the relationship between trade and environmental agreements. Based on this function they call for new legal strategies in the international legal order, especially an *ex ante* and an *ex post* coordination. The former requires that the coherence and the coexistence between an MEA being negotiated and relevant trade agreements be taken into consideration from the very beginning, especially if there is a possibility that the rights and obligations between the two kinds of agreements might stumble over each other ("peuvent achopper avec"). The *ex post* coordination strategy in the development of Public International Law also refers to efforts of making trade and environment agreements coherent among each other, but instead of being aimed at the elaboration of rules in the relevant agreements it is concerned with the establishment of inter-institutional conduits and cooperation as well as inter-institutional norms and standards with the intention of facilitating the coherent implementation of both categories of agreements. Thus Boisson de Chazournes and Mbengue summarize and wrap up their extensive legal analysis by noting that the negotiation of multilateral agreements which has been mushrooming lately needs to apply a new approach based on the mutually supportive relationship between different systems of legal instruments.[235]

2. Conclusion

In this context the situation of the US is a particular case thanks to its economic, not to mention political, importance. The United States has used the same stratagem in several MEA negotiations: it participates very actively in the initial negotiations, often diluting the thrust of the treaty, but in the end it refuses to ratify it, as happened in the RC. It is then up to the other key delegations to decide which concessions are worth or not worth the signature of the US. The price to pay at the end of the day may be a WTO ruling like the one in the case *EC-Biotech* where the Panel ruled that since the US is not a Party to the Biosafety Protocol the latter is not relevant in interpreting the WTO rules at issue in this dispute.[236] It remains to be seen if under President Obama the US negotiators will effectuate what he promised to do in general terms: to change… Be that as it may, the WTO itself is undoubtedly also in the process of undergoing change due to the pressures arising from the global financial crisis – be it for better or worse with regard to its position on environmental questions. Steve Charnovitz, a long time and insightful observer of trade and environment related issues summarizes the WTO's first ten years by noting "many positive (and a few negative) features of the key Appellate Body decisions," especially by reversing some of the GATT and early WTO panel holdings that "threatened to render the environmental exceptions unusable." [237] On the whole Charnovitz expects an increase in environmental disputes over the next ten years.

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change in the rights and obligations of a Party under any existing international agreement applying to chemicals in international trade or to environmental protection,
Understanding that the above recital is not intended to create a hierarchy between this Convention and other international agreements, …

[235] Boisson de Chazournes et Mbengue. 2007. *Op.cit.* 859-60.

[236] Andrew Green and Tracey Epps. 2007. The WTO, Science, and the Environment: Moving towards Consistency. *Journal of International Economic Law.* 10 (2):285-317 (299).

[237] Charnovitz, Steve. 2007. The WTO's Environmental Progress. *Journal of International Economic Law.* 10 (3): 685-707. (685; 695).

To conclude, we note that this Convention is not only located at the center of the tensions between the opposite priorities and stakes which apply to all trade-related MEAs to some extent, but that it has indeed been pioneering a new era of MEAs emphasizing mutual supportiveness and the absence of a hierarchical relationship with trade agreements. The PIC Convention, even though it is "a modest treaty," and limited in scope, is nevertheless "procedurally complicated" with regard to its operation; furthermore it is "filled with vague language, susceptible to divergent interpretation."[238]

That vagueness of course is not the prerogative of the RC, one may say it is the prerogative of diplomacy and very often it represents the diplomatic strategy to overcome a deadlock in a way which does not frustrate any of the key negotiators to the point that they prevent the adoption of a negotiating text or refuse to sign on to it. This incidentally is an observation that is made frequently also with regard to the WTO which then leaves the challenge of making sense out of a cryptic paragraph to its Dispute Settlement Body.

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[238] Ted L. McDorman. 2004. The Rotterdam Convention on Prior Consent: Some Legal Notes. *RECIEL* 13 (2): 187-200 (199-200, also footnote 154).

ECOLOMIC POLICY AND LAW

Journal of Trade & Environment Studies

© **Volume 5/6 (4) April 2009**

Published by Global EcoLomics http://www.EcoLomics-International.org/

Strategic Approach to International Chemicals Management: Development and Opportunities

By Hamoudi Shubber •

Editorial Note:
This article has been written in January 2009. For additional information and updates please refer to the SAICM Web site: http://www.saicm.org

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ABSTRACT

The Strategic Approach to International Chemicals Management (SAICM) is a global policy framework which supports the achievement of the goal agreed in 2002 at the World Summit on Sustainable Development of ensuring that, by 2020, chemicals are produced and used in ways that minimize significant adverse impacts on the environment and human health. SAICM was adopted in February 2006 in Dubai by the International Conference on Chemicals Management (ICCM) at its first session and comprises the Dubai Declaration on international chemicals management, the Overarching Policy Strategy and the Global Plan of Action.

The present article aims to provide a perspective on the emergence of chemicals as an international concern, the development of SAICM, its features and the opportunities and challenges that lay ahead of it. From the early stages of environmental protection and awareness to the first session of the ICCM, chemicals management has gradually been recognized as an issue of sustainable development requiring global action. The development of SAICM allowed to ensure the involvement of all relevant sectors and stakeholders.

While the adoption of SAICM was a positive step forward, its implementation will be the indicator for measuring success against the goal set by the World Summit on Sustainable Development. The achievements and shortcomings of the initial phase of SAICM will be considered during the second session of the ICCM, to be held in May 2009 in Geneva.

1. THE ORIGINS OF SAICM

1.1 The Emergence of Chemicals Management as a Global Issue

While chemicals constitute all elements of nature, their widespread use and processing by mankind is a relatively recent phenomenon. Use and production of chemicals has been tied to the development of craftwork and of industries. From traditional leather tanning to the development of the pharmaceutical industries, chemicals have followed the evolution of production technologies and consumption patterns. Chemicals have in particular contributed to improving living standards and played an essential role in modern society. The consumption of chemicals by all industries and our society's reliance on chemicals for virtually all manufacturing processes make chemicals production one of the major and most globalized sectors of the world economy.

Acknowledgement of the essential economic role of chemicals and their contribution to improved living standards needs to be balanced with recognition of potential costs. These include the chemical industry's heavy use of water and energy and the potential adverse impacts of chemicals on the environment and human health. Early in their development, industries were aware of the need for the sound management of chemicals. Initially, international chemical safety aimed at the protection of workers. These efforts to prevent damages from harmful chemical substances were also aimed as prevention against the use of narcotics and of chemical weapons.[239]

In 1962, the publication of *Silent Spring* by Rachel Carson[240] inspired widespread public concerns with pesticides and pollution of the environment. *Silent Spring* facilitated awareness of environmental protection and the ban of the Dichloro Diphenyl Trichloroethane (DDT) pesticide in 1972 in the United States. In June the same year, the United Nations Conference on the Human Environment held in Stockholm, Sweden, marked a turning point in the development of international environmental politics. The Conference recommended Governments and relevant intergovernmental organizations "to strengthen and co-ordinate international programmes for integrated pest control and reduction of the harmful effects of agro-chemicals".[241] The Conference led to the creation by the United Nations General Assembly of the United Nations Environment Programme (UNEP)[242] and its

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[239] Early international initiatives include the International Labour Organization's 1919 recommendations for the protection of workers against white lead pigments in paint and white phosphorus in the manufacture of matches, and the 1912 *Hague Convention on Exercising Control Over Opium*. See John Buccini: *The Global Pursuit of the Sound Management of Chemicals*, the World Bank, 2004, p.13-14. http://siteresources.worldbank.org/INTPOPS/Publications/20486416/GlobalPursuitOfSoundManagementOfChemicals2004Pages1To67.pdf

[240] Rachel Carson: *Silent Spring*, Houghton Mifflin, 1962.

[241] Recommendation for action at the international level number 21, chapter X: Planning and management of human settlements for environmental quality. Available on http://www.unep.org/Documents.multilingual/Default.asp?DocumentID=97&ArticleID=1506&l=en

[242] General Assembly resolution 2997 (XXVII), 15 December 1972, http://daccessdds.un.org/doc/RESOLUTION/GEN/NR0/270/27/IMG/NR027027.pdf

Governing Council to promote international co-operation in the field of the environment and to recommend, as appropriate, policies to this end.

In 1983, the United Nations General Assembly established the World Commission on Environment and Development (WCED), known by the name of its Chair, Dr. Gro Harlem Brundtland, to address growing concern "about the accelerating deterioration of the human environment and natural resources and the consequences of that deterioration for economic and social development."[243] The report of the Commission, published in 1987 and entitled *Our Common Future*,[244] was an important milestone in bringing environmental protection and sustainable development on the international political agenda. The report made numerous references to chemicals and the need for their sound management, pointing out the contribution to the improvement of living standards, as well as their risks. Sections of the report point to the possible hazardous effects of excessive use of agrochemicals, pesticides and pest control chemicals, of the risks caused by hazardous wastes, aerosols and refrigerating chemicals.[245] The document called for the use of alternatives to chemicals, as well as the strengthening of legislation, policy, and research capacity for advancing non-chemical and less-chemical strategies.[246]

1.2 The 1992 Earth Summit

The United Nations Conference on Environment and Development (UNCED), held in Rio de Janeiro, Brazil, in June 1992 was also a significant event in the creation of international environment and development frameworks and conventions. The Summit, which gathered 178 governments and 100 world leaders, brought out five separate agreements signed by most of the participating nations, which includes three non-treaty agreements: *Agenda 21*, the Rio Declaration on Environment and Development, the Statement of Forest Principles, and two legal binding conventions, the United Nations Framework Convention on Climate Change and the United Nations Convention on Biological Diversity.

Chemicals management was addressed in the outcomes of the Conference by chapter 19 of *Agenda 21*.[247] The section entitled “environmentally sound management of toxic chemicals, including prevention of illegal international traffic in toxic and dangerous products” recognized the benefits of the use of chemicals and the need for their sound management in the context of sustainable development:

[243] General Assembly resolution A/RES/38/161, 19 December 1983, available on http://www.un.org/documents/ga/res/38/a38r161.htm.
[244] Bruntland, G (ed): Our Common Future: The World Commission on Environment and Development, Oxford University Press, 1987.
[245] Our Common Future, Chapter 7: Energy: Choices for Environment and Development.
[246] Our Common Future, Chapter 5: Food Security: Sustaining the Potential.
[247] Chapter 19 of Agenda 21 is available on: http://www.un.org/esa/sustdev/documents/agenda21/english/agenda21chapter19.htm

> A substantial use of chemicals is essential to meet the social and economic goals of the world community and today's best practice demonstrates that they can be used widely in a cost-effective manner and with a high degree of safety. However, a great deal remains to be done to ensure the environmentally sound management of toxic chemicals, within the principles of sustainable development and improved quality of life for humankind. Two of the major problems, particularly in developing countries, are (a) lack of sufficient scientific information for the assessment of risks entailed by the use of a great number of chemicals, and (b) lack of resources for assessment of chemicals for which data are at hand.

Chapter 19 also highlighted six programme areas as well as relevant objectives, activities and means of implementation. The programme areas identified were:

- Expanding and accelerating 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;
- Prevention of illegal international traffic in toxic and dangerous products.

Agenda 21 also stressed the need for increased coordination both within and outside the United Nations system. In response to this call, intergovernmental organizations involved in chemicals safety[248] established in 1995 the Inter-Organization Programme for the Sound Management of Chemicals (IOMC) with the aim of strengthening cooperation and increase coordination in the field of chemical safety among the different organizations. An Inter-Organization Coordinating Committee (IOCC) composed of representatives of the Participating Organizations coordinates relevant activities. Planning, programming, implementation and monitoring of activities undertaken jointly or individually by the Participating Organizations is carried out by IOCC. This ensures full consultation among all those involved, with the aim to ensure effective implementation without duplication.[249]

1.3 The Intergovernmental Forum on Chemical Safety

Chapter 19 called upon the governing bodies of WHO, ILO and UNEP to convene a global forum to promote chemical safety. The organizations convened the International Conference on Chemical Safety (ICCS), which was held in Stockholm in April 1994.[250] The Conference established the Intergovernmental Forum on Chemical Safety (IFCS), which is

[248] The seven participating organizations of the IOMC 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), UNEP, the United Nations Industrial Development Organization (UNIDO), the United Nations Institute for Training and Research (UNITAR) and the World Health Organization (WHO). In addition the United Nations Development Programme (UNDP) and the World Bank participate in the IOMC as observers.

[249] Information on the work of the IOMC can be found on: http://www.who.int/iomc/en/.

[250] The report of the Conference (document IPCS/ICCS/94.8) is available on http://www.who.int/ifcs/documents/forums/forum1/en/FI-report_en.pdf

> A non-institutional arrangement whereby representatives of governments meet, together with intergovernmental and non-governmental organisations, to consider all aspects of the assessment and management of chemicals. The aim is to integrate and consolidate national and international efforts to promote the objectives of Chapter 19 of Agenda 21. The IFCS provides policy guidance, identifies priorities, develops strategies and, where appropriate, makes recommendations to governments, international organisations, intergovernmental bodies and non-governmental organisations involved in chemical risk assessment and environmentally sound management of chemicals.[251]

The Conference was considered to be the first session of the Forum. A key feature of the IFCS was to allow and encourage multi-sectoral and multi-stakeholder participation in an international policy process addressing chemical safety. It provided the first international open and inclusive forum concerning issues of common interest and also new and emerging issues in this area.

In October 2000, the Forum met in Salvador da Bahia, Brazil, and adopted the Bahia Declaration on Chemical Safety. The Declaration reaffirmed IFCS's commitment to *Agenda 21* and recognized the importance of the provision of technical and financial assistance and technology transfer to developing countries and countries with economies in transition to accomplish Forum priorities beyond 2000.[252]

1.4 UNEP Governing Council

The issue of chemicals management and an international framework for chemicals management was also discussed by the Governing Council of UNEP. In its decision 18/12 of 1995, the Governing Council invited UNEP's Executive Director to convene an expert group to consider and recommend further measures to reduce risks from a limited number of chemicals. The Expert Group was convened in April 1996 and decided to focus on the following four problem areas:

- Inadequate capacity of developing countries to handle issues of hazardous chemicals and pesticides;
- Disposal of unwanted stocks of pesticides and other chemicals;
- Insufficient information for chemicals management decision-making and action;
- Possible needs to ban and phase out certain chemicals.[253]

[251] IFCS: *Brief History & Overview*, December 2005, available on: http://www.who.int/ifcs/documents/ifcs_overview_dec05.doc.

[252] The Bahia Declaration is available on http://www.who.int/ifcs/documents/forums/forum3/en/Bahia.pdf

[253] *The concept of a chemicals and waste cluster an overview*, Information Document presented at the second meeting of the Open-ended Intergovernmental Group of Ministers or their representatives on International Environmental Governance, Bonn, Germany, 17 July 2001 (UNEP/IGM/2/INF/2)

The Expert Group also took note of a proposal regarding the possible benefits of an integrated international mechanism concerning the management of hazardous chemicals and invited UNEP, FAO and to seek the views of Governments on this issue for consideration at the 19th session of the Governing Council. At its 19th session in 1997, the Governing Council adopted decision 19/13, which sought out options for enhanced coherence and efficiency among international activities related to chemicals.[254]

In February 1999, the 20th session of the UNEP Governing Council invited the Executive Director to prepare for a general policy discussion on chemicals management at the Governing Council session in 2001. The report of the Executive Director outlined the roles and responsibilities of existing legal instruments and organizations and evaluated the advantages and disadvantages of various options for enhanced coherence and efficiency among international activities related to chemicals. The report described initiatives and activities of the IFCS and IOMC and stressed that:

> 21. The IFCS and IOMC have only been in existence for a short period of time but they have made progress in helping identify priorities for action by governments and international organizations, in improving awareness of international activities and access to information, and in increasing cooperation and coordination among different programmes. Furthermore, by bringing together senior staff responsible for relevant programmes in the respective organizations, and representatives of governments and other stakeholders, the IFCS and IOMC contribute to the development of personal relationships and in increasing the level of trust, important prerequisites to increasing coordination and cooperation.
>
> 22. Nevertheless, several shortcomings have been identified. A critical concern is that recommendations made within the context of IFCS or IOMC are not necessarily approved by the governing bodies of the organizations involved and therefore there may not be the mandate, nor the resources allocated, to carry out the recommendations. The IFCS and IOMC do not have an official role in the meetings of the relevant governing bodies. Furthermore, Governments do not necessarily coordinate their positions for various meetings and, in many cases, send different representatives to the IFCS and to the governing bodies.[255]

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[254] The resolution also authorised UNEP to facilitate the negotiation of a global legally binding instrument for the implementation of the Prior Informed Consent (PIC) procedure, together with FAO. This negotiation process led to the adoption on 10 September 1998 of the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade. Additional information on the Rotterdam Convention can be found on www.pic.org and UNEP Governing Council decision 19/3 is available on: http://www.unep.org/Documents.Multilingual/Default.asp?DocumentID=96&ArticleID=1438&l=en

[255] *Enhanced coherence and efficiency among international activities related to chemicals*, information document presented at the 21st session of the UNEP Governing Council, Nairobi, Kenya, 5-9 February 2001, available on http://www.unep.org/gc/gc21/Documents/gc-21-INF-20/e-GC-21-INF-20.doc

At the same session, the Governing Council adopted decision 21/7, which

> Requests the Executive Director, in consultation with Governments, the Inter-Organization Programme for the Sound Management of Chemicals, the Intergovernmental Forum on Chemical Safety and other relevant organizations and stakeholders, to examine the need for a strategic approach to international chemicals management and to prepare a report on this subject for detailed consideration at the seventh special session of the Governing Council/Global Ministerial Environment Forum in 2002.[256]

In preparation for discussion in the Governing Council and its Global Ministerial Environment Forum, UNEP used a questionnaire to solicit the views of Governments, members of the IOMC, IFCS, non-governmental organizations, industry and environmental groups and other stakeholders.[257] The Executive Director reported that:

> 11. The great majority of respondents concurred that a strategic approach was warranted, albeit with varying conceptions as to what such an approach might entail. Environmentally sound management of chemicals was seen as integral to sustainable development objectives as it is a global issue requiring a comprehensive response. A strategic approach was viewed as a means of advancing the chemical safety agenda and building on progress to date. It was envisaged that such an approach would lend greater coherence to efforts at the global, regional and national levels. One of the strongest themes to emerge was the perception that more coordinated and effective delivery of capacity-building is essential if policies and programmes relating to international chemicals management are to bear fruit. A firm belief was also expressed that any new strategic approach should not compete with or duplicate existing work, such as the valuable priority-setting exercise undertaken by IFCS and reflected in the Bahia Declaration and the Priorities for Action. Significant attention was devoted to institutional and legal coordination, issues that are under active consideration by the Global Ministerial Environmental Forum under the heading of "governance" and that will be addressed at the same February meeting as this report. Other prominent themes included the improvement of access to information on hazardous chemicals, the mobilization of greater resources to support chemicals management, and the encouragement of industry to accept increased responsibility for and play a more active role in the promotion of chemical safety.[258]

[256] The decision is reproduced in the report of the 21 session of the Governing Council http://www.unep.org/gc/gc21/Documents/K0100275-E-GC21.doc.

[257] Views expressed are summarized in documents UNEP/GCSS.VII/INF/1, UNEP/GCSS.VII/INF/1/Add.1 and UNEP/GCSS.VII/INF/1/Add.2 available on http://www.unep.org/gc/GCSS-VII/.

[258] Report on the implementation of the decisions adopted at the twenty-first session of the Governing Council/ Global Ministerial Environmental Forum, report of the Executive Director (UNEP/GCSS.VII/4), presented at the seventh session of the Global Ministerial Environmental Forum, Cartagena, Colombia, 13-15 February 2002, available on http://www.unep.org/gc/GCSS-VII/.

Furthermore, the report analyzed that

> 12. The number and tenor of the responses testify to the importance attached to the subject by the international chemicals management community. The general thrust of the comments is that the time is ripe for a strategic approach to international chemicals management and that the international community needs to respond proactively to the increasingly prominent issue of chemical safety, bearing in mind the particular needs of developing countries. […]
>
> 13. The heightened exposure of developing countries and countries with economies in transition to risks posed by hazardous substances underlines the need for a concerted global approach to capacity-building in the area of chemicals management. This is essential if past achievements are to be consolidated and we are to continue making progress in chemical safety internationally. Such progress would benefit all countries.

In 2002, the Governing Council in its resolution SSVII/3, decided that there was a need to further develop a strategic approach to international chemicals management and endorses the IFCS Bahia Declaration and Priorities for Action beyond 2000 as the foundation of this approach. The Governing Council requested the Executive Director of UNEP to identify concrete projects and priorities in the context of a strategic approach to international chemicals management, working with key partners and, together with the IFCS and the IOMC, to convene an open-ended consultative meeting involving representatives of all stakeholder groups to contribute to the further development of a strategic approach to international chemicals management.[259]

1.5 The 2002 World Summit on Sustainable Development

Ten years after the 1992 Earth Summit in Rio, Heads of State and Government met during the World Summit on Sustainable Development in Johannesburg to reaffirm their commitment to sustainable development, the Rio Principles and the full implementation of *Agenda 21*. Delegates adopted the Johannesburg Declaration on Sustainable Development and the Johannesburg Plan of Implementation. The Johannesburg Declaration[260] outlines the path taken from the 1992 Rio Earth Summit, and the Johannesburg Plan of Implementation[261] sets out a framework for action to implement the commitments originally agreed at Rio.

The Summit set the aim "to achieve, by 2020, the use and production of chemicals in ways that lead to the minimization of significant adverse effects on human health and the environment."[262] Furthermore, the WSSD endorsed the development of "a

[259] Resolution SSVII/3, Strategic approach to international chemicals management can be found in the report of the seventh session of the Global Ministerial Environment Forum: http://www.unep.org/gc/GCSS-VII/Reports.htm .

[260] http://www.un.org/esa/sustdev/documents/WSSD_POI_PD/English/POI_PD.htm

[261] The Johannesburg Plan of Implementation is available on http://www.un.org/esa/sustdev/documents/WSSD_POI_PD/English/POIToc.htm

[262] See paragraph 23 of chapter 3 of the Plan of Implementation: http://www.un.org/esa/sustdev/documents/WSSD_POI_PD/English/POIChapter3.htm

strategic approach to international chemicals management based on the Bahia Declaration and Priorities for Action beyond 2000 of the IFCS by 2005, and urge that UNEP, IFCS, other international organizations dealing with chemical management and other relevant international organizations and actors closely cooperate in this regard, as appropriate."[263]

Following the work of the IOMC and IFCS and the mandate of the UNEP Governing Council, the WSSD provided the objective and endorsement and timeframe required for the development of a strategic approach to international chemicals management. The Johannesburg Plan of Implementation also set an ambitious and broad goal, linking the sound management of chemicals with sustainable development and acknowledging its multisectoral scope.

2. THE DEVELOPMENT OF SAICM

2.1 Sessions of the SAICM Preparatory Committee and the International Conference on Chemicals Management

In February 2003, the UNEP Governing Council agreed at its twenty-second session, in decision 22/4 IV,[264] to the concept of an open-ended consultative process involving representatives of all stakeholder groups as envisaged in decision SS.VII/3, taking the form of preparatory meetings followed by an international conference. Decision 22/4 IV also proposed that the international conference be held in conjunction with the ninth special session of the Governing Council and Global Ministerial Environment Forum in early 2006 and called upon the Executive Director to strive to ensure that the process of further developing the strategic approach remained open, transparent and inclusive, providing all stakeholders with opportunities to participate in the substantive work.

After initial planning work by an inter-organization steering committee[265] and an open-ended information meeting held in Geneva in April 2003, the first session of the Preparatory Committee for the Development of a Strategic Approach to International Chemicals Management (SAICM PrepCom1) was held in Bangkok, Thailand, from 9 to 13 November 2003.[266] The session was attended by 428 participants from 127 Governments, 19 intergovernmental organizations and approximately 50 non-governmental organizations drawn from a wide range of sectors including agriculture, environment, foreign affairs, health, industry, labour and science. Under the Presidency of Mr. Halldor Thorgeirsson of Iceland, the Preparatory Committee considered and further developed draft SAICM elements proposed by stakeholders and compiled by the secretariat. It adopted as the overall goal of SAICM the target set down in the Plan of Implementation of the World Summit on Sustainable Development that, by 2020, chemicals be used and produced in ways that lead to the

[263] *Ibid*.
[264] The report of the meeting and decision 22/4 can be found on http://www.unep.org/gc/gc22/REPORTS.asp.
[265] The members of the steering committee were the seven participating organizations of the IOMC, the Global Environment Facility (GEF), IFCS, UNDP and the World Bank.
[266] PrepCom1 information and meeting documents can be found on: http://www.saicm.org/documents/prepcom1/default.htm.

minimization of significant adverse effects on human health and the environment. Also developed at the first session were rules of procedure designed to maximise participation in the development of SAICM by all stakeholders.[267]

The second session of the Preparatory Committee (SAICM PrepCom2), held in Nairobi from 4 to 8 October 2004, was again attended by approximately 400 participants, including representatives of 115 Governments, from a broad range of sectors.[268] The Committee elected a new President, Ambassador Viveka Bohn of Sweden, and agreed upon a tripartite structure for the SAICM documents comprising a high-level declaration, an overarching policy strategy and a global plan of action. The President was mandated to prepare a draft of the declaration based on an outline agreed by the Committee and also to work with the secretariat to revise drafts of the overarching policy strategy and global plan of action that had been developed during the session. Other intersessional work agreed to by the Committee included studies on financial considerations and on principles and approaches, as well as papers relating to implementation of SAICM and taking stock of progress. During the first half of 2005, a process for submissions on the draft texts, regional consultations and a meeting of an expanded bureau facilitated the intersessional work.[269]

The third session of the Preparatory Committee (SAICM PrepCom3) was held in Vienna from 19 to 24 September 2005. The meeting was attended by over 600 participants from 145 Governments and numerous intergovernmental and non-governmental organizations.[270] The Committee considered the President's draft of the high-level declaration and reached provisional agreement on most sections of the overarching policy strategy and the detailed global plan of action, subject to final consideration by the International Conference on Chemicals Management (ICCM). It was agreed that given the guidance status of the global plan of action, it need not be fully negotiated and would be subject to ongoing refinement in the future. The Committee provisionally agreed that the Executive Director of UNEP should be requested to perform secretariat functions to support the implementation of SAICM and that the ICCM, which was expected to adopt SAICM at its first session in February 2006, should be reconvened to undertake periodic reviews of progress in the implementation of SAICM. It also agreed provisionally on the functions of both the future SAICM secretariat and the ICCM when reconvened to exercise its proposed review role. While it was provisionally agreed that the Executive Director of UNEP should be requested to establish and assume overall responsibility for the secretariat, both UNEP and WHO would take "lead roles in the secretariat in their respective areas of responsibility."[271]

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[267] The report of PrepCom1 can be found on: http://www.saicm.org/documents/meeting/prepcom1/report/en/1_7report.doc.

[268] PrepCom2 information and meeting documents can be found on: http://www.saicm.org/documents/prepcom2/default.htm.

[269] The report of PrepCom2 can be found on: http://www.saicm.org/documents/meeting/prepcom2/meeting_report/meeting_report.htm.

[270] PrepCom3 information and meeting documents can be found on: http://www.saicm.org/documents/prepcom3/default.htm.

[271] The report of PrepCom3 can be found on: http://www.saicm.org/documents/meeting/prepcom3/meeting_report/meeting_report.htm

The first session of the ICCM was held in Dubai, United Arab Emirates from 4 to 6 February 2006. The Conference was held in conjunction with the 23rd session of the UNEP Governing Council and 9th session of the Global Ministerial Environment Forum. The session was the culmination of the three years process of negotiation between Governments, intergovernmental organizations, non-governmental organizations and others within the framework of the Preparatory Committee. Over the course of the three PrepCom sessions, it had been agreed that SAICM would be embodied in a high level declaration, an overarching policy strategy and a global plan of action, and provisional agreement had been reached on much of the text of those documents. By the time of the first session of the ICCM, however, final agreement had yet to be reached, and certain elements of the text remained in square brackets to reflect a lack of consensus, in particular with regards to financial considerations and principles and approaches.[272]

Following intense work during the Conference and final negotiations facilitated by the ICCM President, Mr. Mariano Arana, Minister of Housing, Territorial Planning and Environment of Uruguay and Committee of the Whole Chair Amb. Viveka Bohn of Sweden, agreements were reached on the main documents of SAICM. The Dubai Declaration on International Chemicals Management, the Overarching Policy Strategy (OPS) and four Conference resolutions were adopted by the ICCM, while the Global Plan of Action (GPA) was recommended for use and further development.[273]

2.2 The SAICM framework

The three texts agreed at the first session of the ICCM, as well as the four resolutions of the Conference provide the overall outline of SAICM. The Dubai Declaration on International Chemicals Management was adopted by ministers, heads of delegation and representatives of civil society and the private sector gathered in Dubai. The Declaration enshrines the political commitment to SAICM, as well as key principles.

The links between chemicals management and sustainable development is one of the principle features of the Declaration and SAICM.

> 1. 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. […]
> 11. We are unwavering in our commitment to promoting the sound management of chemicals and hazardous wastes throughout their life-cycle, in accordance with Agenda 21 and the Johannesburg Plan of Implementation, in particular paragraph 23. We are convinced that the Strategic Approach to International Chemicals Management constitutes a significant contribution towards the internationally agreed development goals set out in the Millennium Declaration. […]

[272] See the report of the first session of the ICCM, available on: http://www.saicm.org/index.php?menuid=8&pageid=7.

[273] The publication of the SAICM texts and ICCM resolutions is available in Arabic, Chinese, English, French, Spanish and Russian on the SAICM website: http://www.saicm.org/index.php?menuid=3&pageid=187.

The Declaration also highlights the importance of the work of all stakeholders in the sound management of chemicals and in the implementation of SAICM. The special situation of developing countries and countries with economies in transition are fully recognized in the Declaration:

> We will work towards closing the gaps and addressing the discrepancies in the capacity to achieve sustainable chemicals management between developed countries on the one hand and developing countries and countries with economies in transition on the other by addressing the special needs of the latter and strengthening their capacities for the sound management of chemicals and the development of safer alternative products and processes, including non-chemical alternatives, through partnerships, technical support and financial assistance;

The Dubai Declaration also makes a number of connections between chemical safety and workers, the prevention of impacts on human health, the protection of vulnerable groups and human rights, as well as the importance of SAICM implementation and taking stock of progress.

While the overall objective of SAICM is the achievement of the 2020 goal of sound management of chemicals, the OPS defines its scope, which includes:

> (a) Environmental, economic, social, health and labour aspects of chemical safety; and
> (b) Agricultural and industrial chemicals, with a view to promoting sustainable development and covering chemicals at all stages of their life-cycle, including in products."[274]

The document also highlights needs and objectives in five work areas:

(a) Risk reduction;
(b) Knowledge and information;
(c) Governance;
(d) Capacity-building and technical cooperation; and
(e) Illegal international traffic.

The OPS provides guidance on general principles and specific aims to be taken for each of these work areas. In addition, the GPA's 273 listed activities are also classified in relation to each work area with the assumption that their successful implementation will contribute to achieving the objectives laid out in the Strategy.

Financial considerations were a key negotiating issue during the SAICM development process. While the principle that developing countries and transition economies would need financial assistance in order to implement SAICM was generally accepted, there were varying viewpoints as to how such resources should be mobilized and delivered. Ultimately, a multi-faceted approach to financial considerations was agreed in paragraph 19 of the OPS, which states that

[274] The Strategy also indicates that: "SAICM does not cover products to the extent that the health and environmental aspects of the safety of the chemicals and products are regulated by a domestic food or pharmaceutical authority or arrangement."

> SAICM should call upon existing and new sources of financial support to provide additional resources and should build upon, among other things, the Bali Strategic Plan for Technology Support and Capacity- building[275]. It should also include the mobilization of additional national and international financial resources, including through the Quick Start Programme and other measures set out in this paragraph, to accelerate the strengthening of capabilities and capacities for the implementation of the SAICM objectives.

The paragraph also recognizes that

> the extent to which developing countries, particularly least developed countries and small island developing States, and countries with economies in transition can make progress towards reaching the 2020 goal depends, in part, on the availability of financial resources provided by the private sector and bilateral, multilateral and global agencies or donors.

The financial arrangements for SAICM are described in a list of elements which includes, among other things:

A. Actions at the national or sub-national levels;

B. Enhancing industry partnerships and financial and technical participation in the implementation of SAICM;

C. Integration of SAICM objectives into multilateral and bilateral development assistance cooperation;

D. Making more effective use of and building upon existing sources of relevant global funding, including possibly with the Global Environment Facility (GEF)[276] and the Montreal Protocol on Substances that Deplete the Ozone Layer and its Multilateral Fund for the Implementation of the Montreal Protocol;[277]

E. Supporting initial capacity-building activities for the implementation of SAICM through the Quick Start Programme (QSP) and its voluntary, time-limited trust fund administered by UNEP; and

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[275] The Bali Strategic Plan for Technology Support and Capacity-building constitutes UNEP's approach to strengthen technology support and capacity building in developing countries, as well as countries with economies in transition. The Plan was approved by the 23rd session of the UNEP Governing Council in February 2005 and is available on www.unep.org/GC/GC23/documents/GC23-6-add-1.pdf.

[276] The GEF is an independent financial organization that provides grants to developing countries for projects that benefit the global environment and promote sustainable livelihoods in local communities. GEF projects address complex global environmental problems under six focal areas: biodiversity, climate change, international waters, land degradation, the ozone layer and persistent organic pollutants (POPs).

[277] The Multilateral Fund, established in 1993, is a dedicated multilateral fund for a multilateral environment agreement. It meets the agreed incremental costs of compliance activities for elimination of ozone-depleting substances (e.g. financial and technical cooperation, and technology transfer).

F. Inviting Governments and other stakeholders to provide resources to the SAICM secretariat.

While the financial considerations provide a comprehensive list of different opportunities and possibilities of support, only the QSP is specific to SAICM. ICCM resolution I/4 established the QSP "to support activities to enable initial capacity building and implementation in developing countries, least developed countries, small island developing States and countries with economies in transition." In the resolution, the ICCM also called for the QSP to include a trust fund, administered by UNEP, and multilateral, bilateral and other forms of cooperation. The trust fund will be open to receive contributions until 2011 ant to make disbursements until 2013.

The Global Plan of Action provides a list of 273 voluntary activities by stakeholders in order to pursue the commitments and objectives expressed in the Dubai Declaration and the Overarching Policy Strategy. The GPA is composed primarily of a table separated along 36 work areas consistent with the five categories of objectives defined of the OPS. For each activity, possible actors, targets and timeframes, indicators of progress and implementation aspects are suggested. Although the GPA was not adopted, the Dubai Declaration highlights its important role:

> We recommend the use and further development of the Global Plan of Action, to address current and ever-changing societal needs, as a working tool and guidance document for meeting the commitments to chemicals management expressed in the Rio Declaration on Environment and Development, Agenda 21, the Bahia Declaration on Chemical Safety, the Johannesburg Plan of Implementation, the 2005 World Summit Outcome and this Strategic Approach;

The ICCM at its first session also adopted four resolutions. Resolution I/1 on implementation arrangements which called on "all stakeholders, including Governments, intergovernmental and non-governmental organizations, regional economic integration organizations, representatives of civil society and the private sector, to take appropriate action to achieve the objectives of SAICM". Resolution I/2 paid tribute to the Government of the United Arab Emirates for the hosting of the Conference. Resolution I/3 on IFCS invited "the Forum to continue its important role in providing an open, transparent and inclusive forum for discussing issues of common interest and also new and emerging issues, and to continue to contribute through this to the implementation of SAICM and the work of other chemicals-related international organizations and institutions." ICCM resolution I/4 set the institutional arrangements for the QSP and its trust fund, including its objective, time frame and governing bodies.

2.3 Characteristics of the SAICM development process

The adoption of SAICM marked an important step in the definition of a comprehensive and global framework for the sound management of chemicals. While its implementation and performance against the 2020 goal of the sound management of chemicals will determine its effectiveness and adequacy, the way leading to its adoption provided a number of important features. Contrary to preceding efforts to tackle chemicals-related issues, SAICM was not conceived as a legal instrument but as a voluntary mechanism. This approach allowed for greater flexibility in the

definition of its objectives, engagement of stakeholders and sectoral opportunities for implementation.

The 2020 goal of the Johannesburg Plan of Implementation allowed for SAICM to aim for an ambitious goal and a framework for achieving it. Instead of relying on state-centred international law, SAICM was conceived with the different elements needed to foster international action. Political commitment was provided for by the Dubai Declaration, the OPS defined SAICM's core arrangements and the GPA provided a suggested toolbox of concrete actions. The voluntary nature of the approach allowed for a more flexible participation of all stakeholders with a focus on objectives and activities, rather than solely on rights and obligations. Building upon existing efforts, SAICM did not aim to replace or duplicate exiting programmes, organizations and treaties. Rather, SAICM aimed to provide an umbrella under which existing and future national, regional and international chemicals management work could be fostered.

The multi-stakeholder and multi-sectoral engagement was one of the successes of the development of SAICM.[278] The shift from a legal state-centred framework to voluntary framework allowed for international non-state actors to be involved in the development of SAICM. From its onset, SAICM was conceived as a means of linking the work of Governments, intergovernmental organization and civil society, including industry for the sound management of chemicals. In recognition of the important role played by all stakeholders, the SAICM PrepCom rules of procedure gave equal status to all participants with decisions requiring consensus from all representatives.[279]

Furthermore, the SAICM development process allowed for the engagement of a maximum of sectors to be engaged in the process. This was achieved among other things through the granting of travel funding for two representatives from different Ministries of developing countries and countries with economies in transition. Different sectors were also represented by different intergovernmental organizations, as well as relevant civil society organizations, including environment and health organizations, trade unions and industry.[280]

In this regard, one of the principal features of SAICM has been to link chemicals management in all sectors as an issue of sustainable development. While chapter 19

[278] The Overarching Policy Strategy provides that the main SAICM stakeholders and sectors are understood to be "Governments, regional economic integration organizations, intergovernmental organizations, non-governmental organizations and individuals involved in the management of chemicals throughout their life-cycles from all relevant sectors, including, but not limited to, agriculture, environment, health, industry, relevant economic activity, development cooperation, labour and science. Individual stakeholders include consumers, disposers, employers, farmers, producers, regulators, researchers, suppliers, transporters and workers."

[279] See for reference the rules of procedure in document SAICM/ICCM.1/6 available on http://www.chem.unep.ch/ICCM/meeting_docs/default.htm.

[280] See for example an analysis of the role played by industry in the negotiations in *Business in Economic Diplomacy* by Reinhard Quick, in *The New Economic Diplomacy* (second edition), Nicholas Bayne and Stephen Woolcock (ed.), Ashgate Publishing, Ltd., 2007. See also http://books.google.ch/books?id=ELDv-26byMwC&pg=PA112&dq=NEW+ECONOMIC+DIPLOMACY+SAICM&hl=en#PPA105,M1

of agenda 21 and the WSSD had provided a general link, SAICM offered stakeholders from all sectors concrete opportunities to tie chemicals safety with the improvement of higher living standards or achievement of Millennium Development Goals. In the context of developing countries and countries with economies in transition, SAICM for example aims to encourage the *mainstreaming* of chemicals management into national development priorities and plans. Mainstreaming activities[281] aim to assist countries in demonstrating the need for chemicals management using economic tools, including cost benefits analysis.

The engagement of a large spectrum of stakeholders and sectors allowed for SAICM to receive inputs and take into account views from a variety of actors involved in chemicals management. In addition to being inclusive, SAICM's development remained transparent at all time, offering the opportunity for all participants and the external public to oversee information made available, outcomes of consultations, as well as preparatory and meeting documents.

Building on previous work and initiatives, the development of SAICM received strong high-level support. SAICM's development was endorsed by Heads of States and Government during the WSSD in Johannesburg in 2002 and during the 2005 World d Summit[282] as well by several Ministerial forums at the regional level.[283] During the first session of the ICCM, over 30 Ministers and senior representatives committed themselves to SAICM and the Dubai Declaration. Following its adoption, SAICM has also been formally acknowledged or endorsed by governing bodies of intergovernmental organizations and international forums.[284]

3. SAICM IMPLEMENTATION AND THE SECOND SESSION OF THE INTERNATIONAL CONFERENCE ON CHEMICALS MANAGEMENT

The adoption of SAICM by the ICCM closed over three years of a development process. However, this event only marked the very beginning of SAICM's implementation as its success will be measured against the 2020 goal of sound management of chemicals.

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[281] Activities for mainstreaming may include qualitative and quantitative analysis of links between priority chemical management issues and human health and environmental quality, research to assess the costs of inaction and benefits of action, using planning and economic terminology, of priority chemicals management issues, as well as integrating chemicals management priorities into each country's development planning processes and plans.

[282] In September 2005, more than 150 Heads of State and Government gathered in New York during the 2005 World Summit to follow-up to the outcomes of the Millennium Summit held in 2000. The High Level Plenary Meeting endorsed the 2005 World Summit Outcome, which endorsed the development of SAICM. See for reference: http://www.saicm.org/documents/positions/SAICM%20Para%2056k%20-%202005%20World%20Summit%20Outcome.pdf.

[283] See the international and regional positions on the development of SAICM on http://www.saicm.org/index.php?menuid=2&pageid=109&submenuheader=.

[284] Information on the consideration of SAICM by international forums' positions on SAICM can be found on: http://www.saicm.org/index.php?menuid=4&pageid=4.

As the Dubai Declaration highlights, the implementation of SAICM will require the participation and work of all stakeholders: "We collectively share the view that implementation and taking stock of progress are critical to ensuring success…"

While SAICM provides the policy framework and can facilitate assistance, progress depends on the initiatives of individual actors, including Governments, intergovernmental organizations and civil society organizations.

3.1 The Enabling phase and the Quick Start Programme

SAICM can be considered as a process in which an initial enabling phase needs to be completed before full implementation can be achieved. This initial phase is aimed at addressing the needs of countries in the assessment of their capacities for the sound management of chemicals, in particular in developing countries and countries with economies in transition. While there is no definition of enabling activities, references are made in the OPS to initial activities stakeholders may undertake in preparation of their implementation of SAICM. Paragraph 22 of the Strategy provides that

> SAICM implementation could begin with an enabling phase to build necessary capacity, as appropriate, to develop, with relevant stakeholder participation, a national SAICM implementation plan, taking into consideration, as appropriate, existing elements such as legislation, national profiles, action plans, stakeholder initiatives and gaps, priorities, needs and circumstances.

The QSP was established to address some of these initial needs as its objective defined by ICCM resolution I/4 is

> to support initial enabling capacity-building and implementation activities in developing countries, least developed countries, small island developing States and countries with economies in transition.

The strategic priorities of the QSP, defined in ICCM resolution I/4, provide a further indication as to the scope of enabling activities, which are to be in keeping with the work areas set out in the strategic objectives of section IV of the Overarching Policy Strategy, namely risk reduction, knowledge and information, governance, capacity building and illegal international traffic, and relate in particular to the following strategy priorities:

a) Development or updating of *nation*al chemical profiles[285] and the identification of capacity needs for sound chemicals management;

b) Development and strengthening of national chemicals management institutions, plans, programmes and activities to implement SAICM,

[285] National chemicals management profiles provide a comprehensive overview of the national chemicals management situation in a country. Their development or updating provides the opportunity to assess the existing national legal, institutional, administrative, and technical infrastructure for the sound management of chemicals. National profiles can serve as a basis for identifying national chemicals management priorities and for initiating targeted and coordinated follow-up action.

building upon work conducted to implement international chemicals-related agreements[286] and initiatives[287];

c) Undertaking analysis, interagency coordination, and public participation activities directed at enabling the implementation of SAICM by integrating – i.e., mainstreaming – the sound management of chemicals in national strategies, and thereby informing development assistance cooperation priorities.

Since 2006, and as of January 2008, the QSP trust fund has received pledges for an approximate total of $18,782,000 from 21 donors. Existing arrangements provide that each year, two application rounds are held, during which Governments of developing countries and countries with economies in transition are eligible for projects valued between $50,000 and $250,000. Proposals may be presented by SAICM participating Governments that have given appropriate formal recognition to SAICM, at a minimum by having designated an official SAICM national focal point. On an exceptional basis, civil society networks participating in SAICM can also be eligible to present project proposals, which need to be endorsed by a SAICM national focal point. As of November 2008, 74 projects with a total value of $14,020,252 were approved. In addition, non-trust fund contributions have been provided to support bilateral and multilateral chemicals management programmes, projects and activities supporting the QSP objective and strategic priorities.[288]

3. 2 National and regional implementation

While the early successes of SAICM and of the QSP have been welcomed, the major objective of SAICM remains the achievement of the 2020 goal and full implementation by all stakeholders. At the national level, Governments are expected to take a number of steps to ensure that SAICM's framework is translated into concrete measures. As an initial step, Governments are invited by the OPS paragraph 23 to "establish arrangements for implementing SAICM 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", as well as to nominate a national focal point "to facilitate communication,

[286] International agreements provide a legal framework under which to address common concerns and/or transboundary issues with examples including the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, the Stockholm Convention on Persistent Organic Pollutant, the International Health Regulations, the International Labour Organization Convention 170 on Safety in the Use of Chemicals at Work, the International Maritime Organization Convention for the Prevention of Pollution from Ships and the Vienna Convention on the Protection of the Ozone Layer and its Montreal Protocol on Substances that Deplete the Ozone Layer.

[287] Examples of voluntary international initiatives emanating from intergovernmental processes include the International Code of Conduct on the Distribution and Use of Pesticides developed under the auspices of the Food and Agriculture Organization and the Globally Harmonized System of Classification and Labelling of Chemicals developed by the United Nations Economic and Social Council's Committee of Experts on the Transport of Dangerous Goods.

[288] Additional information on the QSP can be found on: http://www.saicm.org/index.php?menuid=22&pageid=252

nationally and internationally." Furthermore, Governments can integrate SAICM into relevant programmes and plans, including those for development cooperation, as called for in OPS paragraph 19 (a).

National implementation is also aimed at other stakeholders and their engagement is important in order to cover a large scope of aspects of chemical safety. The OPS paragraph 22, for example, calls for the development, "with relevant stakeholder participation, [of] a national SAICM implementation plan, taking into consideration, as appropriate, existing elements such as legislation, national profiles, action plans, stakeholder initiatives and gaps, priorities, needs and circumstances."

At the regional level, the ICCM decided in its resolution I/1 that intersessional work should be promoted through, among other things, regional meetings. The SAICM OPS, in paragraph 26, indicates that the functions of the regional meetings will include:

> (a) To review progress on implementation of the Strategic Approach within the regions;
>
> (b) To provide guidance on implementation to all stakeholders at a regional level;
>
> (c) To enable technical and strategic discussions and exchange of information to take place.

Since the adoption of SAICM in February 2006, all five United Nations regions, namely the African, Asia-Pacific, Central and Eastern European and Latin American and Caribbean regions, and the Western European and Others Group, have had at least one regional meeting. The regional meetings during the first intersessional period have focused on agreeing on arrangements for regional coordination, establishing regional priorities and plans for SAICM implementation and preparing of the second session of the ICCM. The African region adopted a regional action plan, while the Asia-Pacific and Central and Eastern European regions made first steps in this regard.[289]

3. 3 The second session of the International Conference on Chemicals Management

The SAICM Overarching Policy Strategy, in paragraphs 24 and 25, sets out the functions and schedule of the ICCM, as follows:

> The ICCM will undertake periodic reviews of SAICM. The functions of the ICCM will be:
>
> (a) To receive reports from all relevant stakeholders on progress in implementation of SAICM and to disseminate information as appropriate;

[289] Further information on regional activities can be found on: http://www.saicm.org/index.php?menuid=14&pageid=294.

(b) To evaluate the implementation of SAICM with a view to reviewing progress against the 2020 target and taking strategic decisions, programming, prioritizing and updating the approach as necessary;

(c) To provide guidance on implementation of SAICM to stakeholders;

(d) To report on progress in implementation of SAICM to stakeholders;

(e) To promote implementation of existing international instruments and programmes;

(f) To promote coherence among chemicals management instruments at the international level;

(g) To promote the strengthening of national chemicals management capacities;

(h) To work to ensure that the necessary financial and technical resources are available for implementation;

(i) To evaluate the performance of the financing of SAICM;

(j) To focus attention and call for appropriate action on emerging policy issues as they arise and to forge consensus on priorities for cooperative action;

(k) To promote information exchange and scientific and technical cooperation;

(l) To provide a high-level international forum for multi-stakeholder and multi-sectoral discussion and exchange of experience on chemicals management issues with the participation of non-governmental organizations in accordance with applicable rules of procedure;

(m) To promote the participation of all stakeholders in the implementation of SAICM.

The OPS paragraph 25 also provides that the second session of the ICCM should be held in 2009 and that, "where appropriate, sessions of the ICCM should be held back-to-back with meetings of the governing bodies of relevant intergovernmental organizations in order to enhance synergies and cost-effectiveness and to promote SAICM's multi-sectoral nature." The secretariat has scheduled ICCM2 to take place in Geneva, from 11 to 15 May 2009, immediately before the 62nd World Health Assembly.[290] The second session of ICCM will itself be preceded by the 4th meeting of the Conference of the Parties of the Stockholm Convention.[291]

At its first session, the ICCM 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. The Open-ended Legal and Technical Working Group (OELTWG) met at FAO

[290] Information on the World Health Assembly can be found on: http://www.who.int/governance/en/.
[291] See www.pops.int.

headquarters in Rome, from 21 to 24 October 2008. In conjunction with the OELTWG, stakeholders held informal discussions to assist preparation for the second session of the ICCM.[292] The OELTWG worked on the development of rules of procedure for the ICCM, which will be considered by the Conference at its second session. Informal discussions allowed stakeholders to hold preliminary discussions on issues to be considered by ICCM at its second session, including modalities for reporting on implementation, emerging policy issues, financial considerations, the possible addition of new activities to the Global Plan of Action and the relationship of the IFCS to SAICM.

The second session of the ICCM will therefore be an opportunity for it to finalize institutional arrangements, such as the adoption of its rules and Bureau. In addition, however, the ICCM will be for the first time performing its function defined in paragraph 24 of the OPS. Among these issues, the main ones are expected to be the modalities for reporting on implementation, emerging policy issues and financial considerations.

3.4 Reporting on Progress in Implementation

Reporting on the implementation of the Strategic Approach will be a key tool in assessing progress towards the Johannesburg Plan of Implementation goal of achieving the sound management of chemicals by 2020. Paragraph 24 of the Overarching Policy Strategy provides for the Conference to carry out a number of key functions in relation to reporting, namely "to undertake periodic reviews of the Strategic Approach"; "to receive reports from all relevant stakeholders on progress in implementation of the Strategic Approach and to disseminate information as appropriate;" and "to evaluate the implementation of the Strategic Approach with a view to reviewing progress against the 2020 target and taking strategic decisions, programming, prioritizing and updating the approach as necessary."

In order to assist the development of appropriate reporting modalities, the Government of Canada has sponsored a project to develop a set of draft indicators for reporting progress on the implementation of SAICM and a baseline estimates report. The project was carried out by the consulting firm Resource Futures International, with guidance provided by an international project steering committee. Following the completion of the Government of Canada-sponsored project, the secretariat encouraged Governments and other organizations to test the questionnaires and share the experience obtained.

Stakeholders at the informal discussions held in October 2008 requested that a revised set of proposed indicators be prepared to simplify them, render them more user-friendly and less resource-intensive. They agreed that the international project steering group that had earlier provided assistance to the Government of Canada-sponsored project be reconvened, with additional new participants, and be requested to produce a single set of between 15-20 indicators taking into account the earlier proposed indicators and the results of the pilot testing. The revised proposal and

[292] Information on both meetings can be found on: http://www.saicm.org/index.php?menuid=12&pageid=102.

arrangements for periodic reporting by stakeholders are to be considered at the second session of the ICCM to be held in May 2009. Following the adoption of reporting modalities and indicators, periodic reporting will be undertaken by the Conference at its future sessions in 2012, 2015 and 2020.[293]

3.5 *Emerging policy issues*

One of the functions of the ICCM set out in paragraph 24 of the OPS is "to focus attention and call for appropriate action on emerging policy issues as they arise and to forge consensus on priorities for cooperative action." Paragraphs 14 (g) and 15 (g) of the OPS call, respectively, for new and emerging issues of global concern to be sufficiently addressed by means of appropriate mechanisms, and for an acceleration of the pace of scientific research on identifying and assessing the effects of chemicals on human beings and the environment, including emerging issues.

The Conference has not yet defined the term "emerging policy issue", but it may be understood to be an issue involving the production, distribution and use of chemicals, which has not yet been generally recognized or sufficiently addressed, but which may have significant adverse effects on human beings and/or the environment. Following consultation with the informal "Friends of the Secretariat" planning group,[294], the secretariat prepared a short questionnaire as a means for SAICM stakeholders to propose "emerging issues" for consideration by the Conference at its second session.

A compilation of the submissions received from stakeholders to the questionnaire on emerging policy issues[295] was considered by stakeholders at informal discussions held in Rome in October 2008. An overview and summary of the issues raised in the submissions was also taken into account. Present stakeholders decided that the next step would be for the secretariat, in consultation with the Friends of the Secretariat, to screen the nominated emerging policy issues in a transparent manner and select emerging policy issues that might be prioritized for detailed consideration at the second session of the Conference.

On the basis of this additional preparatory work, the Friends of the Secretariat agreed to recommend that the following emerging issues be considered in detail by the second session of the Conference:

- Chemicals in products;
- Nanotechnology and manufactured nanomaterials;
- Electronic waste; and
- Lead in paints..

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[293] Additional information on reporting and modalities can be found on: http://www.saicm.org/index.php?menuid=32&pageid=297.

[294] The Friends of the Secretariat group was established in April 2008 to provide guidance to the secretariat on preparations for the second session of the ICCM, to be held from 11 to 15 May 2009. The group comprises regional focal points and representatives of Governments, non-governmental and intergovernmental organizations.

[295] Document SAICM/InfDisc/INF/1, available on http://www.saicm.org/documents/OELTWG/Informal%20discussions/ID%20INF1%20issues%20compilation.pdf

In addition to the information on each of the agreed selection criteria it was taken into account that these issues each reflected an emerging policy issue which was not yet addressed internationally, an issue about which the global chemicals community was not fully aware and/or issues of particular and immediate concern for developing countries.

Opportunities for considering other nominated emerging policy issues at the second session of the Conference were also identified and it was recommended that the submission "Health-sector – prevention of chemicals-related adverse-health impacts" be included for discussion in a planned high-level round table to be held during the Conference. It was also recommended that a side event be planned for further information sharing on perfluorinated chemicals.

The second session of the Conference will also be invited to consider a longer-term procedure for the modalities of carrying out its functions with regard to emerging policy issues which would include revised criteria for priority setting, to be developed as necessary.[296]

3.6 Financial Considerations

In the course of the development of SAICM, financial considerations were a crucial element of the SAICM framework. During PrepCom 3, in September 2005, a study on financial considerations for SAICM was presented. It highlighted some gaps in financing, such as the following:

- International agreements and decisions encompassed by SAICM have limited access to funding from multilateral and bilateral funding sources (e.g. the Basel Convention, the Rotterdam Convention etc);
- Multilateral financial mechanisms with chemicals-related mandates address only partially broader governance issues that are central to SAICM;
- Existing multilateral financial mechanisms with chemicals-related mandates are restricted to provision of support for work on a relatively limited, although important, number of chemicals;
- Integration or "mainstreaming" of the sound management of chemicals in multilateral and bilateral development assistance programming has seen slow progress with certain key exceptions; and
- Despite the wealth generated by, and the growth of the chemical industry on a global basis, there are no significant mechanisms for industry financial contributions to the global agenda for the sound management of chemicals. [297]

Taking into consideration these elements, paragraph 19 of the OPS, which enshrines the financial arrangements for SAICM is a comprehensive list of sources of finance and technical cooperation means. Since 2006, however, a large majority of stakeholders considered that the scope of SAICM is such that the funding necessary

[296] Additional information on emerging policy issues can be found on http://www.saicm.org/index.php?menuid=9&pageid=331&submenuheader=.

[297] See document SAICM/PREPCOM.3/INF/28: www.saicm.org/documents/meeting/prepcom3/en/INF28.doc.

to achieve significant progress toward the 2020 goal far exceeded that currently available, in particular through the QSP.

Over the course of regional meetings and consultations, many stakeholders welcomed the QSP and were positive as to its adequacy for meeting its limited objective. Some called for more resources to be made available, for an increase in the funding available per project and per country, as well as the consideration of a possible extension of the duration of the QSP. Demand for QSP trust fund assistance has remained constant over the first three years of operation of the QSP and funds available were almost sufficient to meet the demand of all applicants. SAICM donors emphasized that broadening of the donor base was a crucial challenge for sustaining the Programme and its trust fund.[298] Some donor Governments highlighted burden-sharing as a precondition to allow present donors to maintain their contributions to the QSP and that the reliance on a limited number of important donors undermined the sustainability of the Programme. Some stakeholders noted that, thanks to the QSP, it had been possible to obtain development cooperation agency resources.

There is a shared view among a number of stakeholders that further consideration should be given to the financial framework of SAICM, in particular as the QSP will cease to receive contributions in 2011, one year before the third session of the ICCM. Among the options considered has been the need for better use of existing resources, linking of SAICM to the GEF, the development of a standalone financial mechanisms and better use of development assistance funding.[299]

Since 2008, an informal group of donors has undertaken to discuss financial matters in preparation of the second session of the ICCM and to present some options then. During the meeting of the OELTWG in October 2008, the Government of Sweden on behalf of an informal group of donor countries presented a thought-starter to stimulate discussion. A key point of the paper was that there was no single source of funding for all activities under SAICM, as they encompassed activities covered under other regimes, activities that pertained to the Millennium Development Goals and activities that conferred global benefits. This breadth of activities and the lack of a single source of funding meant that it was necessary to prioritize and, to that end, to identify which activities in the Global Plan of Action belonged in which group and what sources of funding already existed for each.[300] While no consensus can yet be reached on the way forward, the second session of the ICCM will be crucial in determining the future of the financial mechanism of SAICM. In addition to plenary discussions on the matter, it is expected that a high-level round table will also aim to address this question

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[298] Information and documents on SAICM donors meetings can be found on: http://www.saicm.org/index.php?menuid=5&pageid=22

[299] See also the thought starter on financial arrangements for the implementation of SAICM prepared by the Government of Switzerland for the second of EU-JUSSCANNZ countries in June 2007 http://www.saicm.org/documents/meeting/EU_Jusscanz/Feb%2008/Swiss%20SAICM%20finance%20paper%20-%20G293-0719.pdf

[300] See para. 28 of the report, available on: http://www.saicm.org/documents/OELTWG/Informal%20discussions/InfDisc%208%20final%20report%20E.doc.

4. CONCLUSION

The potential harmful effects on human health have gradually raised calls for their sound management. With increased use, production and transport of chemicals, awareness of a number of related problems has gradually been on the agenda of the international community. The development and adoption of SAICM was the cumulating point of the emergence of chemicals management as a global issue. The acknowledgement of chemicals as an issue of sustainable development and the involvement of all sectors and stakeholders have also raised the profile of SAICM. SAICM recognizes the special situation of developing countries, which increase their production and consumption of chemicals and require support for their sound management.

SAICM provides an innovative mechanism for action, which has the necessary components to address the 2020 goal of the sound management of chemicals. Its comprehensiveness in scope, high-level endorsement, voluntary nature and inclusiveness make it a possible. While SAICM is nor a convention, nor a forum, it may provide the example of future international multilateral initiatives. While it does not create legal obligations, it provides a framework which includes a recognized mandate, agreed texts and a flexible plan for action.

The success of SAICM will however require the participation and commitment of all stakeholders in its implementation. The initial phase of SAICM implementation will come to an end by the second session of the ICCM. The event will be an important milestone, as it is expected to decide on remaining institutional arrangements, while at the same time addressing the substantive matters of its mandate. Among the key issues during the second session will be emerging issues and financial considerations. While it can be expected that not all substantive matters will be concluded during the Conference, it will remain important that the SAICM process keeps its momentum. With the foundations now in place, the architects and builders will need to put a number of differences aside if they wish to meet the 2020 goal. The involvement of all stakeholders and sectors and the means for implementation may be the initial indicators of success of the process.