International Environmental Management, Trade Regimes and Sustainability

Konrad von Moltke

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International Institute for Sustainable Development
161 Portage Avenue East - 6th Floor
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R3B 0Y4

Telephone: 1 204 958 7700
Fax: 1 204 958 7710
Email: info@iisd.ca

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Konrad von Moltke
Senior Fellow,
International Institute for Sustainable Development

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IISD INTERNATIONAL INSTITUTE FOR SUSTAINABLE DEVELOPMENT
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Preface

Nowhere has the debate between the trade and environment communities been more contentious than in the area of international environmental agreements. Konrad von Moltke demonstrates in this monograph that much of the misunderstanding arises from the quite different nature of the trade and environment regimes.

The trade regime is largely heirarchical and driven by common rules. Thus, there is a great deal in common between the WTO and NAFTA, for example.

Environmental regimes, on the other hand, have been designed to respond to the complexity of natural systems. As a result the Montreal Protocol on substances which deplete the ozone layer has little in common with the Biodiversity Convention, for example.

Von Moltke's paper is one of a series by the International Institute for Sustainable Development illustrating the application of the IISD Trade and Sustainable Development Principles to the problems of trade and environment. These principles are listed on the inside back cover of this document.

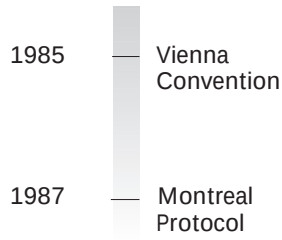
Acknowledgements

The author gratefully acknowledges the careful review by David Runnalls and Ambassador Winfried Lang and the helpful discussion by the participants at the Dartmouth Conference on International Governance, September 1995.

Introduction

The Uruguay Round of trade negotiations was launched at a Conference in Punta del Este in 1986. After eight years of difficult negotiations, the Final Act was completed December 15, 1993 and signed in Marrakech on April 15, 1994.[1] The results were substantial and may yet justify the extraordinary effort involved in the negotiations. Including disciplines and commitments concerning agriculture in the multilateral trade regime is an important development, as is its extension to cover services, and the inclusion of intellectual property rights. In the long run, however, a side product, the creation of the World Trade Organization (WTO), may actually prove to be the most lasting achievement of the Uruguay Round. It creates a framework within which to pursue the development of trade policy in a world no longer controlled by the United States and Europe.

While the Uruguay Round was under way, a long series of environmental negotiations was also being conducted.



- After the stalemate of the Vienna Convention in 1985,[2] the prompt discovery of the Antarctic ozone hole changed the dynamics of negotiations on the stratospheric ozone layer, leading to the Montreal Protocol in 1987,[3] subsequently amended in London and Copenhagen;

1 gopher://cyfer.esusda.gov:70/00/ace/hot,topic.links/gatt/01, txt

2 Vienna Convention for the Protection of the Ozone Layer. http://www.unep.ch/

3 Montreal Protocol on Substances that Deplete the Ozone Layer. http://www.unep.ch/

- After fractious negotiations, the Basel Convention was adopted in 1989.[4] Followed closely by the Bamako Convention created by African states unhappy with the outcome of the Basel negotiations.[5] Following ratification and entry into force, the second meeting of the parties moved to adjust the Basel Convention to emphasize more strongly the principle that hazardous wastes should not be traded internationally.[6]
- After remarkably short and difficult negotiations,[7] the Framework Convention on Climate Change was concluded and opened for signature in Rio de Janeiro in June 1992.[8] The first Conference of Parties took place in Berlin in March 1995.[9]
- To the surprise of many observers, the United Nations Environment Programme succeeded in concluding negotiations for the Convention on Biological Diversity which also was opened for signature

4 Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, 28 ILM 657 (1989). http://www.unep.ch/nfccc/fcabe.html

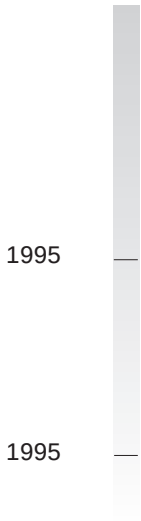
5 Bamako Convention on the Ban of Import into Africa and the Control of Transboundary Movement and Management of Hazardous Wastes within Africa, 30 ILM 775 (1991).

6 http://www.unep.ch/sbc/cop-0.html

7 Irving M. Mintzer and J. Amber Leonard. 1994. eds, *Negotiating Climate Change. The Inside Story of the Rio Convention.* Cambridge: Cambridge University Press.

8 http://www.unep.ch/nfccc/fcabe.html

9 Konrad von Moltke. 1995. *Turning Up the Heat. Next Steps on Climate Control.* (Pocantico Paper No. 1). New York: Rockefeller Brothers Fund. http://www.unep.ch/unfccc/fca3-c1e.html



in Rio de Janeiro in June 1992 and attracted many signatures.[10] The Convention has entered into force and the first meeting of the Conference of Parties occurred in 1994.

- Following the collapse of efforts to establish a minerals regime for Antarctica, agreement was quickly reached on the Wellington Protocol to the Antarctic Treaty declaring the region a protected area.[11]
- The Global Environment Facility was established as a cooperative venture of the World Bank, UNEP and UNDP.[12]

This extraordinary sequence of global environmental negotiations is rarely seen as a single coherent development. In fact, it represents the capstone of a 20-year effort to construct regimes to respond to the pressing need for international environmental management. Taken to their logical conclusion and implemented properly, these six agreements will have greater impact on the world of the 21st century — even greater economic impact — than the Uruguay Round.

The dramatic environmental negotiations of the eighties did not occur in a vacuum. In fact they supplemented an already impressive number of multilateral environmental agreements. Various lists of multilateral environmental agreements exist.[13] While they all include a large number of core agreements, they differ in their definition of what else to include. The number of agreements covered ranges from

10 http://www.unep.ch/biodiv.html

11 Protocol on Environmental Protection http://www.tufts.edu/departments/fletcher/multilaterals.html

12 Helen Sjöberg. 1994. From Idea to Reality. *The Creation of the Global Environment Facility*. Washington, DC: The Global Environment Facility.

13 Wolfgang E. Burhenne. 1983. ed, *International Environmental Law: Multilateral Treaties (Beiträge zur Umweltgestaltung B7)*. Berlin: Erich Schmidt Verlag, looseleaf; Edith Brown Weiss, et al. 1992. eds, *International Environmental Law: Basic Instruments and References*. New York: Transaction Publishers, Inc.; Alexandre C. Kiss. 1983. ed, *Selected Multilateral Treaties in the Field of the Environment* (UNEP Reference Series 3). Nairobi.

25 to more than 200. This ambiguity is not fortuitous. Environmental policy actually involves many policies addressing issues as diverse as air and water pollution, toxic substances control, conservation, biodiversity, climate change, waste management, or land use — and each of these policy areas has developed an essential international dimension. For now, the result is a fairly confusing number of new international regimes which, taken together, constitute the essential core of current international environmental management.

Taken to their logical conclusion and implemented properly, these six agreements will have greater impact on the world of the 21st century—even greater economic impact—than the Uruguay Round.

International environmental management represents a dramatic challenge to traditional international relations. It has engendered innovative approaches to the construction and operation of international regimes which are an integral part of the changing nature of international relations themselves.[14] Each of the many international environmental regimes established over the past 20 years was negotiated separately and linkages to other international regimes were only rarely taken into account. These regimes, however, exhibit common structures and dynamics which are important to understand. Moreover, environmental regimes increasingly overlap with other international regimes, for example those concerned with economic policy, human rights and security affairs. This can create new opportunities for environmental management. It can also give rise to conflicts.

Clearly international environmental management represents something more than the six recent global agreements, indeed more than the many multilateral environmental agreements. International environmental management represents an extraordinary effort of regime formation, encompassing hundreds of multilateral agreements, thousands of bilateral agreements between national governments, even more agreements between regional and local authorities which happen to share a boundary, and untold private international forms of cooperation.

14 Oran R. Young.1994. *International Governance. Protecting the Environment in a Stateless Society*. Ithaca: Cornell University Press.

While most of these regimes respond to an immediate and limited need — otherwise they would not have been created in an era of great public skepticism about the expansion of international regimes — by now they represent an overall system or structure which responds to the overarching demands of the environment. This paper will seek to outline this structure utilizing the Winnipeg Principles on Trade and Sustainable Development as a template. It will then address the implications of this structure for trade policy.

Clearly international environmental management represents something more than the six recent global agreements, indeed more than the many multilateral environmental agreements. International environmental management represents an extraordinary effort of regime formation, encompassing hundreds of multilateral agreements, thousands of bilateral agreements between national governments, even more agreements between regional and local authorities which happen to share a boundary, and untold private international forms of cooperation.

International Environmental Management

Development of the Environmental Agenda

Environmental management has grown dramatically in scope and complexity over the past decades. Many strands of environmental policy have roots which reach far back. Land use planning was a necessity in confined urban conditions and where public land was scarce; it occurred in medieval Europe and crowded Japan alike. Recent research shows that the basic tenets of conservation have roots which go back to the colonial encounter with unknown plants and ecosystems.[15] Neighborhood protection from industrial nuisances originated in 19th century France and Britain. The principles of water sanitation and waste water treatment were developed later that century. By the early 20th century, worker health and safety was a concern in most European countries. All of these strands come together in the late sixties and early seventies to form the modern agenda of environmental management, set in large measure by a spate of legislation in the United States, until then a country largely unconcerned about environmental matters, at least in terms of national legislation.

The central dilemma of environmental management is the difficulty — if not the impossibility — of capturing the phenomena of the natural environment in a human institutional structure. This difficulty is played out in many ways, giving rise to a body of environmental regulation of great complexity. In many countries, environmental law by now represents the largest single body of legislation. The first French Minister of the Environment gave eloquent expression to this complexity by calling his ministry " le Minstère de l'Impossible."[16]

15 Richard H. Grove. 1995. *Green Imperialism. Colonial Expansion, Tropical Island Ethics, and the Origins of Environmentalism, 1600-1860*. Cambridge. Cambridge University Press.

16 Robert Poujade. 1975. *Ministère de l'Impossible.* Paris: Calman-Levy.

The difficulties encountered express themselves in terms of both institutions and instruments. It has been difficult to determine which government functions are properly environmental and which are not, and it has been difficult to identify the appropriate level of government action, whether communal, regional, national or international. Most countries now have ministries whose primary responsibility is environmental management. This is a welcome development and is often cited as evidence for the spread of environmental awareness in policy-making circles. Nevertheless there are variations almost without limit concerning the scope and authority of these agencies, variations which are not only the product of historical accident but reflect a fundamental uncertainty about what "environmental management" is in public policy terms. At the heart of most ministries lie the "classic" concerns of modern environmental management, the so-called "brown agenda": pollution of air and water and other forms of waste disposal. Radioactive wastes are, however, often handled separately. When it comes to the "green" agenda of conservation (land use, soil protection and wildlife), administrative attributions differ widely. Similarly economically significant biological resources (food, fisheries and forests) frequently remain under the primary authority of an economic agency. Processes with incidental environmental impacts (energy supply, mining and manufacture) are usually controlled elsewhere.

In many countries, environmental law by now represents the largest single body of legislation. The first French Minister of the Environment gave eloquent expression to this complexity by calling his ministry " le Minstère de l'Impossible."

The large number of environmental issues and institutions is matched by the diversity of instruments which are used to achieve results. Again the central dilemma arises from an attempt to shoot around corners, that is to modify human behavior (the only possible object of policy) so as to modify environmental processes which respond to laws of nature. Emission standards, environmental quality standards, product standards, process standards, assessment requirements, monitoring and reporting, testing, packaging and labeling are all part of the arsenal of environmental policy which is commonly termed "command and control." To this must be added a range of economic incentives, including taxes, charges, subsidies and tradable rights. No

instrument other than an outright ban has proven effective by itself in achieving desired environmental results.

In recent years, awareness of the existence of linkages between environmental issues has been growing. Reducing air and water pollution frequently leads to an increase in the hazardous waste stream. Substances once released to the environment have a disconcerting ability to migrate from air to water to biota. Overarching issues, such as climate change, biodiversity or ecosystem management, require measures which address matters which are the domain of energy, transport, housing and food policy. A further consequence of the structure of environmental decision-making is the involvement of large numbers of actors in most environmental decisions, including directly affected enterprises and citizens, other private interests, scientists, the media and environmental organizations.

Government does not have the means or the authority to enforce environmental rules by coercion. As a result, complex procedures have evolved to develop the consensus necessary to achieve effective results. In many countries, extensive rights of public participation have been formalized, environmental assessment procedures have evolved (often based on previously existing land use controls), risk assessment has been incorporated into decision-making. Far-reaching rules on disclosure of information have been essential to making these procedures work. This extensive superstructure of environmental decision-making ultimately represents little more than a continuing effort to confront the lack of congruence between environmental issues and traditional policy-making processes.

No instrument other than an outright ban has proven effective by itself in achieving desired environmental results.

The most elaborate structure can only define goals and set in motion actions designed to achieve those goals. It cannot guarantee results. Despite highly developed procedures, most countries have encountered difficulties in achieving the goals they have set themselves. The result is an increasingly complex, interlocking system of measures combining “command and control” measures with procedural safeguards and economic incentives.

The International Dimension of Environmental Management

From an environmental policy perspective, there is no fundamental difference between national and international policy-making (or between local and international policy-making for that matter). The international level is little more than an extension of the complex process which has evolved in many countries. It is confronted with many of the same difficulties and, to the extent that international measures are not simply the sum of national efforts and require independent assessments, priority-setting and actions, it is subject to the same procedural requirements as local or national decisions. Otherwise the delicate balance which has evolved in many countries risks being distorted by procedural differences at the international level which lead — almost inevitably — to different substantive conclusions. For this reason, international environmental regimes have almost always involved a high degree of involvement by non-governmental groups — industry, scientists, media and environmental organizations. In this respect, environmental issues have had a profoundly transforming influence on international relations, causing unprecedented levels of openness, participation, complexity and procedural and institutional innovation.

To the extent that international measures are not simply the sum of national efforts and require independent assessments, priority-setting and actions, they are subject to the same procedural requirements as local or national decisions. Otherwise the delicate balance which has evolved in many countries risks being distorted by procedural differences at the international level which lead — almost inevitably — to different substantive conclusions. For this reason, international environmental regimes have almost always involved a high degree of involvement by nongovernmental groups — industry, scientists, media and environmental organizations.

In practice, there is hardly an area of environmental management which does not have an international dimension. This expresses the obvious fact that political boundaries are meaningless for the environment. The international level of action is simply one among others rather than possessing any characteristic environmental attributes which distinguish it from all

other levels of action. Consequently the demands of environmental management on the international policy system are no less stringent than its demands on policy-making structures at other levels of government.

The evolving structure of implementation of international environmental agreements is dynamic, innovative and complex. It involves public and private actors. It does not rely on coercion. By many traditional criteria of international relations, particularly those which focus on national sovereignty, national interests and the relationships of power which flow from them, international environmental regimes should not work.[17] Yet many do, some better than others. Indeed, the task of identifying criteria for success or failure represents one of the most important and challenging current research issues.[18]

Political boundaries are meaningless for the environment.

It is possible to describe international environmental relations in a number of different ways. Most frequently, this is done in terms of environmental issues (see next page). This reflects the comprehensive nature of international environmental management.

17 Abram Chayes and Antonia Handler Chayes. *The New Sovereignty*. Cambridge, MA: Harvard University Press (In press).

18 Marc A. Levy, et al. 1994. "The Study of International Regimes," IIASA Working Paper. Oran R. Young and Konrad von Moltke. 1994. "The Consequences of International Environmental Regimes: report from the Barcelona Workshop," *International Environmental Affairs*, vol. 6 no. 4 (Fall 1994), pp. 348-370.

The Structure of International Environmental Law

General Principles: General Environment; Human Rights and the Environment

Protection of Particular Resources:

Atmosphere
(general, air quality, ozone layer, weather, climate)

Oceans
(general, Antarctic Ocean, Arctic Ocean, Atlantic Ocean, Indian Ocean, Pacific Ocean, North and Baltic Seas, Mediterranean Sea, Caribbean Sea, Middle Eastern Seas)

Fresh Waters
(general, Africa, Americas, Asia, Europe)

Land and Soil

Outer Space

Biological Resources
(general, diversity, fauna, flora)

Specific Ecosystems
(Antarctica, Mediterranean, Particular River Basins, Great Lakes)

Cultural Heritage

Protection Against Particular Threats:

Pollution Generally
(general principles, particular areas or waters, particular substances, emergencies)

Oil and Other Hydrocarbons
(general, emergencies)

Peaceful Nuclear Activities
(general, emergencies, liability)

Energy Production
(Non-nuclear) (general, vehicles, industry)

Industrial Activities
(general, chemical, mining, other)

Agricultural Activities
(general, pesticides)

Waste Disposal
(general, incineration, waste & water storage, radioactive wastes, other hazardous wastes, other wastes)

Hazardous Substances
(general, transport)

Noise

Biotechnical Activities, Tourism

Military Activities

Disasters
(general, natural, anthropogenic)

Techniques of Environmental Protection:

Environmental Decision-making
(environmental impact statements, exchange and access to information, requirement to interact (consult, negotiate, agree)

Accountability
(Liability) (states, private persons)

Surveillance and Monitoring

Trade Restrictions
(Import and Export)

Establishment of an Organization or Organ
(specifically environmental, with some environmental functions)

Special Area Management

Development Assistance

Pollution Restrictions
(prohibitions, limitations)

Penalties

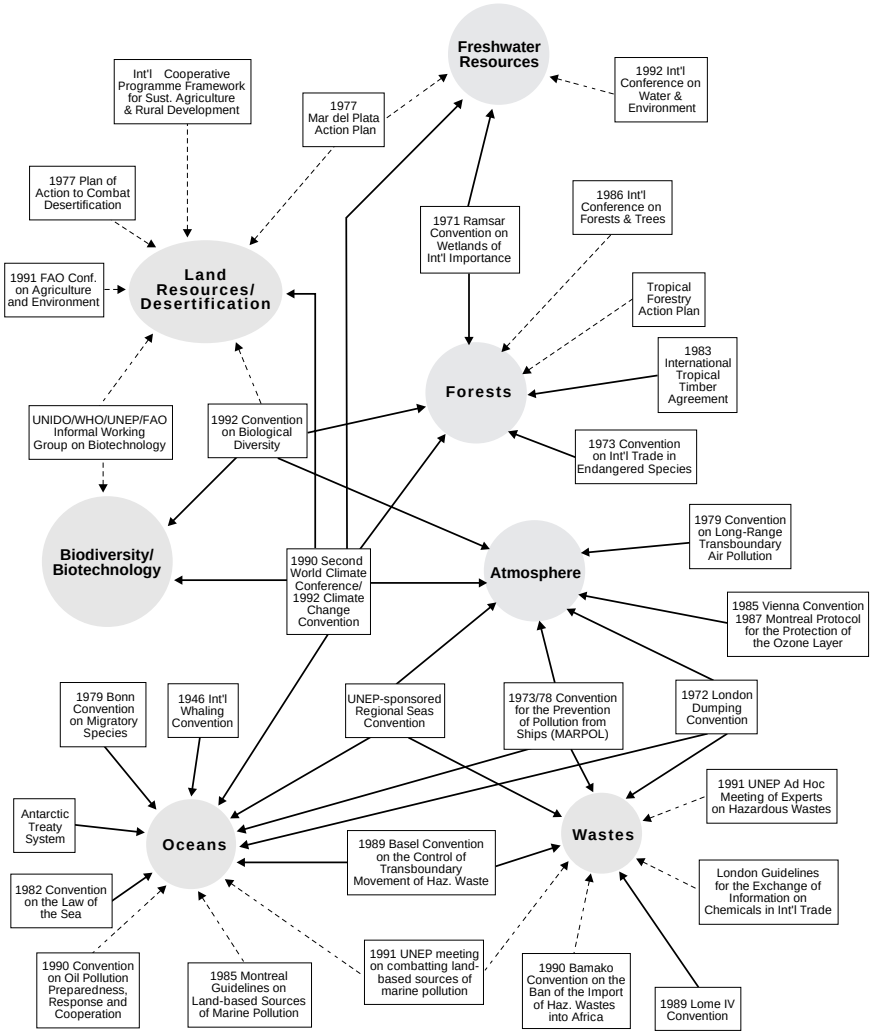
Education

Source: Edith Brown Weiss, et al. 1992. eds, *International Environmental Law: Basic Instruments and References.* New York: Transaction Publishers, Inc.

The Chapters of Agenda 21

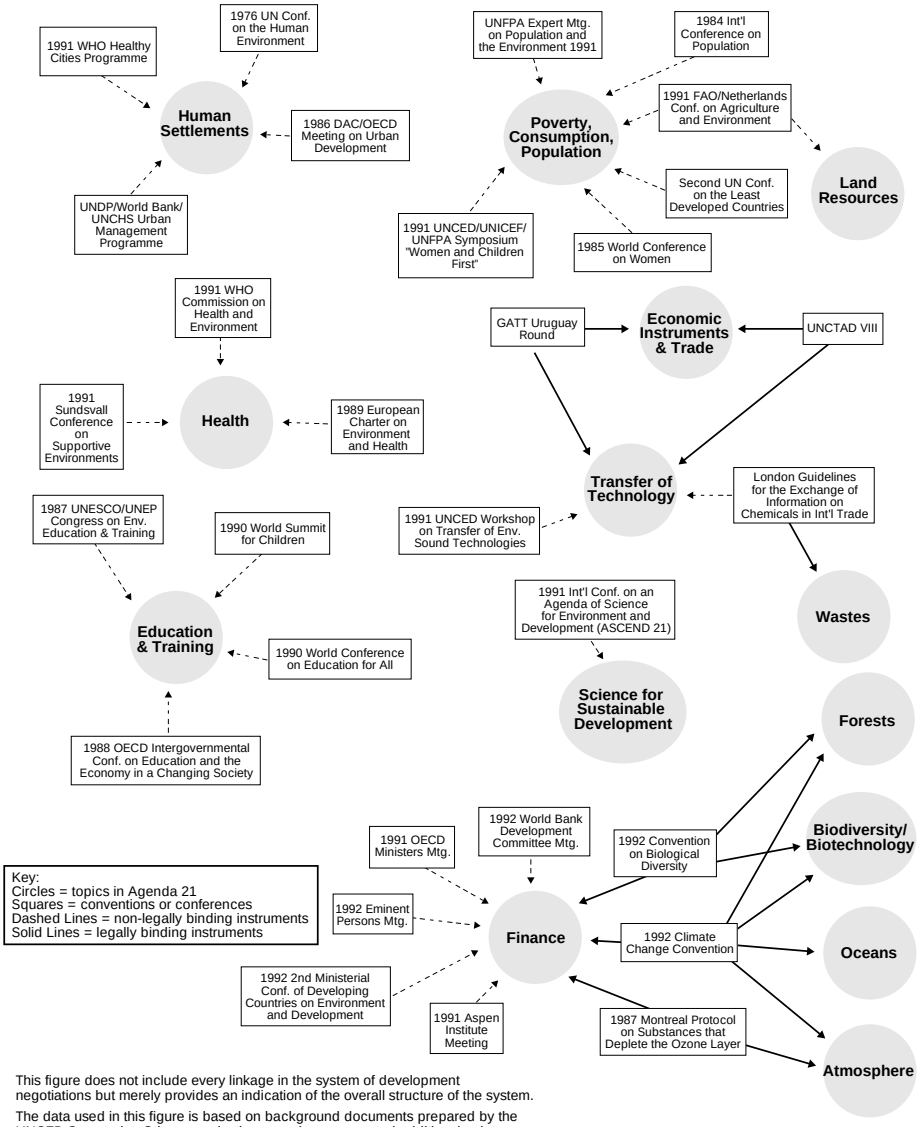
1. Preamble
2. International cooperation to accelerate sustainable development
3. Combating Poverty
4. Changing consumption patterns
5. Demographic dynamics and sustainability
6. Protecting and promoting human health
7. Promoting sustainable human settlement development
8. Integrating environment and development in decision-making
9. Protection of the atmosphere
10. Integrated approach to the planning and management of land resources
11. Combating deforestation
12. Managing fragile ecosystems: combating desertification and drought
13. Managing fragile ecosystems: sustainable mountain development
14. Promoting sustainable agriculture and rural development
15. Conservation of biological diversity
16. Environmentally sound management of biotechnology
17. Protection of the oceans, all kinds of seas, including enclosed and semi-enclosed seas, and coastal areas and the protection, rational use and development of their living resources
18. Protection of the quality and supply of fresh-water resources: application of integrated approaches to the development, management and use of water resources
19. Environmentally sound management of toxic chemicals, including prevention of illegal international traffic in toxic and dangerous products
20. Environmentally sound management of hazardous wastes, including prevention of illegal international traffic in hazardous waste
21. Environmentally sound management of solid wastes and sewage-related issues
22. Safe and environmentally sound management of nuclear wastes
23. Strengthening the role of major groups: preamble
24. Global action for women towards sustainable and equitable development
25. Children and youth in sustainable development
26. Recognizing and strengthening the role of indigenous people and their communities
27. Strengthening the role of non-governmental organizations: partners for sustainable development
28. Local authorities' initiatives in support of sustainable development
29. Strengthening the role of workers and their trade unions
30. Strengthening the role of business and industry
31. Scientific and technological community
32. Strengthening the role of farmers
33. Financial resources and mechanisms
34. Transfer of environmentally sound technology, cooperation and capacity-building
35. Science for sustainable development
36. Promoting education, public awareness and training
37. National mechanisms and international cooperation for capacity-building in developing countries
38. International institutional arrangements
39. International legal instruments and mechanisms
40. Information for decision-making

Figure 1: UNCED, The System of Environmental Negotiations[19]



19 Source: Pamela Chasek. 1994. "The Negotiation System of Environment and Development," in: Betram I. Spector, et al., eds., *Negotiating International Regimes: Lessons Learned from the United Nations Conference on Environment and Development (UNCED)*. London: Graham & Trotman, p. 23.

Figure 2: UNCED, The System of Development Negotiations[20]



This figure does not include every linkage in the system of development negotiations but merely provides an indication of the overall structure of the system.

The data used in this figure is based on background documents prepared by the UNCED Secretariat. Other organizations may have presented additional points of view that are not reflected here.

20 Pamela Chasek. 1994. "The Negotiation System of Environment and Development," in: Betram I. Spector, et al., eds., *Negotiating International Regimes: Lessons Learned from the United Nations Conference on Environment and Development (UNCED)*. London: Graham & Trotman, p. 24.

An alternative approach is reflected in the chapters of Agenda 21, the programmatic outcome of the United Nations Conference on Environment and Development (UNCED) (see Chapters of Agenda 21). For purposes of negotiation, the Preparatory Committee of UNCED divided the environmental issues into eight groups and examined the issues relating to development separately. As one commentator observes: "While this method proved to be a practical way of dealing with such a long and complex agenda, the sectoral division of issues made it difficult to assess the system as a whole."[21] Figures 1 and 2 show the resulting negotiations in relation to other events, mainly at the global level.

Finally, it is possible to take formal characteristics and to focus on selected multilateral environmental agreements, but this again raises issues concerning the agreements to include or not. One criterion could be those multilateral agreements with possible trade impacts, of which there are about 70.

None of these approaches identify the dynamics of environmental management which may serve to structure the regimes which have evolved.

Table 1: Selected Multilateral Environmental Agreements with Possible Trade Impacts

Major Global Environmental Agreements with Major Trade Impacts		***Global Commodity/ Environmental Agreements with Trade Impacts***
Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 29 December 1972	Montreal Protocol on Substances that Deplete the Ozone Layer, 16 September 1987	Treaty for the Preservation and Protection of Fur Seals, 7 July 1911
Convention on International Trade in Endangered Species, 3 March 1973	Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, 22 March 1989	ILO Convention (#13) concerning the Use of White Lead in Painting, 25 October 1921
Vienna Convention for the Protection of the Ozone Layer, 22 March 1985	United Nations Framework Convention on Climate Change, 9 May 1992	FAO Agreement for the Establishment of the Indo-Pacific Fisheries Commission, 26 February 1948 (amended and superseded 20 January 1961)
	Convention on Biological Diversity, 5 June 1992	

21 Pamela Chasek. 1994. "The Negotiation System of Environment and Development," in: Betram I. Spector, et al., eds., *Negotiating International Regimes: Lessons Learned from the United Nations Conference on Environment and Development (UNCED)*. London: Graham & Trotman, 1994, p. 22.

Table 1: Selected Multilateral Environmental Agreements with Possible Trade Impacts (cont'd)

Global Commodity/ Environmental Agreements with Trade Impacts *(cont'd)*

Washington International Convention for the North-West Atlantic Fisheries, 8 February 1949

Washington Convention for the Establishment of an Inter-American Tropical Tuna Commission, 31 May 1949

Paris International Convention for the Protection of Birds, 18 October 1950

FAO International Plant Protection Convention, 6 December 1951

Tokyo International Convention for the High Seas Fisheries of the North Pacific Ocean, 9 May 1952

Washington International Convention for the Regulation of Whaling and 1956 Protocol, 10 November 1948; Protocol, 4 May 1959

Convention on Fishing and Conservation of the Living Resources of the High Seas, 29 April 1958

London North-East Atlantic Fisheries Convention, 24 January 1959

Varna Convention concerning Fishing in the Black Sea (as amended 30 June 1965), 7 July 1959

Paris International Convention on the Protection of New Varieties of Plants, 2 December 1961

Rio de Janeiro International Convention for the Conservation of Atlantic Tunas, 14 May 1966

Phyto-sanitary Convention for Africa South of the Sahara, 13 September 1968

FAO Convention on the Conservation of the Living Resources of the South-East Atlantic, 23 October 1969

Canberra Convention on the Conservation of Antarctic Marine Living Resources, 20 May 1980

International Tropical Timber Agreement, 18 November 1983

Reykjavik Convention for the Conservation of Salmon in the North Atlantic Ocean

Pacific Islands Regional Fisheries Treaty, 2 April 1987

Convention for the Establishment of a Latin American Tuna Organization, 1989

Wellington Convention on the Prohibition of Driftnet Fishing in the South Pacific, 24 November 1989

Other Global Environmental Agreements

Paris International Convention for the Protection of Birds, 18 October 1950

International Convention for the Prevention of Pollution of the Sea by Oil, 12 May 1954

Brussels International Convention relating to Intervention on the High Seas in Cases of Oil Pollution Casualties, 29 November 1969

Brussels International Convention on Civil Liability for Oil Pollution Damage, 29 November 1969

Ramsar Convention on Wetlands of International Importance, Especially as Waterfowl Habitat, 2 February 1971

World Heritage

Bonn Convention on the Conservation of Migratory Species of Wild Animals, 23 June 1979

Convention on Desertification

Other Multilateral Environmental Agreements with Trade Impacts

European Convention for the Protection of Animals During International Transport, 13 December 1968

Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 29 December 1972

Convention on International Trade in Endangered Species, 3 March 1973

Table 1: Selected Multilateral Environmental Agreements with Possible Trade Impacts (cont'd)

Other Multilateral Environmental Agreements with Trade Impacts *(cont'd)*

London International Convention for the Prevention of Pollution from Ships (MARPOL), 2 November 1973

European Convention for the Protection of Animals kept for Farming Purposes, 10 March 1976

Bonn Convention for the Protection of the Rhine River against Pollution by Chlorides, 3 December 1976

European Convention for the Protection of Animals for Slaughter, 10 May 1979

European Convention for the Protection of Animals Used for Experimental and Other Scientific Purposes, 18 March 1986

European Convention for the Protection of Pet Animals, 13 November 1987

Bamako Convention on the Ban of Import into Africa and the Control of Transboundary Movement and Management of Hazardous Wastes within Africa, 30 January 1991

Other Multilateral Environmental Agreements

London Convention for the Protection of Wild Animals, Birds and Fish in Africa, 19 May 1900

Washington Convention on Nature Protection and Wildlife Preservation in the Western Hemisphere, 12 October 1940

Berne Convention on the International Commission for the Protection of the Rhine against Pollution, 29 April 1963

Convention for the Prevention of Marine Pollution by Dumping from Ships and Aircraft (Oslo Convention), 15 February 1972

Helsinki Convention for the Protection of the Marine Environment of the Baltic Sea Area, 22 March 1974

Paris Convention for the Prevention of Marine Pollution from Land-Based Sources, 4 June 1974

Barcelona Convention for the Protection of the Mediterranean Sea against Pollution, 16 February 1976

Apia Convention on the Conservation of Nature in the South Pacific, 12 June 1976

Kuwait Regional Convention for Co-operation on the Protection of the Marine Environment from Pollution, 24 April 1978

ECE Convention on Long Range Transboundary Air Pollution, 13 November 1979

Abidjan Convention for Co-operation in the Protection and Development of the Marine and Coastal Environment of the West and Central African Region, 23 March 1981

Lima Convention for the Protection of the Marine Environment and Coastal Area of the South-East Pacific, 12 November 1981

Jeddah Regional Convention for the Conservation of the Red Sea and Gulf of Aden Environment, 14 February 1982

Cartagena Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region, 24 March 1983

Nairobi Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Eastern African Region, 21 June 1985

Noumea Convention for the Protection of the Natural Resources and Environment of the South Pacific Region, 25 November 1986

Voluntary International Environmental Agreements with Trade Impacts

ISO 9,000

ISO 14,000

Structural Characteristics of International Environmental Management

The international environmental management structure which has evolved over the past 20 years is not designed according to central principles. It has no conscious architecture which defines the position and role of each of its many constituent parts. There is not even a single agency or forum which can articulate the common interests of all the participants. Nevertheless, the emerging system responds to certain structural characteristics. To identify these, it is necessary to seek general principles which are broadly applicable to all environmental regimes. To be meaningful, such principles must meet tests of both necessity and sufficiency, in other words they must be essential to achieving the goals of international environmental management and sufficient in the sense that they include all essential aspects.

The development of environmental policy in the OECD countries has been accompanied by a number of principles such as the polluter pays principle, the principle of prevention and the precautionary principle. These have typically served to help define the relationship between environmental and other policies. The principles which can serve to circumscribe the structure of environmental management are related to these but must meet a number of other tests.

The Winnipeg Principles on Trade and Sustainable Development (see next page)[22] are designed to inform important areas of policy relating to

22 International Institute for Sustainable Development. 1994. *Trade and Sustainable Development Principles*. Winnipeg: IISD. The five principles discussed here structure international environmental management. They are, at least in part, also applicable to aspects of trade policy, just as the other Winnipeg principles (efficiency and equity) apply also to environmental management. Consequently the Winnipeg Principles must be seen in unity when considering the relationships of environment, trade and sustainable development.

the environment: those which link to trade policy and to the issue ofsustainability. A number of these principles have particular saliency in seeking to understand the emerging structure of international environmental management, in particular the principles of environmental integrity, cooperation, science and precaution, openness and subsidiarity.

Winnipeg Principles on Trade and Sustainable Development

Efficiency and Cost Internalization

Efficiency is a common interest for environment, development and trade policies.

Equity

Equity relates to the distribution both within and between generations of physical and natural capital, as well as knowledge and technology.

Environmental Integrity

This requires respect for limits to the regenerative capacity of ecosystems, actions to avoid irreversible harm to plant and animal populations and species, and protection for valued areas.

Subsidiarity

Subsidiarity recognizes that action will occur at different political levels, depending on the nature of issues. It assigns priority to the lowest jurisdictional level consistent with effectiveness.

International Cooperation

Sustainable development requires strengthening international systems of cooperation at all levels, encompassing environment, development and trade policies.

Science and Precaution

The interrelated nature of trade, environment and development can give rise to conflicts in short run objectives, and policies designed to address these should be shaped by objective criteria.

Openness

Greater openness will significantly improve environmental, trade and development policies.

Environmental Integrity

It seems like a tautology to observe that the goal of environmental management is the preservation of environmental integrity.

Nevertheless, the need to identify and preserve environmental integrity is at the heart of the difficulties encountered in developing a systematic understanding of international environmental management. Assuming that "environmental integrity" can be defined in a satisfactory manner, it imposes a stringent criterion of success on management efforts.

Many areas of policy experience some confusion between means and ends. Once a decision has been taken to adopt certain measures to achieve certain policy goals, it is always more simple to focus on the effective implementation of these measures rather than on the question whether the goals are actually being achieved. This problem is characteristic of environmental management because the only variables subject to policy control are the means; the ends are subject to the laws of nature. The driving force of environmental policy is, however, the quality of the environment and all countries have at some time experienced the frustrations attendant upon the faithful implementation of environmental policies only to discover that the result is unacceptable environmental quality.

It is particularly difficult for those primarily concerned with other areas of policy to recognize environmental integrity as a principle because it acts somewhat like an external lever on the policy process. Because environmental processes are governed by the laws of nature, they are not accessible to the normal bargaining of the policy process. In the course of implementation most principles are subject to a process of assessment and balancing to set priorities and to identify the most effective way to pursue their realization. Any principle which is taken as an absolute effectively dominates the entire policy process. The US experience with the Endangered Species Act and the European experience with "critical loads" may illustrate the effect of attempting to specify "environmental integrity" in policy terms.

The US Endangered Species Act is based almost exclusively on scientific evidence of extinction. While "commercial" considerations are mentioned, no process is established to take them into account, reflecting the impossibility of placing an economic value on the extinction of species. Similar difficulties apply to attempts to value the stratospheric ozone layer, the beauty of a scenic view or the character of a free flowing river. The Endangered Species Act is widely considered to have been an effective instrument to protect species, not least because it excluded an economic cost-benefit analysis. It has also given rise to some of the most difficult and persistent conflicts of

US environmental management, notably the case of the snail darter at Tellico Dam in Tennessee and the case of the spotted owl in the Pacific Northwest.

The 1988 Protocol on Nitrogen Oxides to the Convention on Long-Range Transboundary Air Pollution[23] introduces the concept of "critical loads," defined as "a quantitative estimate of the exposure to one or more pollutants below which significant harmful effects on specified sensitive elements of the environment do not occur according to present knowledge."[24]

The critical loads approach has been used primarily in Scandinavia, the Netherlands, the United Kingdom and Canada in relation to acidification. Scandinavian scientists and policy makers worked together to determine critical loads for nitrogen oxides and sulfur dioxide, particularly for sensitive ecosystems in southern Sweden. The resulting data suggest that reductions of these emissions on the order of 70-80 percent will be needed across Europe to protect the ecosystems in question. In the Netherlands, extensive research indicated that certain sensitive ecosystems could not be protected for the foreseeable future, and if critical loads for acidifying compounds were to be achieved, the Netherlands and its neighboring countries would need to reduce emissions of the relevant substances by 60-90 percent.[25] In North America, Canadian researchers and policy makers calculated in the early eighties that no more than 20kg/ha sulfur deposition per annum were tolerable on sensitive soils on the Canadian shield and attempted, unsuccessfully, to make this the basis of negotiations with the United States. In all three instances, careful consideration of ecosystem effects indicated a much larger needed reduction in emissions than previous, primarily health-based, environmental standards had suggested.

The Netherlands, a country with extraordinary burdens on its environment due to the intensity of its utilization and its location, has undertaken a systematic effort to identify environmental policy performance indicators. This work shows that indicators for pressure

23 18 ILM 1442 (1979)

24 Protocol to the 1979 Convention on Long-Range Transboundary Air Pollution Concerning the Control of Emissions of Nitrogen Oxides or their Transboundary Fluxes, Art. 1.7 (28 ILM 214 (1989).

25 Ministry of Housing, Physical Planning and Environment (VROM), et al. 1987. *Interim Evaluation of Acidification Policy in the Netherlands.* Leidschendam: VROM.

and response are easier to formulate than indicators for the state of the environment.[26]

Cooperation

International environmental policy is a cooperative venture. At the heart of most international environmental regimes are "soft" structures of cooperation and accountability. This corresponds in some measure to the emphasis on procedural responses in domestic policy.

The number of environmental regimes created over the past 20 years, during a period of superpower tensions, is remarkable. Now it is necessary to confront the problems associated with making this large complex structure achieve the goal which has been set, maintaining environmental integrity. Neither military coercion nor economic leverage can ensure this outcome — ultimately it depends on willing cooperation which in turn requires a high degree of accountability to ensure that burdens are fairly shared.

The importance of cooperation to the success of international environmental management is one of the factors which have made it difficult to understand the sources of effectiveness in this system. Traditional analyses of international relations tend to emphasize power, coercion and competition and view cooperative ventures as doomed to failure. Many international environmental regimes have nevertheless proven effective without resort to coercion.[27] Indeed, trade measures are among the few instruments of international environmental policy which may be considered coercive and they have not been much utilized in practice. Without an adequate understanding of the sources of effectiveness of international environmental regimes there is a risk that key actors — be they governmental or not — inadvertently undermine the environmental regimes.

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26 Albert Adriaanse. 1993. *Environmental Policy Performance Indicators. A Study on the Development of Indicators for Environmental Policy in the Netherlands.* The Hague: Sdu Uitgeverij. Ministry of Housing, Spatial Planning and the Environment (VROM). 1994. *Environmental Quality Objectives in the Netherlands. A Review of Environmental Quality Objectives and their Policy Framework in the Netherlands.* [The Hague]: VROM.

27 Oran R. Young and Konrad von Moltke. 1994. "The Consequences of International Environmental Regimes: report from the Barcelona Workshop," *International Environmental Affairs*, vol. 6 no. 4 (Fall 1994), pp. 348-370.

Science and Precaution

Science makes the environment speak. Without science, toxics go unknown, ecosystems degrade unrecognized and species are lost without our knowing. Scientists are deeply implicated in the process of environmental policy formation. However, while science is the only means available to make environmental phenomena manifest, science is actually quite unsuited to this task. The best science can do is to provide an hypothesis which has stood well under repeated scrutiny. The policy process focuses on a specific decision at a given time and does not worry greatly about the likelihood of different decisions being required at other times. Consequently environmental regimes are characterized by the presence of science.

Science makes the environment speak.

From the outset, environmental policy has struggled with the issue of "scientific uncertainty." Two relatively distinct approaches to this conundrum have emerged, one based on risk assessment, the other on the precautionary principle. It is important to recognize that these are two different approaches to the problem of scientific uncertainty.

Risk assessment is largely based on US policy practices. Risk assessment represents an attempt to address the issues of scientific uncertainty in a procedural manner. By defining a process which is acceptable to most of those concerned and which is either accessible or transparent to all key parties, risk assessment attempts to develop a systematic approach to bridging the gap between science and policy. It reflects the needs of the US policy process which emphasizes accountability and independent review of administrative decisions. This in turn creates a burdensome requirement to document each step of a decision-making process and to find specific justification for each critical decision. Absent such documentation and justification, the expectation is that some interested party will be able to successfully challenge the outcome, either in a court of law or through the legislative process. In its origins at least, risk assessment is closely linked to human health rather than the broader — and still more complex — agenda of conservation and environmental management.[28]

28 National Research Council. 1983. *Risk Assessment in the Federal Government: Managing the Process*. Washington, DC: National Academy Press, p. 18.

It is not fortuitous that recently risk assessment has become the focus of efforts to undermine US environmental laws.

The limitations of risk assessment as a response to scientific uncertainty are relatively obvious. It is a cumbersome approach requiring significant resources and administrative effort. For example, after many years, only a relatively limited number of chemical substances has actually been subjected to rigorous risk assessment. Ultimately risk assessment will tend to reflect limits imposed by the interests of key participants rather than those of the environment or any attempt to maximize results. In this manner, risk assessment will normally incorporate legal and economic constraints so that the results are more likely to be operational and acceptable. Risk assessment depends on what is quantifiable. Risk assessment has been particularly difficult to apply when dealing with very small risks of very large events—accidents of nuclear installations are the classic example but the risks associated with increases in greenhouse gases in the atmosphere are not that different.

The precautionary principle takes quite a different approach.[29] However defined, it recognizes the reality that science will not provide clear policy prescriptions and that criteria need to be developed to systematically address the resultant uncertainties in the policy process. Instead of attempting to reduce uncertainty through a systematic, quasi-scientific process it focuses on the policy process itself and seeks to extract maximum response from legal and economic structures. In other words, once the reality of scientific uncertainty has been recognized and the need for appropriate policy action accepted, the precautionary principle seeks to maximize responses. Implementation of the precautionary principle revolves around finding appropriate legal and economic bounds for action, taking the need to act as given despite the continuing reality of scientific

The precautionary principle recognizes the reality that science will not provide clear policy prescriptions and that criteria need to be developed to systematically address the resultant uncertainties in the policy process.

29 Tim O'Riordan and James Cameron. eds. 1994. *Interpreting the Precautionary Principle*. London: Earthscan Publications Ltd.

uncertainty. This approach recognizes the reality of limited resources but does not employ the formal procedures of cost/benefit analysis.

Nowhere does the precautionary principle provide unambiguous grounds for action. It is always bounded by existing legal and economic conditions. In situations where "no regrets" policies are possible, that is where alternatives are available which are comparable in legal and economic terms, the precautionary principle provides a clear mandate to choose the option which is environmentally most desirable. While this approach may appear self-evident, in practice it has not been simple to implement because frequently policies which are socially desirable may involve individual "winners" and "losers" who intervene for or against a particular policy approach. In practice, losers are more likely to intervene than winners. Policy making requires legal and economic guidance to reach useful decisions in the face of these difficulties.

Countries which have not established effective mechanisms for public information and participation frequently experience more difficulties in identifying important environmental problems and developing effective policies.

Germany has gone furthest in seeking to define legal and economic conditions surrounding the implementation of the precautionary principle. Indeed, the German equivalent of the precautionary principle — the *Vorsorgeprinzp* — can be viewed as the germ cell of the broader international debate on the precautionary principle.[30]

Openness

The experience of most Western countries is that government action on the environment is frequently driven by public perceptions of environmental hazards. Citizens tend to play a direct and active role in identifying priorities for action and in ensuring effective implementation of policies which have been adopted. In many countries, environmental organizations have been given standing in the courts to represent the environmental interest more forcefully than public officials with responsibilities to many conflicting constituencies, are able to.

30 Konrad von Moltke. 1988. "The *Vorsorgeprinzip* in West German Environmental Policy", in: Royal Commission on Environmental Pollution, *Twelfth Report: Best Practicable Environmental Option*. London: HMSO, pp. 57 - 70 (also: London: Institute for European Environmental Policy, 1987).

Countries which have not established effective mechanisms for public information and participation frequently experience more difficulties in identifying important environmental problems and developing effective policies. Indeed, only Japan has succeeded in developing strong environmental policies without the continuing participation of public groups — and the effectiveness of Japanese policies has not been subject to the kind of critical scrutiny which is routinely undertaken in other OECD countries. In some instances, the requirements of public information and participation can cause a delay in administrative procedures which would not otherwise occur. In general experience has been that the advantages of public participation — including occasional acceleration of decision-making — outweigh its disadvantages.

The debate on public access to information was defined in large measure by the U.S. Freedom of Information Act which established extensive rights to information held by public authorities. Under US law, most documents concerning the environment which are held by public authorities must be made publicly available.

The European Community has recently adopted a Directive on the freedom of access to information on the environment which sets minimum standards for public information.[31] It places a general duty upon Member States to ensure that public authorities make information on the environment available to anyone requesting it. The practical arrangements are left to the Member States.

Public participation can take numerous forms. Most environmental assessment procedures, beginning with those under the National Environmental Policy Act in the United States, provide for some form of public participation, tempered by concern for maintaining expeditious decision-making.

Beyond participation in the assessment of the environmental consequences of projects and policies, some countries have provided citizens with extensive rights to intervene in judicial proceedings concerning the environment. The Netherlands has the most extensive standing provisions, allowing anybody, including organizations, to claim an interest and pursue this before a Dutch court of justice.[32] In

31 Directive on freedom of access to information on the environment (90/313/EEC).

32 Konrad von Moltke and Nico Visser. 1982. *Die Rolle der Umweltverbände im politischen Entscheidungsprozeß der Niederlande (Beiträge zur Umweltgestaltung A84)*. Berlin: Erich Schmidt Verlag.

the United States, standing is extensive but not unlimited. Individuals must prove their interest and organizations are only admitted if their charter makes appropriate provisions. In Germany, standing is still largely limited to those directly affected by decisions, in most instances neighbors or property owners. Some German *Länder* have provisions for the registration of recognized nature protection organizations which then have the right to intervene in judicial proceedings which affect the activities they have been established to protect or promote.

In all of these instances, the provision of information and public participation are designed to help make public policy choices which are firmly grounded in the articulated needs of citizens. The logic of public participation in environmental policy does not end at national frontiers. It is not surprising that environmental organizations have been at the forefront of the development of international forms of citizen action. It is difficult indeed to justify the traditional exclusion of private organization from the international decision-making process if they have played a critical role in the domestic processes of many of the most important countries.

The argument in favor of public participation in environmental policy-making is based on a potent combination of basic principles of democracy and increased effectiveness of policy. Broad democratic rights are not effectively protected at the international level, since countries differ widely in their attitude towards such rights. However, the principal justification for international environmental action rests on its effectiveness: international measures are needed because national action alone cannot effectively resolve complex global and transfrontier issues. It is the effectiveness side of the equation which has driven the increasing openness and participation of nongovernmental organizations in international environmental affairs.

Subsidiarity

The principle of subsidiarity is central to environmental management. It expresses the impossibility of capturing environmental phenomena in precise political or geographical boundaries. This imposes extraordinary requirements for cooperation between jurisdictions at all levels. Moreover, most environmental phenomena are local in origin while many of them have wide ranging, sometimes even global effects. They can be managed only through cooperation between the level at which they originate and the level at which phenomena occur.

Subsidiarity pervades environmental action. Most countries have struggled to balance the need for coordinated national action with the need to take specific steps at local or regional levels. In most instances, national legislation creates a framework, frequently with detailed standards, but implementation occurs at subnational levels which retain significant discretion in setting priorities and determining strategies for the attainment of standards.

The need for applying the principle of subsidiarity is reinforced by the fact that environmental threats and environmental conditions are different from one region to another. Consequently different measures may be needed to achieve comparable levels of environmental quality. For example, economic activities in areas with high concentrations of population and other economic activities benefit from direct access to finance, labor and markets. However, the concentration of population and economic activities implies a heightened burden on environmental resources so that environmental management requirements will need to be more stringent in such a region to attain environmental quality which may be lower than that in areas with sparse population and few economic activities.

Subsidiarity expresses the impossibility of capturing environmental phenomena in precise political or geographical boundaries.

Finally, socially determined priorities may differ when faced with comparable environmental conditions. In one region of a country, emphasis may be placed on achieving water quality while in another the protection of land uses and amenity may take priority. Economic conditions vary both within and between countries so that the available resources differ and the utility of investing in environmental quality may differ. All of these factors need to be taken into account even while measures are adopted which respect environmental integrity.

Establishing rules which govern these variations is one of the challenges of environmental policy, requiring a delicate balance between local autonomy and national requirements. A balancing of economic goals and environmental imperatives is required at and between all levels. The result is a complex, dynamic decision-making structure best described in terms of subsidiarity in which the underlying rule must be to keep decisions as open as possible for the lowest level of centralization.

The importance of the principle of subsidiarity to environmental policy is best illustrated by two examples which show the extent to which some regional issues requiring application of the principle of subsidiarity are universal and the extent to which global issues require regional and local articulation.

International river basins clearly do not require a global regime. Nevertheless, water is critical for human consumption, for agriculture and for industrial purposes. It is also a defining factor in the health of ecosystems and the fauna and flora within them. Management of river basins requires complex cooperation between many levels of decision-making, as often as not involving an international regime.

Control of water has significant environmental, economic and security implications. The Rhine, for example, is vital to the ecological health, the human welfare and the economic well-being of Germany and the Netherlands and important to the other riparian states (Austria, Switzerland and France). Control of the water is fundamental for these countries and has rendered cooperation much more difficult than might be expected. In arid regions such as the Near East, parts of Asia and the Western region of North America, water rights determine which land is productive and which is not. In these regions, hardly anything matches the importance of water. These examples illustrate the importance of international river basins and their central ecological and economic role. It is not generally appreciated how extensive the phenomenon of international river basins is. There are 13 river basins involving five or more nations (Danube, Niger, Nile, Zaire, Rhine, Zambezi, Amazon, Mekong, Lake Chad, Volta, Ganges-Brahmaputra, Elbe, La Plata—by number of countries in descending order). Fifty countries have 75 percent or more of their territory in international river basins (Among them Czech Republic, Hungary, Slovak Republic, Romania, Belgium, Poland, Afghanistan, Gambia, Iraq, Sudan, Ethiopia, Germany, Bulgaria, Peru, Togo, Ghana). Worldwide there are 215 international river basins which cover 47 percent of the land area.[33] No region of the world is exempt from controversies between different countries over water, and these are liable to escalate as water demand increases.[34]

33 Data from Peter H. Gleick, ed. 1993. *Water in Crisis. A Guide to the World's Fresh Water Resources.* New York: Oxford University Press, Tables I.4-I.7, pp. 436-439.

34 Stephen C. McCaffrey. 1993. "Water, Politics, and International Law," In: Peter H. Gleick, ed., *Water in Crisis. A Guide to the World's Fresh Water Resources.* New York: Oxford University Press, p. 92.

Because water management involves important ecological and economic interests, it requires a careful balancing of priorities. In all major river basins, complete control over water resources implies economic dominance. If the justification for control of water is ecologically based the result is no less economically significant. Control is balanced between local, regional, national and international interests but the predominant economic interests are typically local, regional or national whereas the environmental interests are often most forcefully represented internationally or nationally, resulting in difficult relationships.

Climate change is a quintessentially global environmental issue. Nevertheless measures required to limit the potential for climate change will affect every single person on the planet, impacting their daily lives directly and modifying the pattern of economic activities at all levels. Any global regime to address climate change will need to be disaggregated into numerous regional and smaller regimes — possibly including alliances between geographically remote countries formed around regime rules such as joint implementation [35] — to cope with the details of implementation.

Conclusion

These five principles (environmental integrity, cooperation, science and precaution, openness and subsidiarity) largely define the structure of international environmental management. They are not exclusive to the environment. Clearly, the need for cooperation pervades international economic regimes, scientific uncertainty impacts public health and safety issues and the management of technological innovation, openness is no more than a democratic principle of good government as is subsidiarity. Nevertheless the combination of these principles creates an international structure for environmental management which is significantly different from other international regimes, in particular those governing security or economic relations. The rules governing the establishment of environmental regimes, the roles, rights and obligations of participants, the internal dynamics and procedures for transformation all tend to be governed by the need to implement these principles and result in a structure which is complex, dynamic, integrated and increasingly links international, national,

35 Konrad von Moltke. 1995. *Turning Up the Heat. Next Steps on Climate Control.* (Pocantico Paper No. 1). New York: Rockefeller Brothers Fund.

regional and local activities. Above all, it depends heavily on the participation of an emerging international civil society which reaches beyond governments to facilitate cooperation between scientists, business interests, media and environmental groups in establishing, developing and implementing international environmental regimes.

Trade Regime and International Environmental Regimes

Several of the global environmental agreements have direct implications for the trade regime, either because they directly affect trade (like the Basel Convention and CITES); or they use trade measures as part of their implementation strategy (as the Montreal Protocol); or they affect the potential supply of commodities (as the Wellington Protocol); or they are so comprehensive that it is difficult to conceive of long term development of the regime without trade impacts (as the Framework Convention on Climate Change).[36] However, this obvious relationship between multilateral agreements and the trade regime did not attract the attention it deserved. During the Uruguay Round, for example at the time of the Brussels meeting which sought unsuccessfully to conclude the Round in November/December 1990, attempts to introduce the environmental dimension into the negotiations were widely resisted. It is worth recalling that by that time most of the major environmental negotiations were well under way, and the United Nations Conference on Environment and Development (UNCED) was but 18 months distant. Only in the final days of the Round in December 1993, after the main deals had been struck and while details were being finalized for the signing in Marrakech, was it possible to introduce some minor environmental provisions into parts of the Round and into the structure of the World Trade Organisation.

In fact, the linkages between trade and environment came into sharp focus for the first time through the negotiation of a regional trade agreement, the North American Free Trade Agreement (NAFTA). A number of factors may have favored this development. The political constellation in the United States, with support for NAFTA razor thin, forced negotiators to take into consideration all factors which might help or hinder approval of the final package, including some

36 Ibid Konrad von Moltke, *Turning Up the Heat*.

like the environment which they themselves might have otherwise disregarded. The paucity of significant bilateral and the absence of any trilateral environmental institutions on the North American continent despite growing evidence of the need for them undermined any argument by the government that environmental concerns were adequately taken care of. Finally, a regional agreement will take up matters of greater detail than a broadly multilateral one. As the practical implications of day to day management of the trade regime in North America emerged, it became increasingly obvious that this had significant implications for the manner in which the authorities in the region went about protecting the environment, and vice versa.

NAFTA became the first "traditional" trade agreement to attempt to integrate some environmental considerations into the text of the agreement itself. It also demonstrated clearly that where international environmental management is absent or weak, trade agreements will have a hard time avoiding the shoals of environmental concern.

This outcome of the NAFTA negotiations confirmed many of the lessons learned over the preceding 20 years by the European Community.[37] However, because of the unique character of the EC (by now the European Union) the applicability of these lessons to the North American context was far from clear. As a result, NAFTA became the first "traditional" trade agreement to attempt to integrate some environmental considerations into the text of the agreement itself. It also demonstrated clearly that where international environmental management is absent or weak, trade agreements will have a hard time avoiding the shoals of environmental concern. For Europeans, the broader linkages between trade and environment came into focus through the response to the so-called tuna/dolphin GATT panel report.[38]

Seen from this perspective, the negotiators of the Uruguay Round should have welcomed the parallel development of global environmental agreements. It can reasonably be argued that without these

37 See Konrad von Moltke. 1995. *The Maastricht Treaty and the Winnipeg Principles on Trade and Sustainable Development.* Winnipeg: IISD.

38 Report of the Panel in *United States-Prohibition of Imports of Tuna from Mexico.* DS21/R (3 September 1991).

agreements the World Trade Organization would soon have been confronted with a range of global environmental problems it was manifestly not equipped to handle, for the simple reason that they were unresolved and had trade implications. The existence of environmental regimes does not, however, resolve all possible trade-related environmental issues.

The trade regime and international environmental regimes are structurally incommensurate. Trade deals with economic relations between individuals and social entities; environment is concerned with natural phenomena. Trade is conceptually unitary; even though it encompasses numerous regimes, these form a reasonably coherent structure because they derive from a single, powerful concept: that trade improves the economic well-being of exporters and importers alike. Environmental policy is multiform, revolving around a number of major issues and responding to a range of principles that define overlapping levels of action which suggest integration but in practice are difficult to integrate. The structure of international environmental regimes is emerging slowly from a multitude of independently created regimes. Nevertheless, trade and environment are closely linked.

- In economic terms, environmental policy seeks to foster structural economic change to increase the efficiency in the use of natural resources. Trade policy engenders structural economic change by increasing the efficiency in the use of economically relevant resources.
- Trade policy is international by definition since it concerns only goods and services which are traded between countries, and what then happens to these goods and services within countries. Environmental policy has an inescapable international dimension since in some areas countries acting alone are incapable of solving pressing environmental problems, because of their nature or because political boundaries do not match natural ones. Together, economic and environmental policy are currently the most potent forces of change in the international system.
- Trade and environmental management involve the same kind of political bargain. Governments agree internationally to take certain domestic measures which are politically unpalatable but in reality are to their benefit. In exchange, they receive promises from other governments to take equivalent measures which are equally in the interest of the other country and which are then declared to be “concessions.”

This peculiar mix of congruence and incommensurability has given rise to much confusion. It is certainly reasonable to emphasize the areas of congruence, both to ensure that viable solutions emerge and to facilitate compromise. However, it is dangerous to overlook the elements of incongruence because the resulting solutions may prove inoperable from the perspective of environmental or trade concerns.

Trade Implications of Multilateral Environmental Agreements

This paper has argued that multilateral environmental agreements (MEAs) are at most the tip of the iceberg of international environmental management. Indeed, they represent an atypical sample since they cover those areas of environmental management which require some form of multilateral regime. Nevertheless MEAs are of particular relevance to the trade regime, precisely because of their global component, and therefore merit more detailed discussion in this context.

The international debate has tended to focus on a group of six agreements which are particularly relevant from a trade perspective, those dealing with ozone depletion, climate change, hazardous waste trade, trade in endangered species, biological diversity and ocean dumping. It has not included two important global agreements which began as commodity agreements but have evolved into environmental management regimes: those dealing with whales and tropical forests. It has not included the Convention on Desertification, presumably because it is viewed (falsely) as involving mainly developing countries. Nor has it included fisheries agreements which, while generally regional in character, form a fairly coherent group with common problems and the potential to interact significantly with the trade regimes. Table 1 sets out the various agreements which are candidates for consideration.

Discussion has thus far focused on the first group of "major" global environmental agreements. It has not yet reached the complex issues raised by the commodity/environment agreements. And it is unlikely to cover the vast area of other multilateral environmental agreements unless a specific issue forces consideration of the links to trade regimes. Nevertheless, the experience of the European Community and the burgeoning debate about the role of the North American Commission on Environmental Cooperation, created by the so-called NAFTA side agreements,[39] indicates that there are a wide range of

39 North American Agreement on Environmental Cooperation between the Government of Canada, the Government of the United Mexican States and the Government of the United States of America. Final Draft, September 13, 1993.

issues concerning multilateral environmental management which need to be addressed in a systematic manner in relation to the major trade regimes.

The "major" global environmental agreements address issues which require global management; they do not necessarily deal with these issues comprehensively. Consequently this paper will briefly discuss the trade aspects of the underlying issues rather than the specifics of the relationship between individual agreements and trade rules.[40]

Protection of the Atmosphere

With adoption of the Montreal Protocol and the Framework Convention on Climate Change, protection of the atmosphere has arguably moved to the top of the global environmental agenda. This issue is still in a relatively early stage of development: a strong regime exists for long range transboundary air pollution (acid rain, volatile organic compounds and toxic substances) in Europe and a nascent regime in North America; in all likelihood regimes will also be needed sooner or later in other regions. The ozone regime has matured rapidly as scientific evidence has accumulated; moreover it is concerned with a limited class of industrial chemicals which are not vital in any application. Climate change is potentially the most important international issue of the 21st century but has thus far not progressed beyond a preliminary stage of regime development and issue definition. It concerns substances — carbon dioxide and methane in particular — which are integral to human existence on the planet and are intimately linked to all forms of economic activity.

Protection of the atmosphere presents a full range of trade-related issues. Many of the substances to be controlled are traded internationally. Control measures will ultimately require changes in standards for important products entering trade as well as changes in the way products are produced. Current management strategies foresee significant levels of technological development in response to the underlying environmental challenges; control over the resulting intellectual property as well as its efficient and equitable distribution on a global scale raises complex issues which are also trade issues. Economic incentives are likely to be utilized, raising issues relating to the coordination of

40 See Robert Housman, et al., eds. 1995. *The Use of Trade Measures in Select Multilateral Environmental Agreements.* Prepared for the United Nations Environment Programme by Center for International Environmental Law. Manuscript, January 1995.

economic policies or the use of border adjustments. The result of environmental policy measures in this area is likely to be a continuous restructuring of most economies, particularly those based on industrial production, changing established patterns of comparative advantage and creating new incentives for protectionist intervention. Finally, protection of the atmosphere is particularly prone to free riding, that is individual actors (states, enterprises or others) seeking to derive benefits from protection efforts of others while not contributing a commensurate share of their own, and trade measures have emerged as one of the few tools short of the use of force which can create incentives against free riding. To some extent, the first WTO dispute, dealing with controls on emissions of volatile organic compounds from refineries in Venezuela producing gasoline for export to the United States, is emblematic of the kind of issue which can arise from unexpected quarters in relation to atmospheric pollution.

These issues will not all emerge at the same time. Indeed, some may never become conflictual in nature. However, it is difficult to project a pathway which leads to effective global management of the atmosphere without intense involvement of trade regimes.

Protection of the Marine Environment

The Law of the Sea is in many respects the germ cell of international law. Its codification represents a major achievement of the past decades, even though certain aspects remain controversial. The Law of the Sea Convention included a number of important environmental provisions. Nevertheless, protection of the marine environment remains a dispersed, complex enterprise, revolving around the Law of the Sea Convention, the regime for control of shipping and its consequences, including oil pollution, a number of regimes concerned with "regional seas," such as the North Sea, the Mediterranean or the Caribbean, and protection of marine species.[41] Despite these numerous measures, the two most important aspects of protection of the marine environment remain essentially unresolved. Most pollution entering the marine environment comes from land-based sources, either through rivers or through atmospheric transport. The most important marine resource — coastal areas, including coastal wetlands — are generally not subject to international management regimes, even

41 Patricia Birnie and Alan E. Boyle. 1992. *International Law and the Environment*. Oxford: Clarendon Press.

though the impacts of poor management in the coastal zone can be felt over long distances.

The trade aspects of these various marine protection regimes are relatively unexplored. Marine transport plays an essential role in international trade and the full internalization of all relevant costs represents one of the critical areas of future policy concern. The current regime based on flag state jurisdiction renders measures applied to ships particularly difficult to implement. Trade restrictive port practices have long been utilized to balance perceived distortions arising from this regime. They have been tolerated within the trade regime because transport itself has thus far not been subject to trade disciplines. However, increased attention to trade in services is liable to ultimately reach the transport sector as well, creating both environmental opportunities and potential for conflict.

The Law of the Sea is in many respects the germ cell of international law. Its codification represents a major achievement of the past decades, even though certain aspects remain controversial.

Until recently, commodities from marine resources had not been fully exploited. Consequently few conflicts concerning access and management practices arose. In recent years, many marine resources have been exploited to capacity, and beyond. Marine fisheries worldwide are threatened by collapse of the resource. As fish become scarce, careless practices in coastal wetlands, many of which serve to propagate economically significant species, may be viewed as a more serious matter, drawing concern not only from the perspective of protecting endangered species such as turtles. In all of these instances, the potential for trade conflicts exists, as illustrated by the Canadian attempt to control the landing of salmon and herring catches,[42] the Canada-US dispute over lobster sizes,[43] and the commercial dimension of the tuna/dolphin dispute.[44]

42 Daniel C. Esty. 1994. *Greening the GATT. Trade, Environment and the Future.* Washington, DC: Institute for International Economics, pp. 271-272.

43 Ibid Daniel C. Esty, pp. 272-273.

44 Robert Housman and Durwood Zaelke. 1992. "The Collision of the Environment and Trade: The GATT Tuna/Dolphin Decision," *Environmental Law Reporter*, April 1992.

Land-based pollution of the marine environment can be managed only if pollutants are controlled at the source, that is in industry, cities and nonpoint pollution from agriculture and transport in particular. It is unlikely that the protection of the marine environment will create an inducement to act more vigorously on these issues than might otherwise occur, except that a conscious policy of diluting pollution through emission to the marine environment is likely to become increasingly restricted, thus forcing countries to confront the consequences of their continuing practices.

Conservation and Biological Diversity

The CITES regime is the oldest trade/environment agreement, focusing directly on the contribution of international trade to undermining attempts by individual countries to protect endangered species. It is based on multilaterally agreed restrictions to trade and has presumably been tolerated by the trade regime because the volume and value of the goods traded has not been significant in relation to the total volume of international trade and because no actual conflict with the trade regime has arisen. Extension of CITES disciplines to commercially significant species, such as the control of certain tropical hardwoods (which has recently been proposed) contains the prospect of serious trade conflicts which could end up in a WTO proceeding.

At the other extreme, the recently adopted Convention on Biodiversity addresses complex issues with numerous potential trade impacts. It is particularly significant in relation to intellectual property rights. Furthermore there are highly complex issues in this area as in most others relating to incongruent patterns of memberships, that is problems concerning relations between countries which are members of both regimes and countries which are members of only one, typically the trade regime.[45] The new biodiversity regime has not, however, matured to the point where these issues have come into sharp focus. In certain respects it represents a test case for the ability of trade and environmental regimes to evolve simultaneously in full awareness of the potential overlaps and conflicts.

45 This issue arose in relation to NAFTA since Mexico and Canada are parties to the Biodiversity Convention while the United States is not. While NAFTA urges Mexico to adhere to several international conventions to which the United States is party, it includes no such provisions concerning US participation in the Biodiversity Convention.

Commodities

By definition, commodities are economic goods taken directly from the environment. The extraction of any commodity will always have some environmental impact; the extraction of commodities in large volume can have very large impacts. Access to basic commodities is a fundamental need in poverty alleviation. Nowhere is the introduction of sustainable practices more urgent than in relation to commodities.

Because commodity production is environmentally very sensitive, particularly where commodities rely on the vitality of biological systems, every commodity regime is potentially an environmental regime. The international whaling regime, originally designed to protect the interests of whalers, demonstrates how a commodity regime can be transformed into an environmental regime. From a trade policy perspective, whaling raises relatively few issues because the commodities it produces are of marginal importance. Its main contribution to the trade/environment debate has been the use of unilateral incentives by the United States to induce — or coerce, depending on one's perspective — other countries to comply with the majority interpretation of the regime's requirements. The tuna/dolphin dispute arose essentially from an extension of this approach to an area where no widely accepted international commodity (or environmental) regime existed.

The extraction of any commodity will always have some environmental impact.

The impulse to create a commodity regime for tropical timber also came from those most concerned with maintaining trade. Environmental concerns were introduced late in the negotiation and while they have become important within the regime they have not dominated it to the same extent as occurred in relation to whaling. Many complex trade issues lurk within the tropical timber regime, most of them relating to environmental concerns, in particular the need to conserve certain tree species which have been over harvested, the difficulty of developing internationally agreed criteria for sustainable tropical forest management and the challenge of developing a system which certifies sustainability in a manner which is consistent with the trade regime. Because the issue of tropical deforestation raises such strong responses among consumers in the developed world, it also carries in it the risk of pressure on governments to act in

a protectionist manner or to adopt unilateral trade measures to enforce the views of their citizens concerning appropriate forest management techniques.

Numerous other commodities appear as potential candidates for the development of commodity regimes incorporating principles of sustainability. Should the movement become comprehensive, its impacts on the trading system are liable to be significant.

Access to basic commodities is a fundamental need in poverty alleviation. Nowhere is the introduction of sustainable practices more urgent than in relation to commodities.

Wastes

Waste management lies at the opposite end from commodities in the production and use cycle of material goods. The volume of wastes requiring orderly disposal has grown dramatically, as a result of increased consumption in the developed world but also because of environmental controls which limit the direct discharge of wastes to the environment in the form of emissions to air, water or soil. In some jurisdictions in Germany, more than 70 percent of all hazardous wastes requiring disposal come from environmental process technologies such as filters or wastewater treatment facilities which block their discharge to the general environment.

The emerging international regimes for hazardous wastes illustrate the problems which may develop when global trade regimes encounter environmental management regimes governed by the principle of subsidiarity. The main issues concern determining whether trade in hazardous wastes represents trade in goods or trade in services, the difficulty in distinguishing hazardous wastes from hazardous materials destined for reuse or recycling and the fragmentation of the international hazardous waste management regime.

Hazardous wastes are typically heterogeneous materials requiring specialized disposal which is not always available in close proximity to the location where the wastes are produced. While wastes physically resemble goods, in practice they have no commercial value and payments flow from the supplier to the recipient. For these reasons, the economic aspect of waste trade is the cost for transport and provision

of disposal services, suggesting strongly that waste trade should fall under the General Agreement on Trade in Services and its control should focus on international certification of facilities and oversight over their operation. In practice, waste management regimes have revolved around transport, utilizing the process of "prior informed consent" to create a presumption of appropriate treatment without any verification process. While this facilitates trade it renders control of the disposal process difficult if not impossible and creates a number of important additional loopholes. From an environmental policy perspective, the preferred approach would be based on a general ban on the international movement of hazardous wastes with a process for exceptions where this is essential to achieve proper treatment.

Materials for reuse or recycling are indistinguishable from hazardous wastes, particularly when incineration for energy recovery is considered an acceptable form of recycling. This has created a widely used loophole to avoid controls which have been put in place to ensure the responsible disposal of hazardous wastes, particularly when the materials are being moved across international boundaries.

An important goal of environmental policy is to reduce the volume of wastes by creating incentives to reuse or recycle materials. In many instances, materials for reuse or recycling are indistinguishable from hazardous wastes, particularly when incineration for energy recovery is considered an acceptable form of recycling. This has created a widely used loophole to avoid controls which have been put in place to ensure the responsible disposal of hazardous wastes, particularly when the materials are being moved across international boundaries. An ancillary benefit of defining trade in hazardous wastes as trade in services derives from the fact that it creates a clear distinction to trade in materials for recycling.

The uncertainties associated with the hazardous waste trade as well as fundamental differences in approach to managing hazardous wastes have created an international regime which remains remarkably fragmented. The emerging global regime, based on the Basel Convention, seeks to render this structure more coherent but it remains unclear whether it will indeed succeed.

- The oldest international regime is that established by the European Union.[46] Originally based on a principle of liberal trade with information requirements, it was transformed into a licensing regime, with countries authorized to license the import, export or transit of hazardous wastes. Following adoption of the Basel Convention, the EC replaced its Directives by a Regulation[47] which defines Prior Informed Consent narrowly to allow Member States to require prior authorization of shipments. Various countries have established different approaches within this framework. Indeed, differences exist between regional authorities within countries. For example the Bavarian Land operates a highly restrictive, tightly managed regime in which any disposal of hazardous wastes requires a license and exports (from Bavaria!) are permitted only if no regional disposal options are available. The system is quite heavily subsidized. The German government on the other hand, advocates a more liberal approach to the movement of hazardous wastes, reflecting a range of approaches by the different *Länder*. In a recent decision, the European Court of Justice has accepted the right of a Belgian region (*Flanders*) to prohibit the import of wastes from other countries of the EU while accepting wastes from the other regions of Belgium.[48]
- The North American regime is based on prior informed consent. In practice, this regime was defined by the Resource Conservation and Recovery Act and its amendments adopted by the US Congress and subsequent Administrative Agreements between the United States and Canada and the United States and Mexico based on this legislation.[49] These Agreements effectively eliminate detailed consent for individual waste shipments, replacing it by a mutually agreed structure. While acceptable in theory, in practice this regime allows almost unlimited trade in hazardous wastes. It is justified by a presumption of equivalent practices in the countries concerned, an assumption not supported by any theoretical or empirical evidence. This regime provided the basis for the Basel Convention.

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46 See Nigel Haigh, *Manual of Environmental Policy: The EC and Britain*. Harlow: Longman (loose-leaf), Section 5.5.

47 Regulation on the supervision and control of shipments of waste within, into and out of the European Community (259/93, OJ L30 6.2.93).

48 Case 84/631.

49 http://iieg.fairchild.atzone.dartmouth.edu

- An African regime, defined by the Bamako Convention which was adopted by the countries of Africa because they were dissatisfied with the results of the Basel meeting.[50] This regime prohibits the import of hazardous wastes from outside the region and severely limits the movement of wastes within it.
- A Lomé regime governing trade between the European Union and the (African Caribbean and Pacific) members of the Lomé accords prohibits the export of hazardous wastes from the EU to ACP countries.[51]
- A new regime governing relations between developing and OECD countries, based on a decision of the second conference of parties of the Basel Convention (whose binding character is still contested by some OECD countries) prohibits the export of hazardous wastes from OECD to developing countries. In practice, this is an extension of the Lomé regime to all OECD and all developing countries.
- An entirely unclear regime in the economies in transition in Central and Eastern Europe, linked to the European Union, theoretically subject to joint management under the Europe Accords but in practice almost entirely undefined at an international level.
- Asian and Latin American regimes which have no provisions for the international movement of hazardous waste (except that the revised Basel regime outlaws exports from OECD members Japan and Mexico to and of the other countries in these regions).

The permutations between these regimes are numerous. For example, the export of hazardous wastes from Malaysia to Thailand is possible while the export from Japan to Thailand is outlawed. Since Mexico joined the OECD, a massive loophole between the North American and Asia/Latin American regimes has been closed — however this assumes tight control over waste shipments entering and leaving

50 Convention on the Ban of the Import into Africa and the Control of Transboundary Movement and Management of Hazardous Wastes within Africa, Bamako, 29 Jan 1991.

51 Fourth ACP-EEC Convention, Art. 39: "...the Community shall prohibit all direct or indirect export of [hazardous and radioactive] waste to the ACP States while at the same time the ACP States shall prohibit the direct or indirect import into their territory of such waste from the Community or from any other country..." The EC implemented the ban through Regulation 259/93.

Mexico. In light of the difficulties experienced in this regard by several countries in Europe, effective management is only conceivable with almost unlimited public accountability for which the U.S./Mexican agreement provides an insufficient basis. It is not difficult to construct situations where the MFN principle can reasonably be considered to have been infringed upon, and there are a sufficient number of parties unhappy with the developments in the Basel regime to make a challenge under GATT/WTO rules.

Each of these regimes corresponds to identifiable and presumably justifiable needs of the region in question. Harmonization appears out of the question since the North American regime gives no indication of being willing to accept the Bamako/Lomé/revised Basel approach while a large group of developing countries, led by China, has made it abundantly clear by their revolt against the original Basel approach that they are unwilling to accept the North American regime.

Trade, Environment, Sustainability: Balancing International Priorities

In practical terms, the existence of both congruence and incommensurability means that conflicts will arise between trade and environmental management but that, properly managed, these conflicts can result in solutions which benefit both trade and environmental management. These solutions will need to be found at the international level. There is no precedent for such an attempt at the international level to develop two policy areas which are closely related, respond to independent dynamics and have potential conflicts.

Responses to this situation need to be both pragmatic and principled, in the sense that they need to build on existing processes and institutions to the maximum possible extent while not hesitating to develop novel approaches where this proves essential. In the context of existing institutions, there are only a limited number of options:

- To utilize existing environmental institutions
- To utilize existing trade institutions
- To utilize existing independent institutions.

Environmental institutions are unlikely to provide a satisfactory forum for the resolution of trade/environment conflicts. With few exceptions, international environmental regimes are severely limited in scope. They will typically focus on a part of the environmental agenda (for example air pollution, waste management or stratospheric ozone depletion) in an appropriate geographic framework. Given the character of the environmental agenda, such focus is essential but it renders environmental regimes too limited to provide a satisfactory framework for the resolution of trade-environment disputes. Moreover, few environmental regimes are designed for purposes of dispute resolution. Given the need for cooperation, the existence of disputes which cannot be handled with negotiation techniques draws into question the effectiveness of the regime.

Trade institutions offer a much more attractive forum because they tend to be universal in orientation. In most instances it will be possible to find a trade forum — at the extreme the World Trade Organization — which geographically encompasses the full range of relevant environmental issues. Trade institutions have a limited and clearly defined mandate which renders them incapable of adequately reflecting other policy priorities. Moreover, dispute resolution is a central function of trade regimes.

Weighing alternative strategies is not the purpose of trade institutions — or of most other international regimes for that matter. Consequently the use of trade institutions to resolve disputes between trade and environmental policy appears problematic at best. In practice it will generally lead to solutions which appear unacceptable from an environmental perspective, and adapting the institutions to meet the needs of environmental management entails the risk of rendering them less effective for their central purpose, namely the resolution of trade conflicts.

The logic of this situation has led some observers to call for the use of international adjudicatory institutions to resolve trade — environment disputes, in particular the International Court of Justice (ICJ). The ICJ has the advantage of not being having predetermined institutional biases. Nevertheless it has not been used with any regularity by any state and almost never by powerful countries. The ICJ has created an environmental bench which has not yet been used. It has not been used for any trade disputes. Under these circumstances it is extremely unlikely that the ICJ will prove an appropriate forum for the resolution of major trade — environment disputes.[52]

Given these limited options, solutions will ultimately need to reach beyond existing institutions, indeed even beyond existing actors.

The incommensurability of trade and environment are ultimately a consequence of the sparseness of international organization. Because both systems have thus far been constructed to a minimalistic standard, lack of congruence is much more stark — and consequently more hazardous — than in an institutional environment which is richer.

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52 Jeffrey L. Dunoff. 1994. "Resolving Trade-Environment Conflicts: The Case for Trading Institutions," *Cornell International Law Journal*, vol. 27 no. 3, pp. 607-629.

The statement that international organization is "sparse" and "minimalistic" requires some justification in light of widespread perception that international bureaucracies are "bloated" and "inefficient." This is not the place to discuss whether the UN General Secretariat has too many staff members, or even whether it is perceived to have too many.[53] In general, even a cursory look reveals that international organizations are typically small bureaucracies, certainly when measured against the kind of bureaucracies which routinely exist at other levels of government. Even the largest among them, the Commission of the European Community, has a staff of about 16 500 — including more than 2 800 for interpretation and translation alone.[54] The UN General Secretariat has a professional staff of 4 869, with an additional 9 027 in support functions.[55] Even allowing for some sleight of hand — such as the use of "consultants" in staff functions — this is not a large bureaucracy by the standards of most governments represented in the UN. Only seven organizations in the UN system have a professional staff of more than 1 000.

Sparseness is not only a function of size; it is also the result of limited mandate and the lack of a sense of unity in the international system. Again, this is a phenomenon to be noted here rather than discussed. It is accentuated by a focus on traditional intergovernmental organizations while most of the dynamic developments have occurred in the "nongovernmental sector." The Yearbook of International Organizations lists tens of thousands of international organizations[56]: the vast majority of these are not governmental, and their number has been growing by leaps and bounds.

The rapid expansion of "international civil society" is one source of hope in seeking to manage the complex relationships between trade, environment and sustainability successfully. Such matters are no longer in the hands of governments alone — since they would surely fail. They are handled by both public and private international organizations, with intergovernmental bodies providing the forum in which decisions can be formalized. However, to benefit fully from this phenomenon, traditional international organizations will need to

53 See Erskine Childers and Brian Urquhart. 1994. *Renewing the United Nations System* (Development Dialogue 1994:1). Uppsala: Dag Hammerskjöld Foundation, pp. 26-30.

54 Commission of the European Community. 1989. *The European Commission and the Adminsitration of the Community*. Brussels: Commission.

55 Childers and Urquhart (see fn. 53), p. 27.

56 Union of International Associations, *Yearbook of International Organizations* 12 (1994). Brussels: UIA.

learn to develop novel relationships with these newcomers on the international scene.

From the perspective of trade, environment and sustainability, complexity and richness of international structure is to be welcomed. Apart from the growing importance of nongovernmental organizations, the other source of increased complexity — and with the growing capability to handle complex issues such as the balancing of trade and environment in a framework of sustainability — is the growth of regional and informal intergovernmental organization and the emergence of international secretariats as major motors of international action.

The rapid expansion of "international civil society" is one source of hope in seeking to manage the complex relationships between trade, environment and sustainability successfully.

"Regional" describes a wide range of phenomena at the international level. In particular, it encompasses associations of states in one area of the globe — although not necessarily contiguous states, as indicated by the case of Greece and the European Union or the negotiation between Chile and NAFTA concerning an association. It also describes formal arrangements between countries for the management of common tasks in their border regions.

The development of regional trading groups represents one of the salient developments of the nineties. It is driven by a range of factors, including: the growing difficulty for most countries to stand alone in international commerce; the desire to move towards stronger political ties; and the prospects for managing highly complex substantive issues in a regional relationship which are difficult if not impossible to manage globally.

Regional trade groupings hold promise for the better management of trade and sustainability linkages. Most regional trade groupings do not represent an ecologically coherent geographical region. Nevertheless they can reflect greater complexity of management structures, developing ways to permit the participation of levels of government other than national in relevant decisions, adapting environmental institutions as needed and opening avenues for more active participation of nongovernmental interests. Both the European Union and NAFTA illustrate this propensity and thereby provide

avenues for the development of responses to the entire range of issues linking trade, environment and sustainability.

Over the past years, an extraordinary number of informal intergovernmental agreements have been put in place, involving governmental agencies at all levels. The most visible of these informal bodies are the G7 meetings, involving ministers of finance and heads of state and government of the seven largest OECD countries, together with the European Union. The annual G7 Summit meetings are based on accepted practice rather than on a legally defined mandate. Similarly G7 ministers of finance meet as needed to discuss, and where appropriate coordinate, policy. At the other extreme are regular informal meetings of mayors and other local dignitaries of neighboring communities along an international frontier. No reliable estimate of the number of such arrangements exists but there are presumably thousands in Western Europe alone.

None of these bodies — whether the G7 Summit or a meeting of mayors — has statutory authority. That is not the point. Unlike traditional diplomatic conferences, all of these arrangements involve principals and not their representatives. They derive leverage from the position of the participants who, contrary to the situation of diplomats, are able to speak with authority for their constituencies. In a very real sense, it is their lack of statutory authority which allows them to explore matters of common concern, to consider options which might not arise in a more structured international forum and to keep debate open for an extended period until solutions begin to emerge. Rarely has the relationship between formal and informal fora been more dramatically illustrated than in the famous "walk in the woods" involving the US and Soviet negotiators to the Geneva arms limitation negotiations. On this walk, the negotiators achieved consensus on an approach to the major issues which was rejected by their principals—but which turned out to be remarkably close to the agreement which was ultimately reached several years later. Lacking individual authority, the negotiators were unable to make effective use of the opportunities offered by the informal setting in which they were able to identify solutions to problems which had appeared intractable at the formal negotiation.

One consequence of the rapid multiplication of international regimes has been the establishment of numerous international secretariats, ranging from frontier and river basin commissions to the World Trade Organization, whose function is to administer an international agree-

ment. Intergovernmental in origin, these secretariats are sharply focused on the task they have been given, and that has frequently led them far beyond the narrow assignment of helping to organize meetings. In many ways, strengthening these secretariats may do more to improve the state of international relations than all the reforms of the UN system taken together.

The growing diversity of international environmental regimes leads to the renewed quest for an institution which can effectively represent this diversity. The Commission for Sustainable Development (CSD), created by the United Nations Conference on Environment and Development, might have been such a forum. In practice it has become another player in the UN system rather than reaching beyond its boundaries to attract a much wider range of governmental regimes and international civil society.

The structure of international environmental management does not lend itself to rigid or hierarchical organization. One possibility worth considering is a standing conference of environmental regimes which could provide a forum for different organizations from all levels as need arises and issues come to the forefront, in particular issues which affect the trade and environment relationship. Such a conference would provide a forum where problems can be approached from the perspective of the issues rather than through the traditional prism of international diplomacy with its focus on national sovereignty and national interests. In the 21st century, the interests of international society are no longer adequately represented by national representatives.

The strongest conclusion of this discussion of international environmental management and trade is that any institution responsible for addressing conflicts between environmental regimes and trade regimes must meet criteria outlined by the five principles discussed above:

- It must recognize the value of environmental integrity, beyond the confines of a purely economic balancing of objectives;
- It must be based on principles of consensus and cooperation;
- It must incorporate scientific findings and respect the precautionary principle;
- It must be open and accountable.

It must meet also the related criteria of efficiency and equity. Taken

together, the seven Winnipeg Principles outline a set of criteria by which to measure approaches to the management of trade, environment and sustainability.

This paper has argued that the issues linking — and threatening to separate — environment and trade regimes are more complex than is generally recognized and that solutions must reflect both the nature of the issues and the existing structures of international governance, both public and private. This also suggests that solutions will need to emerge as the result of a continuing process and are unlikely to be known at the outset. The situation is not unlike that which confronted environmental negotiators 20 years ago. By all traditional criteria of international relations, there were no effective solutions to the problems of international environmental management. Nevertheless solutions emerged under the pressure of events. The same may be said of the trade/environment linkages.

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Winnipeg Principles on Trade and Sustainable Development

Efficiency and Cost Internalization

Efficiency is a common interest for environment, development and trade policies.

Equity

Equity relates to the distribution both within and between generations of physical and natural capital, as well as knowledge and technology.

Environmental Integrity

This requires respect for limits to the regenerative capacity of ecosystems, actions to avoid irreversible harm to plant and animal populations and species, and protection for valued areas.

Subsidiarity

Subsidiarity recognizes that action will occur at different political levels, depending on the nature of issues. It assigns priority to the lowest jurisdictional level consistent with effectiveness.

International Cooperation

Sustainable development requires strengthening international systems of cooperation at all levels, encompassing environment, development and trade policies.

Science and Precaution

The interrelated nature of trade, environment and development can give rise to conflicts in short run objectives, and policies designed to address these should be shaped by objective criteria.

Openness

Greater openness will significantly improve environmental, trade and development policies.

The International Institute for Sustainable Development is knowledge-based and action-oriented, delivering sustainable options to decision-makers in government, in business and in the home. IISD also focuses internationally on many difficult issues; how to inject sustainability into national budgets, international trade, corporate investment; how to create sustainable jobs; how to make sustainability measurable and accountable; how to tackle poverty and inequity.