Ecological rules and sustainability in the Americas

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Preface: The TRSA II Project

Trade Rules and Sustainability in the Americas

STARTING FROM THE QUESTION, "how could trade rules in the Western Hemisphere foster and not undermine sustainability objectives?," this study reviews existing trade, environment and social regimes in the Americas, then uses the Winnipeg Principles as a framework to analyze the situation and suggest mechanisms for progress toward sustainability. As such, the TRSA project is a study of models and lessons learned from the trade and sustainable development debates around rapidly evolving international, regional (hemispheric), sub-regional or bilateral regimes in the Americas. Its aim is to analyze the interaction among developing economic, ecological and social regimes—particularly in the way that they use trade measures—in the American hemisphere, making recommendations for new hemispheric rules that support sustainable development. The research and analysis is a case study of the applicability of the Trade and Sustainable Development Principles (The Winnipeg Principles)[1] to the Americas (Box 1).

The first report from the project, Trade Rules and Sustainability in the Americas, focused on trade regimes. The book summarized the existing network of hemispheric, regional and sub-regional trade and integration regimes, and commented briefly on social and environmental regimes. It then surveyed models from the trade and economic integration arrangements to develop, through a participatory analytical process using the seven Winnipeg Principles, recommendations for the potential Free Trade Area of the Americas.

This second report examines existing and potential environmental regimes in the Americas, and makes recommendations for advancement of this agenda. It argues that increased recognition and support is needed for the capacity-building and information-sharing role played by regional and global environmental agreements. This is also needed for the capacity-building institutions or grassroots networks which, though they lack formal treaty status, exist to strengthen international cooperation for the environment. The Ecological Rules and Sustainability in the Americas report suggests that there should be more effective international policies and better coordination in addressing challenges in the international implementation of environmental commitments. After surveying existing ecological regimes in the Americas, the research team proposes the creation of a new, networked, ecological cooperation instrument for the Western Hemisphere. It also recommends opening an informal, high-level space for information exchange, expert dialogue, analysis and capacity building on hemispheric trade and sustainability concerns.

A third study is contemplated which would examine social development regimes.

Box 1: What is "Winnipeg Principles" Analysis?

A group of international experts, convened by IISD through 1992–93, endorsed the "The Winnipeg Principles," seven indivisible guides for trade and trade-related environment and development policies, practices and agreements to help ensure that they work to achieve sustainable development. We use these principles in this study of the Americas ecological regimes, by basing our research on the following questions:

Efficiency/Cost Internalization: How can we support a more efficient use of resources and ensure that true values are being reflected in costs in the Americas through environmental law and policy in the Americas?

Environmental Integrity: How can we identify and respect limits to the regenerative capacity of ecosystems, avoid irreversible harm to plant and animal populations and species, and ensure protection for valued and endangered areas in the Americas through a more developed environmental regime, and use of trade-related environmental measures?

Equity: Do developing environmental regimes contribute to social justice? How can we support a just distribution of physical and natural capital, knowledge and technology, within and between generations in the Americas?

Science and Precaution: How can objective criteria in science promote better long-term decisions and how can short-term needs be balanced against a lack of scientific certainty in the Americas? How can developing environmental regimes respect the precautionary principle?

International Cooperation: Including the use of trade-related environmental measures, how can developing environmental regimes promote linkages across borders and identities, and enhance international systems of cooperation at all levels?

Subsidiarity: How could developing environmental regimes contribute to decision-making on the most appropriate level? How can we ensure that the lowest jurisdictional and political level, depending on the nature of the issues, is assigned priority consistent with effectiveness in the Americas through a more developed environmental regime?

Openness: How can developing environmental regimes be negotiated in a transparent, open and participatory way? How can we strengthen civil society participation in the processes in the Americas?

The TRSA research project is about process as well as products. It aimed, through participatory approaches and dialogues, to strengthen capacity in the Americas on these issues and provide a tool to increase informed public par-

ticipation in current trade policy-making processes. With guidance from an expert advisory council, an interdisciplinary research team from diverse sectors of society based in Uruguay, Ecuador, Brazil, Costa Rica, St. Lucia, Mexico, Chile and Canada has been investigating these issues for more than four years as part of a continuing project. Methods include literature and Internet reviews; in-depth interviews and participatory sessions with government leaders, social movement actors and other experts from diverse sectors; and analysis of strategic intervention points and mechanisms. By seeking perspectives from civil society experts, public and private sector leaders, academia, and Agenda 21 major group actors, it has been possible to draw upon a wide range of experiences from many levels and generate concrete policy recommendations.

Endnotes

1 International Institute for Sustainable Development, *Trade and Sustainable Development Principles*, (Winnipeg: IISD, 1994).

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1
Environmental Regimes in the Americas

DO ENVIRONMENTAL AGREEMENTS IN THE AMERICAS, especially in their use of trade measures for environmental purposes, support the broader goals of sustainable development? Is there a need for a strengthened environmental cooperation agenda, or even a new hemispheric ecological regime? If so, based on a survey of existing global and sub-regional environmental accords in the Americas, what are the best models for such a new regime? How could this regime be most coherent and effective, and help to ensure that trade and environment policies are mutually supportive? This study has generated recommendations to address these questions, starting from several key assumptions.

1.1 Regional Integration Processes in a Globalizing World

Regional integration agreements (RIAs) must be understood as regimes in their own right,[2] frameworks of legal norms, policies and institutions formed in very diverse economic,[3] environmental and social contexts. Trade and environment policies provide key intervention points in regional regimes, where a balancing of economic development and environmental protection objectives must occur. Coherence in this respect has three aspects. First, trade agreements must be sensitive to environmental and social concerns. Second, effective measures must be in place for stand-alone regional environmental cooperation, including provisions for economic aspects or measures. Third, there must be spaces for dialogue and joint policy-making in the inevitable areas of overlap, either for synergies or conflicts. In this area of overlap, policies are formed to mitigate environmental impacts of trade liberalization and to govern the use of trade measures for environmental purposes. Other sustainability issues less obviously related to economic policy are also debated. RIAs are founded upon international cooperation, and the overall context of an integration process can generate much needed political will to advance important social and ecological cooperation agendas.

1.2 A Hemispheric Research Perspective

The unique geographic and political context suggested by current conditions is not limited to a description of the hemisphere as the sum of five sub-regional integration arrangements, nor a battle between two faceless geopolitical areas (North and Latin America), with Caribbean and smaller economies in *voce sotto*. Rather, a hemispheric research perspective can be used, based on a developing commonality in economic, social and environmental contexts. The Americas perspective is more appropriate to globalization, reflecting new alliances across the hemisphere. This presents challenges in statistical analysis, requiring additional aggregation of data, but addresses the potential of new international regimes in the Americas.

1.3 The Proposal of Environmental Cooperation Agendas in the Americas Integration Process

As in the prior TRSA report, the "The Winnipeg Principles" methodology is being extended to *potential* rather than *existing* environmental cooperation arrangements. Indeed, Ministers of the Environment and heads of delegations from 34 governments of the Americas met for the first time in Montreal (March 29–30, 2001) to share visions and priorities and discuss how they can meet the most pressing environmental challenges of the hemisphere. In view of the Third Summit of the Americas (Quebec City, April 20–22, 2001), they brought several key environmental issues to the attention of leaders. However, a clear follow-up mechanism has not been identified for the initiative. The forward-looking character of the hemispheric agenda requires analysis based on future scenarios rather than certain data. It opens unique opportunities for recommendations to be taken into account if a more coherent hemispheric environmental regime begins to develop. The study will also generate useful comparative research on existing environmental agreements at all levels.

1.4 Integration in the Americas: A Long Trajectory

Closer cooperation and integration in the Americas was initiated over 100 years ago at the First Pan-American Conference in 1889. The process was given new impetus at the 1994 Miami Summit of the Americas, where heads of state agreed upon four main goals: democracy; economic integration and free trade; elimination of poverty and discrimination; and sustainable development and conservation in the Americas (Box 2).

Box 2: The Americas Integration Process

1994 Summit of the Americas Mandate: "Partnership for Development and Prosperity: Democracy, Free Trade and Sustainable Development in the Americas."

"…Although faced with differing development challenges, the Americas are united in pursuing prosperity through open markets, hemispheric integration, and sustainable development… We reiterate our firm adherence to… the principles of the sovereign equality of states, non-intervention, self-determination, and the peaceful resolution of disputes. We recognize the heterogeneity and diversity of our resources and cultures, just as we are convinced that we can advance our shared interests and values by building strong partnerships.

…The 1994 Miami Summit Agenda themes:

1. To preserve and strengthen the community of democracies of the Americas.
2. To promote prosperity through economic integration and free trade.
3. To eradicate poverty and discrimination in our hemisphere.
4. To guarantee sustainable development and conserve our natural environment for future generations…"

Sources: Miami Summit Declaration of Principles, Summit of the Americas Implementation home page; U.S. Department of State's Summit Coordinating Office, December 1994 Miami Summit.[4]

The ambitious Miami Summit Agenda is only beginning to be implemented. As maintained by Charnovitz, "the countries of the Americas face common problems of high unemployment, unsatisfactory growth rates and environment damage."[5] National leaders do not have all the answers; they need business and civil society engagement to face hemispheric challenges.[6] In spite of energetic efforts in the 1994 Miami Summit, the 1996 Santa Cruz Summit on Sustainable Development[7] (Box 3), the 1998 Santiago Summit of the Americas and the 2001 Quebec City Summit of the Americas, sober reflection reveals that efforts toward hemispheric integration face very real political opposition in many countries of the Americas as they attempt to move beyond conferences.[8] However, momentum in the region appears to be growing—an overall impetus exists of 34 governments and a community of over 1,200 negotiators committed to a common hemispheric agenda. Ability to meet sustainability objectives will be key to the success of the initiative, and will affect its legitimacy among the Americas public. It is hoped that this study can advance a proposal to support that agenda. Research results were presented in a Hemispheric Trade and Sustainability Symposium parallel to the Quebec City Summit of the Americas in April, 2001 at Quebec City. They were also submitted directly to the meeting of the Ministers of the Environment in Montreal in March 2001, and to the "FTAA Committee of Government Representatives for the Participation of Civil Society." In addition, they were

released in the 2001 Forum of Ministers of Environment of Latin America and the Caribbean and World Summit on Sustainable Development LAC Regional Preparatory Meetings, as well as the Bolivia Summit +5 process. Organizations involved in the study from all sub-regions have also developed materials and hosted conferences based upon data and capacity compiled in the course of this research.

Box 3: An "Agenda 21" for the Americas, and the First Meeting of Environment Ministers

A hemispheric summit was held in Bolivia in 1996, where 34 governments of the Americas gathered to produce a Declaration and Action Plan based on the following framework. The 1996 Santa Cruz de la Sierra Declaration of Principles emphasized principles of:

a. Equitable economic growth

b. Social dimensions

c. A healthy environment

d. Public participation

e. The development and transfer of technology

f. Financing

g. Strengthening of the legal framework

The 1996 Plan of Action for the Sustainable Development of the Americas was structured with initiatives for action on:

1. Health and education
2. Sustainable agriculture and forests
3. Sustainable cities and communities
4. Water resources and coastal areas
5. Energy and minerals

The plan also contained a section on institutional, financing, technology and other cooperation aspects, including:

1. Institutional arrangements
2. Financing
3. Science and technology transfer
4. Public participation

In 2001, Environment Ministers of the Americas met in Montreal to produce a Ministerial Communiqué with a much narrower agenda for cooperation. This meeting requested the Organization of American States (OAS) to review progress toward the World Summit on Sustainable Development in 2002. The communiqué focused on three themes:

1. Challenges of environmental management in a changing hemisphere—the need for innovation. Commitments included, among others:
    - recognizing unsustainable patterns of consumption and production as a concern;
    - promoting mutually supportive economic integration and environmental protection policies;
    - strengthening environmental systems (with knowledge, tools and incentives, partnerships);
    - promoting environmental knowledge and information (national indicators, monitoring);
    - sharing best practices through information exchanges and environmental science networks;
    - increasing public education, participation, transparency and accountability; and
    - addressing the accumulating costs of environmental degradation.
2. Improving the environment for better human health. Commitments included, among others:
    - working to improve air quality;
    - striving to enhance access to safe drinking water and sanitation services;
    - strengthening national and regional capacities for integrated water resources management;
    - lessening the vulnerability of citizens and communities; and
    - reducing the impacts on economies caused by natural phenomena.

3. Conservation of biodiversity and ecosystems. Commitments included, for example:
    - building capacity and information sharing on biodiversity in the framework of the Convention on Biological Diversity (CBD);
    - expanding partnership networks and information sharing systems in support of the Inter-American Biodiversity Information Network (IABIN);
    - expanding existing hemispheric networks for terrestrial and marine protected areas; including linkages to create biological corridors;
    - supporting information sharing networks and action on invasive alien species;
    - developing a hemispheric strategy to enhance the conservation and sustainable use of migratory species throughout the Americas;
    - promoting concrete and urgent actions for sustainable forest management; and
    - strengthening partnership networks and information systems to prevent illegal trade in endangered species.

Sources: 1996 Santa Cruz de la Sierra Declaration of Principles and Plan of Action For the Sustainable Development of the Americas; also Meeting of the Environment Ministers of the Americas Ministerial Communiqué, available online: http://www.ec.gc.ca/press/2001/010330_f_e.htm, Montreal, 2001.[9]

1.5 Sustainability and Ecological Policy

A common conceptual framework—one which included the diverse actors in current regional environmental debates—was needed to provide guidance for this study. To start, *ecological* and *environmental* are not completely interchangeable terms. The distinction is fine, albeit debated. Discussions of *environmental issues* usually refer to conditions perceived as outside human endeavours: land, air and water conditions. Many governments in the Americas are prepared to examine environmental impacts though they are (understandably) cautious about delegating sovereignty over sensitive natural resources. *Ecological* issues are perceived as more embedded in a social agenda of *sustainable development*. Regimes for a more sustainable political or social ecology focus on proposals for energy efficiency, food security and human scale development. In this study, *sustainable development* is seen as an integrat-

ed and interdisciplinary process based on all three pillars of international economic, environmental, and social law and policy.[10] This suggests not simply less pollution, nor an end to growth, but rather a commitment to a different kind of growth.[11] This growth can generate resources for social infrastructure and long-term environmental priorities through fair trade on micro and macro levels.[12] Sustainable development is a starting point, and a sustainability perspective can be applied to analysis of environmental conditions and ecological policy regimes (Box 4). From these conceptual starting points, this study seeks to identify appropriate hemispheric, *ecological* legal and policy frameworks to promote sustainability.

Box 4: Sustainable Development and Sustainability

Sustainable development, as coined by the 1987 World Commission on Environment and Development, is based upon meeting the needs of present generations without compromising the ability of future generations to meet their needs. A sustainable development approach recognizes economic, social and environmental priorities for development, and provides a way forward which includes development and environmental conservation objectives.

A *sustainability perspective* goes one step further, requiring a paradigm shift. Sustainability suggests structural, economic and social changes to live within ecological limits—changes that are needed in the industrialized economies as well as "developing countries." Activities are sustainable when they:

1. use materials in continuous cycles;
2. use continuously reliable sources of energy; and
3. come mainly from the qualities of being human (i.e., creativity, communication, coordination, appreciation, spiritual and intellectual development.)

The governments of the Americas have made many statements to the effect that… "[d]evelopment strategies need to include sustainability as an essential requirement for the balanced, interdependent, and integral attainment of economic, social, and environmental goals." It appears they are willing to take up the challenge of sustainability.

Sources: World Commission on Environment and Development, Our Common Future. Oxford: Oxford University Press, 1987, Knickerson, M. "Guideposts for a Sustainable Future Project," Perth: 1996, and the "Santa Cruz de la Sierra Declaration, Bolivia, 1996, Art. 2."

1.6 An Overview of the Ecological Rules and Sustainability in the Americas Study

This report begins with a broad-brush description of significant environmental conditions in the Americas today, and an outline of existing systems of international ecological legal norms and instruments. The report is then structured to offer innovative policy options, based on examples of place where these mechanisms have been proven, in the context of existing and proposed regimes. Chapter 1 of this report describes the existing ecological regimes in brief detail (trade and related regimes are covered in the prior report, Trade Rules and Sustainability in the Americas). Then, Chapter 2 lists the broad recommendations for a hemispheric ecological cooperation agenda. In Chapter 3, sections 3.1 through 3.7 summarize the research and analysis, reviewing the environmental aspect of the Americas integration process through the lenses of the Winnipeg Principles:[13] environmental integrity, efficiency and cost internalization, equity, openness, science and precaution, subsidiarity, and international cooperation. As the study discusses a *potential* hemispheric ecological regime, each chapter proposes policies and innovative measures or mechanisms to support sustainability objectives. Some general conclusions are drawn in Chapter 4 while Chapter 5 provides a table of recommendations and Chapter 6 provides a non-exhaustive survey of concrete existing mechanisms, which might serve as models or provide lessons. These are referenced to provide sources for more detailed information.

Endnotes

2 Regimes can be seen as an evolving continuum; from dialogue and sharing of information, to more defined frameworks for cooperation, to binding norms in a more precise legal sense. Vogler, J. *The global commons: A regime analysis*, (West Sussex: John Wiley & Sons Ltd, 1995) at 22, or Brunnee, J. and S. Toope. "Environmental security and freshwater resources: Ecosystem regime building," *American Journal of International Law* 91, No. 11 (January 1997). See also Von Moltke, K. "International environmental management, trade regimes and sustainability," (Winnipeg: IISD, 1996).

3 In WTO Chapter XXIV terms, regional integration arrangements themselves range in size and depth from free trade agreements without common external tariffs to customs unions with aspirations of a common market.

4 Summit of the Americas, http://americas.fiu.edu/summit/Agreements/zdope.txt

5 Charnovitz, S. "Trade and Environment: Next Steps." In *Trade and Environment: the International Debate*, United Nations Conference on Trade and Development, Latin American Economic System, (Caracas: UNCTAD/SELA, 1995).

6 General Secretary of the OAS, Cesar Gaviria, in his presentation to the Second Summit of the Americas, Santiago, Chile, April 18, 1998, stated: "[t]he questions are many and varied. How do we make integration not only a commercial process, but one of vast social and political consequence? How are we going to preserve the political freedom of the governments, the legislatures, and public opinion in the entire hemisphere? How do we make all this effort benefit the smaller economies and the lowest wage earners?" Also, as per U.S. President Clinton's address to the same fora: "If economic integration in a global economy is to work for all people, we must demonstrate that we can have economic growth and lift labour standards for all workers. We must demonstrate that we can grow the economy and preserve, indeed, even improve the environment. (The new) civil society committee (in the FTAA process) will give the peoples of our nations the change to make that argument, and we must prove that we can make the argument work."

7 The 1992 Earth Summit in Rio de Janeiro, Brazil, established a framework to address the challenges of protecting the environment and development communities while respecting people's quality of life. In 1996, the Americas became the first region in the world to produce a blueprint for action. In December of that year, the hemisphere's heads of state and government met in Santa Cruz de la Sierra, Bolivia, and agreed on an ambitious agenda to promote sustainable development.

8 In the Santiago Summit of the Americas, April 1998, President Frei of Chile's opening speech stated that "great social and organizational challenges lie ahead."

9 Organization of American States Unit for Environment and Sustainable Development homepage; http://www.oas.org/

10 Mcgormick, D. "Sustainable development and human rights: An integrated conception." *International and Comparative Law Quarterly* 45, (October, 1996), Ward, H. "Common but differentiated debates: Environment, labour and the world trade organization." *International and Comparative Law Quarterly* 6, (July, 1996), or Hudson, S. "Trade, environment and the pursuit of sustainable development." *International Trade and the Environment*. World Bank Discussion Paper No. 159. Ed. Low, P. (Washington: World Bank, 1992), p. 55.

11 World Commission on Environment and Development. *Our Common Future,* (Oxford: Oxford University Press, 1987), p. 43.

12 International Institute for Sustainable Development. *Source Book on Trade and Sustainable Development: The New Research Agenda,* (Winnipeg: IISD, 1994), p. 11, where it is suggested that "fair trading arrangements enrich those on both ends of the exchange, and enable producers to engage in the activities they do most efficiently." OXFAM defines fair trade as "a fair price for fairly produced goods," and the International Federation of Alternative Trading estimates over $50 million USD a year in 1997 trading. Robins, N. and S. Roberts. *Unlocking Trade Opportunities: Case Studies of Export Success from Developing Countries*, International Institute for Environment and Development, United Nations

Department of Policy Coordination and Sustainable Development, (New York: IIED/UNDPI, 1997); Zadek, S. and P. Tiffen. *Fair Trade: Paths to Sustainability*, New Economics Foundation, Twin Trading, (UK: IIED, 1997).

13 International Institute for Sustainable Development. *Trade and Sustainable Development Principles – The Winnipeg Principles,* (Winnipeg: IISD, 1994).

2
The Ecological Tapestry of the Americas

ENVIRONMENTAL CONDITIONS IN THE AMERICAS are diverse, complex and poorly documented, as are the interwoven ecological regimes of over 272 accords, which have evolved at many levels. The Action Plan from the 1996 Santa Cruz Summit of the Americas on Sustainable Development was developed by consensus among 34 governments of the Americas. Hence, it is the general framework that this study adopts to survey hemispheric ecological issues, and to sketch the regimes developed to address joint challenges.

In this chapter, we will examine current environmental issues in the Americas, and opportunities for international cooperation, in four key areas: sustainable agriculture and forests; cities and sustainable communities; water resources and coastal areas; and energy and minerals. The first of the five areas covered in the Santa Cruz Summit Action Plan, education and health, will be considered in the final TRSA study on social rules and sustainability. In the other four, outlined here, we touch mainly on the environmental aspects of these challenges. As an additional category, we have identified general, mainly subregional, "ecological cooperation instruments." These are emerging comprehensive regional environmental accords (REAs), which promote measures such as common standards, policy coordination, assessment of policies, monitoring, information and public participation.

2.1 Overview of Environmental Conditions in the Americas

The Americas are not a mosaic of separate ecosystems, but rather an interrelated chain of ecosystems, resources and living organisms. The Western Hemisphere is home to great ecological diversity, representing all major climatic regions and types of vegetation. The Americas feature numerous environmental characteristics of global value, including extensive rivers; long and ancient chains of mountains; rare and endangered wetlands, mangroves, boreal

forests and temperate rainforests; great, productive interior plains; and fisheries that support community livelihoods along the Pacific and Atlantic coasts.[14] Like all ecosystems, the distinct natural environments of the Americas are linked on many spatial and temporal levels, and transcend national borders. Migratory species such as birds and marine mammals unite the continents, depending on different habitats over the phases of their lives.[15] Human societies in the Americas are becoming more environmentally conscious, and seeking ways to ensure that lifestyles do not have unsustainable impacts on their surroundings.[16] While nascent, economic systems are also changing, seeking a mix of regulatory and market-based measures to promote more sustainable consumption choices and secure, more sustainable livelihoods. These are gaining political and social momentum in the Americas, however much remains to be done. In the Western Hemisphere, four particular areas of high concern for action under all these perspectives are: agriculture and forests; cities and communities; water resources and coastal areas; and energy and minerals.

Agriculture and Forests

Is agriculture and forest management in the Americas sustainable? While no comprehensive hemispheric assessment has been done, the condition of arable lands, biodiversity and forests provide useful indicators. The Americas are home to one of the largest reserves of arable land in the world. In 1995, cultivated lands in Latin America alone were estimated at 576 million hectares.[17] However, while planted and grazing lands have increased, forested areas have decreased,[18] and approximately 305 million hectares of land in Latin America and the Caribbean have been affected by erosion or chemical degradation. Similar problems exist in the U.S. and Canada, where excessive use of fertilizers and pesticides is a major source of water pollution. Causes of degradation include deforestation, overgrazing, mismanagement of agricultural lands, and rapid, inadequately planned urbanization. It has been warned that, should these trends continue, the food security of the region will be endangered.[19] However, in recent years the expansion of organic agriculture and more sustainable silviculture techniques offers hope for improvement.[20]

In terms of biodiversity, the situation is critical. It has been estimated that 40 per cent of the planet's flora and fauna species are found in Latin America and the Caribbean, especially among mammals, birds, amphibians and reptiles of tropical countries, while in subtropical countries, levels of unique or endemic species are very high. The principal reason for loss of biodiversity throughout the hemisphere is destruction of habitat causing species extinction, through the expansion of agriculture in semi-arid zones, deforestation and substitution of native forests for plantations, and the loss of wetlands. However, in recent years, the overall area of protected lands has been increasing, and currently about 6.6

per cent of the territory of Latin America and the Caribbean is under some form of protection. Concerns exist that areas protected by law still lack capacity or resources for conservation in fact, and that certain key ecosystems are still outside these regimes. Efforts to conserve migratory species of birds and other animals have also intensified, though much remains to be done.[21]

An important proportion of the territory of the Americas, approximately 47 per cent, is forested, much with tropical forests. However, natural forest cover continues to decrease due to conversion to agricultural and pasture lands, infrastructure development, mining and mineral exploitation, forest fires and, recently, commercial forestry.[22] Latin America lost 61 million hectares of its forest cover between 1980 and 1990, the most significant loss of forest in the world, and between 1990 to 2000, another 4.5 per cent was lost.[23] In North America, poor forest management has led to fragmentation, loss of biological richness, deterioration of the boreal forests, particularly, and invasion by exotic species.[24] However, due in part to these conditions, public debates and awareness have brought forest conservation to the forefront of many political agendas. And while resources are still under extreme pressure, efforts are being made to stabilize the losses.[25]

As such, agriculture, biodiversity conservation and forests, remain among the most urgent hemispheric challenges faced by policy-makers. In the next chapter, certain international cooperation regimes that are attempting to address these issues will be surveyed.

Cities and Communities

The Americas faces considerable environmental challenges throughout the rural-urban continuum. A high proportion of populations live in seriously polluted urban areas such as Mexico City, Sao Paulo, Rio de Janeiro, Buenos Aires, Santiago and Los Angeles. Unplanned and mismanaged urbanization has resulted in the creation of ghetto communities that lack even basic drinking water, sanitary treatment or waste management services, leading to health problems. While rates of growth are slowing in the region's largest cities, medium-sized towns are now absorbing continuing population increases. The increase in urban population is estimated to have been 105 per cent in Latin America over the period 1975–2000, and 34 per cent over the same period in North America.[26] In Latin America, water supply problems could become less pronounced (without being fully solved) in coming years, but air pollution continues to grow, mainly due to increases in the use of private automobiles. In North America, local authorities have invested considerable resources to control air pollution, provide clean water and sanitation, and address municipal or hazardous wastes, though recycling and conservation programs have not yet managed to mitigate Canada and the U.S.'s position as the top two producers of solid municipal waste in the world.[27]

As such, many aspects of continuing urbanization are highly unsustainable. Ecological challenges include water, air pollution and waste management, and much remains to be done. International cooperation mechanisms to address these issues are examined in the following chapter.

Water Resources and Coastal Areas

The Americas are rich in hydrological resources, in terms of freshwater and in terms of marine and coastal areas. The Amazon, Orinoco, Sao Francisco, Parana, Paraguay and Magdalena rivers carry more than 30 per cent of the world's continental surface water. However, two thirds of the region is classified as arid or semi-arid,[28] and the demand for freshwater is growing due to expanding populations, industrial activity and irrigation agriculture.[29] In spite of significant advances in recent years, many still lack clean drinking water, and rivers close to population centres are increasingly becoming contaminated with mine tailings, industrial wastes and agrochemicals. Principal causes of deteriorating water quality in the region include sedimentation due to erosion and uncontrolled discharge of industrial, domestic and agrochemical wastes. Rising nitrate levels in rivers have been observed throughout the region. Mining activity is a significant secondary cause. In the 1970s, massive hydroelectric facilities were built on several major rivers such as the Itaipu, Salto Grande and Yacireta in Rio de la Plata, and governments are now turning to massive canal projects (hydrovias) such as the Parana-Paraguay and Araguaria-Tocantins proposals. Likewise in North America, abundant freshwater resources can be found, though international rights to commercial exploitation of these resources are as yet unresolved. Many indigenous communities still lack adequate quality of water and drainage systems, and mining of freshwater aquifers and pesticide or fertilizer contamination have affected water supply in some areas. Canada and the U.S., particularly in the agriculture and energy generation sectors, continue to be the world's largest consumers of freshwater, and this demand is rising for domestic, recreational and industrial uses. However the improving water quality of the Great Lakes and other transboundary bodies, as well as the expansion of more efficient water management technologies, offer some positive news.

In terms of coastal and marine resources, the Americas shelter several of the largest and most productive estuaries in the world, some of the most precious coral reefs and mangroves, and several of the richest fisheries. Marine ecosystems in the Americas are currently threatened by unsustainable fishing practices, chemical contamination, eutrophication, physical alteration of habitats and the invasion of exotic species. In particular, concerns have been raised as to the effects of over-fishing on marine biodiversity, and indeed, according to the UNEP GEO Report 2000, more than 80 per cent of commercially exploitable fisheries resources in the southwestern Atlantic and 40 per cent in

the southeastern Pacific have been classified as totally exploited, over exploited or depreciating. While in 1994 marine catch in the region reached a peak of more than 26 million tonnes, the catch had fallen to 13.6 million tonnes in 1998.[30] Tourism, upon which 12 per cent of Latin American and Caribbean GDP depends, has been contributing to significant changes in land use in coastal areas and beaches. These changes, if not properly managed, can lead to degradation. Port cities also have an impact on the marine environment. Untreated sewage is the norm, with 80 per cent of sewage water being left untreated in Central America.[31]

As such, contamination of freshwater, lakes and rivers, coastal areas, and marine regions remains a major concern in the Americas, as does over-fishing and unsustainable tourism. International instruments created to address these issues where they cross borders will be surveyed below.

Energy and Minerals

Environmental considerations related to energy and minerals in the Americas include concerns regarding the atmosphere, mining and metals exploitation, and climate change. In the Americas, countries face environmental management problems in implementing the different institutional systems at national, federal, provincial and other levels, and a lack of mechanisms for harmonization, coordination or restructuring. According to the ministers of mining for the Western Hemisphere process, provisions need to be made for mine closure at the outset of each project. There is need for geological data and information on the soil and subsoil with mining potential, so that a scientific methodology can be established to contribute to the definition of land use priorities. Mining has also been the cause of environmental damage (physically unstable tailing deposits, mine openings that leach acids, etc.) that currently pollutes rivers and surface water sources and, in some cases, is a hazard to the health of surrounding communities. The landscape in old mining areas is also adversely affected. Countries are concerned that mining activities frequently entail the handling and transportation of hazardous substances in the form of inputs or by-products. Improper handling of such substances can cause accidents with serious consequences for the environment and public health, leading to incalculable damage.[32]

For health and ecological reasons, major challenges for policy-makers in the Americas include growing greenhouse gas emissions and increasing levels of chemical pollution.[33] In addition, mainstream energy policies are not yet sustainable in the Americas by any means, and investment is urgently required to build a sustainable energy infrastructure for cleaner and renewable energy technology.[34] Instruments for international ecological cooperation on these issues are summarized in the next section.

2.2 Survey of Ecological Regimes in the Americas

Throughout their history, the countries of the Western Hemisphere have responded to the challenges identified in the prior section of this report on local, national, regional and global levels. Diverse instruments weave a complex network of accords, institutions and other measures, which could be described collectively as a broad hemispheric regime for ecological management. However, these accords were negotiated separately, often in response to public pressure or a particular environmental challenge, and little deliberate coherence or linkage appears.

Over 272 agreements and conventions, organizations and institutions, programs and projects, intergovernmental forums and experts groups, initiatives, declarations, and funding mechanisms can be currently identified as part of an international environmental law and policy regime in the Americas. The most accepted mechanisms, it appears, are international treaties. Declarations, programs and institutions are also fairly common. Experts groups and funding mechanisms are quite new—not many yet exist in the Americas (see Table 1). Many of these instruments were established with little or no linkage to the Americas Summit process, and hold significant weight of their own completely outside the context of hemispheric policy-making.

This document is not intended to be a comprehensive inventory of an Americas environmental regime and, indeed, it is our earnest contention that such a review should take place.[35] It should also be noted that the existence of accords or instruments *per se* does not guarantee their effectiveness in addressing the environmental problems for which they were established: many other factors affect the potential for sustainability in the Western Hemisphere. In addition, the fact that a country is a Party to the accord does not mean that measures are in place for implementation or monitoring.[36] However, it is possible to lay out a panorama view, organized around four of the 1996 Santa Cruz Summit issue areas, which permits a rough sketch of the elements that form a holistic and increasingly effective environmental regime in the Americas.[37] Finally, more general environmental cooperation mechanisms have recently emerged, in the form of comprehensive international environmental instruments that are negotiated as part of economic integration packages. In examining the possibilities for a hemispheric environmental regime, these types of accords are taken into consideration for lessons or models. Throughout, in view of the focus of this study, trade measures[38] for environmental purposes are discussed. These form part of the accords and institutions described below. These measures will be further analyzed in the following sections of this report.

Table 1: International Law and Policy Instruments in the Americas Ecological Regimes[39]

Instruments, Issue Areas	Accords, conventions and treaties	Organizations or other institutions	Programs and projects	Funding mechanisms	Intergovernmental forums	Declarations	Experts groups	Initiatives
Ecological Cooperation	11	5	3	1	4	8	1	0
Sustainable Agriculture and Forests	41	11	13	2	6	5	0	1
Sustainable Communities and Cities	11	1	5	0	1	2	0	1
Hydrological Resources and Coasts	79	11	5	1	2	10	1	2
Energy and Minerals	12	5	6	0	1	3	0	1
Total: 272	154	33	32	4	14	28	2	5

Sustainable Agriculture and Forests

The Americas agenda in this area includes promoting sustainable agriculture, conservation and sustainable management of natural forest resources. Priorities toward achieving the goal of sustainable agriculture include issues such as developing agricultural production systems that enable farmers to enhance the value and productivity of their lands; development of baseline data on—and encouragement of access to—research on sustainable agriculture; and involvement of agricultural producers and rural communities in policy development. Certain experts also propose recognizing the multi-functionality of agriculture, in its role of protecting genetic diversity and habitat. Deforestation is also a key issue, and governments have focused on continuing the international dialogues on forest issues; creating forest plans and programs (using participatory processes that include all interested parties for multiple

environmental and socio-economic benefits of forests); undertaking better forest assessment, management and monitoring systems; and facilitating sustainable management of forests so as to conserve biodiversity and maintain forest health, vitality and productivity. In terms of land use; governments have committed to promoting inter-sectoral policies and land use plans, review of agricultural incentives which adversely affect forests; better definition of land tenure and property rights as a means to promote sustainable forest management; and soil conservation. Governments have also agreed to address biodiversity conservation goals through various strategies. They will establish national forest management policies that respect and support the culture and needs of indigenous and local communities. They also agreed to strengthen national systems of parks and protected areas. They have agreed to compile basic information on environmental criteria and indicators at all levels, in order to evaluate progress toward sustainable management of biodiversity and the improvement of environmental statistics. Other initiatives include efforts for the conservation of biological diversity, the sustainable use of its components, and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources.

In the review of initiatives in the forestry sector, numerous rural development programs are being strengthened. This work is coordinated by the regional offices of the United Nations Food and Agriculture Organization (FAO), or the Inter-American Institute for Agriculture Cooperation (IICA). Various fora have been organized on hemispheric forest issues, and accords exist to promote the conservation, ecological management and administration of native forests and plantations. In addition, a third of the countries of the Americas are members of two international accords on tropical timber. As very little was identified on management of pesticides, the global Rotterdam Convention, which is currently in the process of being ratified, might play a significant role in regulating the trade in hazardous chemical products and pesticides, and regional processes are also being initiated by the Economic Commission for Latin America and the Caribbean (ECLAC) and other partners. For indigenous peoples, very few initiatives can be identified, though several declarations have been drafted by the peoples themselves. As well, the Organization of American States (OAS) and UNEP are developing support programs, and the Global Environment Facility (GEF) is also financing the participation of indigenous peoples in wider projects to conserve biological diversity. For ecological conservation goals, at least six sub-regional conventions and other international instruments exist to promote joint management of protected areas, and the majority of countries are Parties to the 1994 UN Convention to Combat Desertification. In addition, numerous accords and instruments exist at the hemispheric and sub-regional level for the conservation of biological diversity, and almost all countries of the hemisphere are Parties to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and the 1992 UN Convention on Biological

Diversity, though different degrees of implementation of this Convention prevail, and very diverse agendas exist in the context of the 2000 Cartagena Protocol on Biosafety. Very little was identified on the regional and sub-regional levels in terms of access to genetic resources, though the Andean Community has recently made some innovative steps in the direction of a common strategy with regards to these issues.[40]

Cities and Sustainable Communities

The primary challenges to the attainment of sustainable development in this area include urban planning, housing and urban pollution. In particular, governments need to focus on addressing poverty; enhancing access to credit and to environmentally sound technologies; and promoting the economic competitiveness and environmental efficiency of micro-enterprise in urban as well as rural areas. They also need to focus on narrowing the gap in housing and on the provision of basic infrastructure services through the use of clean, safe technologies and planned urban development. Finally, there is a need to improve quality of life in cities and communities by reducing air and other forms of pollution, and ensuring the most efficient and least polluting industrial and transportation practices.

Due in part to a perception of this issue as essentially domestic, few international accords and conventions are identified below. In Central America, two institutional arrangements exist (one of which is focused on sustainable human settlements) and five conventions on workplace health and safety were identified. Three accords on air pollution were identified, all in North America. In terms of control over polluting industrial practices, including toxic and hazardous wastes, over half of the countries of the Americas are members of the Basel Convention on Transboundary Movements of Hazardous Wastes, and two subregional accords also exist, one in Central America and one in North America.

Water Resources and Coastal Areas

In the Americas, the conservation, sustainable management and utilization of water resources are a priority for sustainable development. The regional agenda is focused on preventing the contamination of water resources and on ensuring that drinking water supplies are safe and adequate. Countries are also committed to the promotion of user participation in the decision-making process on water resources management. Areas of focus also include conservation and utilization, in a sustainable manner, of inland, coastal and marine water resources, including wetlands, and the promotion of the integrated management and sustainable development of the marine environment and coastal areas. Finally, the prevention and control of environmental degradation caused by pollution and the unsustainable use of inland, coastal and marine water resources are high on the regional agenda.

Very few accords were identified on access to clean drinking water, though a regional meeting was held on the issue in 1996, and a coordinating committee of institutions addressing this issue has been established in Central America. Numerous bilateral and sub-regional accords exist on the use and administration of shared watercourses, and in terms of waste treatment, a bilateral agreement exists for the border between Mexico and the U.S. Almost half of the countries of the Americas participate in the Convention on the High Seas, Continental Shelf, and Territorial Seas, and cooperation agreements exist to administer the Arctic and Antarctic. Two Latin American declarations on the Law of the Sea were identified, and the United Nations Environmental Programme has 13 Conventions and Actions Plans with regard to regional seas. In relation to fisheries administration and conservation of marine and coastal resources, numerous accords and institutions were identified on the regional and sub-regional levels. Nineteen treaties have also been developed on oil pollution of the seas and other noxious substances. Some provide for civil liability of oil transporters or other industry groups, an economic policy measure which affects risk management options, and trade. These treaties are particularly relevant to the Caribbean, and from Latin American countries such as Mexico, Venezuela, Peru, Uruguay and Panama. Several countries of the Americas are also members of three conventions on other types of oceanic pollution. One convention also exists to regulate land-based sources of marine pollution, though only the countries of the Caribbean and the U.S. are Parties.

Energy and Minerals

In this sector, the Americas sustainable development agenda is focused on the sustainable development of energy and minerals. Environmental priorities in this area are determined in collaboration with the Energy Ministers of the Western Hemisphere Meetings and a similar initiative for Mining Ministers of the Americas, who have called for the economic, social and environmental development of mining in the Americas. Priorities for energy development include promoting efficiency in means of production, transformation, transportation and use of energy, through policies and programs that facilitate bilateral, sub-regional and regional trade in energy-related goods and services. Governments and other actors are also committed to promoting cleaner and more efficient energy production and consumption; the development and use of renewable energy and clean conventional fuels; and enhancing distribution of energy services to under-served areas, especially to rural and indigenous communities. Finally, countries have committed to the creation of an environmentally responsible and socially sensitive minerals and metals industry, recognizing the key role of mining in the development of the Americas.

Though few accords were identified relating to energy cooperation among governments and the promotion of cleaner or more efficient forms of energy, almost

half the countries of the hemisphere participate in the OAS Renewable Energy in the Americas initiative. Many programs funded by the GEF and the Inter-American Development Bank are also in operation, focused on cooperation, electrical connectivity, rural electrification and investment in renewable sources of energy. While few frameworks exist to date on mineral exploitation in terms of climate change, the majority of countries of the hemisphere are part of two conventions and an international protocol on the protection of the ozone layer and the prevention of climate change. Over half of the countries of the hemisphere also participated in the elaboration of two international declarations on climate change and a regional declaration. There is also a sub-regional action plan in the Caribbean for adaptation to climate change. One initiative that deserves special mention is the Inter-American Institute for Research on Global Climate Change, which exists to promote greenhouse gas emission reductions and adaptation strategies.

Comprehensive Ecological Cooperation Instruments

Many countries of the Americas are committed to the implementation of recently drafted sub-regional or bilateral environmental agreements (SREAs). Many simply focus on particular shared challenges caused by regional environmental change, but recently, broader ecological cooperation instruments are emerging parallel to sub-regional or bilateral economic integration processes. Shared sub-regional ecological challenges include floods and fires; transboundary pollution of air and water (including watercourses); desertification and land use policies (such as loss of prairies, tropical and temperate forests); lack of regional environmental standards; and the need for shared ecosystem management regimes. Increasingly proactive sub-regional arrangements now exist for North America, Central America, the Andean Community and the MERCOSUR, while other arrangements are in place for the Caribbean. The provisions are not always an "after-thought" to a trade agreement, but can be part of the agenda-setting process, though they are on unequal footing with economic development priorities in most domestic legal and political structures. Bilateral agreements parallel to the Chile-Canada Free Trade Agreement, and the new Canada-Costa Rica Free Trade Agreement also cover similar issues, though the Chile-Canada accord focuses more on institutional cooperation, effective enforcement of domestic environmental law and harmonization of standards; while the Costa Rican accord is directed toward the generation of environmental information and capacity building.

Sub-regional environmental agreements are diverse, and are mainly focused on cooperation between national authorities rather than the creation of supranational bodies. Currently, domestic legal institutions for international ecological cooperation are limited in many countries. These SREAs often build on existing regulatory frameworks to achieve their goals, rather than develop new legislation. Few SREAs have resulted in substantial modifications to existing domestic insti-

tutional structures, and often, administrative units have simply been created within agencies to implement the accords. However, as SREAs lead to deeper integration between the economies of these nations, political expediency is forcing at least parallel, if not integrated and institutionalized structures for environmental and social policy coordination. Also, SREAs can have significant indirect effects; for example, they can support the integration of environmental priorities into traditionally economic-oriented government departments, such as the Ministry of Foreign Affairs.

To ensure effective implementation, a comprehensive SREA can include provisions for the creation and strengthening of instruments for environmental capacity building; coordination of science and traditional knowledge; access to environmental information and environmental monitoring; and, potentially, even sustainability impact assessment, among others.[41] While these SREAs have the mandate and potential to address many shared ecological challenges, they do not often have sufficient resources to do this effectively. Without their own financing, they depend on periodic allocations from member governments. Economic instruments have not been used to finance SREA activities in the Americas, though numerous national funds have been created.

It is difficult to evaluate the effectiveness of SREAs, due to challenges in linking environmental changes, which affect the accords themselves. However, it is clear that these *sui generis* regimes have greatly contributed to raising both private and public awareness of certain key environmental issues, and have promoted the implementation of national policies to achieve their goals. Each sub-regional arrangement will be reviewed extensively in the following chapters, in the context of recommendations for a hemispheric regime.

Box 5: Comprehensive Ecological Cooperation Instruments in the Americas

Comprehensive ecological cooperation instruments in integration processes:

- Convenio Centroamericano para la Protección del Ambiente (Central American Environmental Protection Agreement). San José; December 12, 1989. [5 CA]
- 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, January 1, 1994. [3 NA]
- 2001 MERCOSUR Framework Agreement on the Environment, a Protocol of the Treaty of Asuncion. [4 SA]

- Amazon Cooperation Treaty. Brasilia; July 3, 1978. [7 LAC]
- Puerto España Accord on the Administration and Conservation of the Caribbean, June 2, 1989. [11 C]
- Environmental Protection Protocol to the Antarctic Treaty. Madrid; October 3, 1991. [6 LAC]

Sub-regional institutions and arrangements:

- Alianza Centroamericana para el Desarrollo Sustentable (ALIDES), and the Comisión Centroamericana de Ambiente y Desarrollo (CCAD). (Central American Alliance for Sustainable Development, and the Central American Commission for Environment and Development).
- North American Commission for Environmental Cooperation, established in Montreal, 1994 (NACEC).
- MERCOSUR Framework Agreement on the Environment, a protocol to the Treaty of Ouro Preto, 2000.
- Comite Andino de Autoridades Ambientales (CAAAM) (Andean Council of Environmental Authorities).

Regional instruments:

- Declaración de México sobre la Preservación del Medio Ambiente en América Latina y el Caribe, Primera Conferencia Interparlamentaria sobre Medio Ambiente en América Latina y el Caribe, México, March 25, 1987. [14 LA]
- Declaración de Brasilia, VI Reunión Ministerial sobre el Medio Ambiente en América Latina y el Caribe, March 31, 1989. [23 LAC]
- Declaración de Niteroi sobre el Medio Ambiente, Conferencia Permanente de los Partidos Políticos de América Latina. Río de Janeiro, July 17, 1990.
- Declaración de Manaos sobre la Conferencia de las Naciones Unidas sobre el Medio Ambiente y el Desarrollo, February 11, 1992. [7 LA]
- Declaración de Canela sobre la Conferencia de las Naciones Unidas sobre el Medio Ambiente y el Desarrollo. February 21, 1992. [5 SA]
- Primera Reunión de Consolidación de la Comisión Centro-americana de Ambiente y Desarrollo. Guatemala; August 31, 1989.

- VII Reunión Ministerial sobre el Medio Ambiente en América Latina y el Caribe. Plan de Acción para el Medio Ambiente en América Latina y el Caribe, Un Llamado a la Acción. Puerto España; October 23, 1990. [26 LAC]
- Plataforma de Tlatelolco sobre el Medio Ambiente y el Desarrollo, Reunión Regional para América Latina y el Caribe Preparatoria de la Conferencia de las Naciones Unidas sobre el Medio Ambiente y el Desarrollo. México; March 7, 1991.
- Programa Interamericano de Acción para la Conservación del Medio Ambiente. Asamblea General de la OEA. Santiago; June 8, 1991.
- Sexta Reunión Intergubernamental sobre el Plan de Acción para el Programa Ambiental del Caribe, Relativas a la Necesidad de Instrumentar las Previsiones de la Agenda 21, particularmente su Capítulo 17. Kingston; November 18, 1992. [17 LAC]
- Santa Cruz de la Sierra, Declaration of Principles and Plan of Action For the Sustainable Development of the Americas; 1996. [34 H]
- Environment Ministers of the Americas Ministerial Communiqué. Montreal; March 30, 2001. [34 H]

Bilateral accords:

- Acuerdo de Cooperación Amazónica entre Brasil y Guyana, (Amazon Cooperation Agreement between Brazil and Guyana) 1982.
- Acuerdo de Cooperación Amazónica entre Brasil y Colombia, (Amazon Cooperation Agreement between Brazil and Colombia) 1981.
- Acuerdo de Cooperación Ambiental entre México y Brasil, (Amazon Cooperation Agreement between Brazil and Mexico) 1990.
- Acuerdo entre Brasil y Uruguay en Materia de Medio Ambiente, (Environmental Agreement between Brazil and Uruguay) 1992.
- Agreement on Environmental Cooperation between the Government of Canada and the Government of the Republic of Chile, 1996.
- Agreement on Environmental Cooperation between the Government of Canada and the Government of the Republic of Costa Rica, 2001.

2.3 Analysis of Existing Hemispheric Ecological Regimes and Trade Measures for Environmental Purposes (TMEPs)

This very preliminary survey reveals that a more detailed hemispheric inventory (*diagnostico*) is necessary. This *diagnostico* can identify which gaps are being sufficiently addressed through domestic law and policy, which are being resolved though global measures pursuant to an MEA, and which need regional intervention as the economies and societies of the Americas continue to draw more closely together. A particular focus on the way that these accords and other instruments use trade measures for environmental purposes (TMEPs) may reveal that such economic measures are fairly common in the Americas, as suggested by the analysis in the following chapter.

In terms of the five areas discussed above, certain gaps can be identified, where almost no instruments were identified. These include ecological challenges, which relate primarily to controversial natural resource policy, such as sustainable forest management, sustainable pesticide management in agriculture, transboundary movement of hazardous wastes, the struggle against soil overuse and desertification. If TMEPs were to be used in these areas, they might include certification programs to ensure market access for sustainably harvested timber or increased cooperation against illegal logging. Policies could also eliminate perverse agricultural subsidies (subsidies that promote over-exploitation) and ensure border control measures to reduce or ensure safer hazardous waste transportation and disposal. Trade measures can also promote safer use of pesticides, requiring labelling or even preventing export of domestically prohibited goods. There is comparatively little on issues formerly in the purview of municipal governments, such as the promotion of more sustainable human settlements, air pollution in metropolitan zones, the continuing need for environmental services including clean drinking water and waste treatment. TMEPs being developed in this area might include commitments not to lower standards to attract investment, mutual recognition or even harmonization of standards as well as the transfer of clean technologies and increased trade in environmental services, or environmental taxes and other controls on automobile and other emissions. There are also few instruments dealing with new issues, including respect for the intellectual property and ecological knowledge of indigenous peoples and research on genetic resources. TMEPs used in this area might include expansion of intellectual property rights regimes to protect indigenous knowledge, or policies to promote access and benefit-sharing agreements. Finally, some accords use procedural cooperation mechanisms to ensure access to environmental information, increased openness, accountability and transparency. These promote citizen participation. Instruments include sustainability impact assessment of plans, policies and programs, innovative financing measures, partnerships for capacity building or expert technical cooperation. However, there are few hemispheric

instruments, which guarantee or establish common methodologies for these practices.

As discussed above, other priorities are currently being addressed more comprehensively. International environmental instruments exist for the protection of biodiversity, protected areas, the administration and use of hydrological resources, fisheries management and marine pollution. These accords and instruments use TMEPs to achieve their goals where appropriate, within the framework of agreed upon ecological goals. For example, fisheries regimes ensure sustainable management by using quotas and other controls where necessary. Instruments to prevent marine pollution set precautionary and liability regimes in place, which include financial penalties and rights to seize or prevent transportation in unsound vessels. Endangered species regimes fiercely regulate trade in listed flora and fauna in order to promote sustainable use or conservation. However, there is little coherent hemispheric integration of scientific environmental data, ecological laws and policies. There are few methods to review the instruments being used. Finally, in many cases, there also does not appear to be much coordination among initiatives.

The emergence of instruments for ecological cooperation does not mean that challenges have been resolved. In this sense, further evaluation is needed to see how the existing instruments have contributed to hemispheric environmental improvements, including the protection of ecosystems, more sustainable use of renewable resources and the promotion of more sustainable lifestyles and livelihoods.

Endnotes

14 UNEP. *Global Environmental Outlook (GEO) 2000 Report,* (Nairobi: UNEP, 2000).

15 According to the National Wildlife Federation, (Washington: NWF, 2001, available online: http://www.nwf.org), the Western Hemisphere is home to over 5,300 threatened species and 44 per cent of the world's bird species. North and South America share 51 per cent of the world's forests, many disappearing wetlands, and open places. Habitat loss is now the leading threat to wildlife in the Americas.

16 Terencio, J. and M. García, eds. *Agenda 21 and Latin America: The Challenge of Implementing Environmental Law and Policy,* (Washington: IADB, 1994).

17 See Echeverría, R. G., ed. *Development of Rural Economies in Latin America and the Caribbean,* (Washington: IADB, 2001).

18 Keipi, K., ed. *Forest Resource Policy in Latin America,* (Washington: IADB, 1999).

19 UNEP. *Global Environmental Outlook (GEO) 2000 Report,* (Nairobi: UNEP, 2000), p. 122.

20 See Echeverría, R. G., ed. *Development of Rural Economies in Latin America and the Caribbean,* (Washington: IADB, 2001). See also the Organic Farm Research Foundation (Santa Cruz, CA: OFRF, 1999 – available online: http://www.ofrf.org).

21 The Smithsonian, WWF and IUCN. *Centres of Plant Diversity: The Americas* (available online: http://www.nmnh.si.edu/botany/projects/cpd). See also Barzetti, V., ed. *Parques y progreso: áreas protegidas y desarrollo económico en América Latina y el Caribe*, (Washington, D.C.: IUCN, 1993); and WCMC, *Protected areas of the world. A review of national systems – Nearctic and Neotropical* Vol. 4, (Gland, Switzerland and Cambridge, U.K.: IUCN, 1992).

22 UNEP. *Global Environmental Outlook (GEO) 2000 Report,* (Nairobi: UNEP, 2000), p. 124.

23 FAO. *Yearbook: Forest Resources Assessment 2000*, (Rome: FAO).

24 UNEP. *Global Environmental Outlook (GEO) 2000 Report,* (Nairobi: UNEP, 2000), p. 143.

25 WRI, UNEP and UNDP. *World resources 1994–95: a guide to the global environment*. World Resources Institute (WRI), United Nations Environment Programme (UNEP) and United Nations Development Programme (UNDP), (New York: Oxford University Press, 1995).

26 Compared to 21 per cent in Europe. See United Nations Centre for Human Settlements. *An Urbanizing World: Global Report on Human Settlements*, (Oxford University Press, 1996).

27 United Nations Environment Programme. *Global Environmental Outlook (GEO) Report*, (Nairobi: UNEP, 2000).

28 Sub-regional differences and even differences within countries can be enormous. In Chile, water availability varies from 311 m^3 per capita per year in the North to 3,000,000 m^3 per capita per year in the South. See South American Technical Advisory Committee – Global Water Partnership. *Water for the 21rst Century: Vision to Action – South America*, (Stockholm: GWP, 2000).

29 See World Water Council. Water in the Americas for the Twenty First Century, Roundtable Meeting of the Americas. Final Report, July 26-28 2000. (Montreal: 2000).

30 See Hoggarth, Sullivan and Kimball. Latin American and the Caribbean Coastal and Marine Resources. Background paper prepared for GEO-3, (UNEP. Regional Office, 2001).

31 *Ibid*.

32 CAMMA, Meeting of Ministers of Mines and Minerals of the Americas (available online: http://www.mmsd1.mms.nrcan.gc.ca/camma/vancouveren_txt.htm).

33 As indicated in background documents prepared for the March 4–5, 2002, Health and Environment Ministers of the Americas in Ottawa, Canada (online: http://www.ec.gc.ca).

34 As indicated in the Declaration of the Fourth Meeting of Energy Ministers of the Hemisphere was held in New Orleans, Louisiana, U.S., on July 30, 1999 (online: http://www.americasenergy.org).

35 For such a review to take place, at least four elements should be considered. First, a complete quadri-lingual identification of existing environmental accords to address hemispheric challenges; second, an unravelling of the multiple existing institutional structures for environmental administration aimed at addressing these problems and implementing these accords; third, a serious analysis of actual and potential dynamics of interactions between existing instruments; and fourth, an examination of relationships with other accords and instruments related to sustainable development in the Americas.

36 In the review which follows, it is noted how many of the accords, declarations and other instruments listed are signed by which countries from which areas of the Americas. In particular, LAC = Latin America and the Caribbean; LA = Latin America, H = Hemispheric, C = Caribbean, NA = North America, SA = South America, and CA = Central America. So 8 LAC would mean there were, at the time of printing, 8 signatories from Latin America and the Caribbean. This information is not available for all readers.

37 In as many cases as possible, the names of treaties have been translated to English, particularly where they involved an English speaking country or countries. However, many remain in Spanish for the purposes of this working paper document, the original of which was produced in Spanish.

38 The trade measures can range from trade restrictions to setting of standards, notification procedures and eco-labelling requirements. More examples can be found in the analytical section of Chapter 2. In order to be more effective and efficient, many international ecological accords and instruments use economic instruments to achieve their objectives. Trade measures for environmental purposes (TMEPs), established in the framework of an international ecological regime, can be useful tools for international cooperation, ensuring adherence to the regime, promoting cooperation, preventing "free riders," providing incentives for implementation, facilitating more accurate monitoring and reporting, and, in some cases, ensuring more equitable distribution of benefits from the regime.

39 Developed by the authors of the study.

40 *Bridges Journal on Trade and Sustainable Development*. Nov.–Dec. 2000.

41 In an ICTSD (1999) Regionalism, Trade and Sustainability Symposium paper, Frier lists potential mechanisms for regional environmental cooperation, including: information and consultation measures for civil society participation, environmental reporting, sustainability impact assessment of trade policies, environmental impact assessment of projects and programmes, institution building, environ-

mental information systems, environmental action plans, eco-labelling, eco-audits, technology transfer accords, technical and financial cooperation on environmental issues, cooperation to solve environmental problems and dispute settlement mechanisms. In an IISD (2000) CSD VIII intervention, von Moltke proposed that investment protocols be considered for environmental accords. In an IISD paper on Regional Integration and Environmental Cooperation in the Americas at the London RIIA Conference on Trade, Investment and Sustainability, Cordonier Segger adds eco-regional awareness raising and local action programmes, often carried out by ENGOs in support of regional objectives.

3
Winnipeg Principles Analysis of the Americas Ecological Regimes

AN INTEGRATION PROCESS IS TAKING PLACE among the countries of the Americas. This process will be more likely to advance constructively if the trade rules can foster rather than frustrate sustainability. Development and social issues, particularly income disparities, gender effects and respect for human rights, will need to be addressed. There is also a significant intervention point for environmental policy-makers to design and strengthen an independent cooperation agenda. On bilateral and sub-regional levels in the Americas, as well as in certain hemispheric ecological initiatives, innovative instruments can provide models. Using the Winnipeg Principles, this study examines these experiences and builds upon them to suggest instruments and mechanisms that, if taken into account, could help integration of the Americas to support sustainable development priorities more broadly. The following analysis focuses on the particularly complex network of 272 existing accords and other instruments surveyed above. It highlights initiatives or measures that offer lessons for the design of an Americas ecological cooperation agenda.

3.1 Environmental Integrity

"Trade and development should respect and help to maintain environmental integrity. This involves recognition of the impact of human activities on ecological systems. It requires respect for limits to the regenerative capacity of ecosystems such as fisheries and forests that are vulnerable to irreversible depletion; actions to avoid irreversible harm to plant and animal populations and species; and protection for valued areas such as designated parklands or sites of internationally recognized ecological, cultural or historical significance. Many of these aspects of the environment have values which cannot be adequately captured by methods of cost internalization, highlighting the need for other

policy instruments. Such special conservation measures may represent an important exception to normal trade rules, whether in the context of trade agreements or environmental agreements. They may take the form of trade bans or quantitative restrictions. While such measures could include unilateral trade restrictions, they should nonetheless be enacted within the context of internationally agreed criteria."[42]

3.1.1 Environmental Integrity in International Environmental Regimes in the Americas

As has been recognized by the Organization of American States, a comprehensive effort has yet to be made to compile and systematize Americas accords for environmental integrity into one cohesive or clear body of law.[43] Indeed, recent comparative reviews of national environmental protection legislation and its implementation in the Americas point to a strong need for more effective coordination on all levels.[44] However, three categories of international agreements relating to environmental integrity objectives can be identified as being common in the Americas. The first category consists of agreements that protect particular migratory or transboundary species and populations. The second is those which are formed to ensure that the productive capacity of a certain natural resource is respected, restored and managed, and the third category is those that encourage conservation and management of a particular shared ecosystem, habitat or valued heritage area. Many of these, especially in the second category, use trade measures for environmental purposes to achieve their policy goals, with varying degrees of policy effectiveness. In several cases, these measures might be crucial to the success of the agreement.[45] We argue that a fourth category of "new," comprehensive sub-regional environmental cooperation agreements can also be identified—ecological agreements which are linked to particular sub-regional integration processes. Rather than simply using trade measures to achieve their environmental goals, these agreements may have been motivated in part by the crystallization of the sub-regional economic liberalization projects.[46]

In this section, aspects of the Americas regimes for environmental integrity will be examined in the framework of the four categories identified above, with particular attention paid to the key aspects of the fourth category as potential models for the Americas integration process.

Species Conservation Agreements and the use of TMEPs

International environmental agreements can exist primarily for the conservation of particular species of wildlife, particularly migratory species or larger animals whose territory extends beyond the borders of one country. In the Americas, these treaties are often formed independently, focus on the conservation of the particular "flagship" or "totem" species, and use trade measures

as required in situations where environmental integrity objectives are threatened.

On the global level, the Convention on International Trade in Endangered Species (CITES) is a good example of this approach to the protection of endangered species, and its use of trade measures has led to its description as a trade treaty with an environmental goal. Recognizing that "wild flora and fauna in their many beautiful and varied forms are an irreplaceable part of the natural systems of the Earth," CITES regulates the international trade of animal and plant species "threatened with extinction which are or may be affected by trade" (Appendix I), or that "although not necessarily now threatened with extinction may become so unless [their trade is regulated]" (Appendix II). With certain exceptions, trade in live or dead specimens, as well as parts derived from live or dead specimens, of Appendix I species is forbidden. Permitted international movements of these species or their products is controlled through a system of import and export permits. Trade in specimens, or parts of specimens, of Appendix II species is regulated by means of export permits only. CITES permits are granted by national Management Authorities and Scientific Authorities, created by the Convention specifically for the purpose. Parties are obliged to submit annual reports to the Convention's Secretariat for monitoring of international wildlife trade by the World Conservation Monitoring Centre.[47] While restrictions are hotly debated, decisions taken under the mechanisms provided in the treaty tend to be accepted in the Americas. In particular, trade measures to prevent trade in illegally harvested endangered species, or trade which depletes vulnerable populations and affects recovery efforts, are seen as necessary and based on international choices, though controversy can arise about the means by which restrictions are implemented.

For example, perceived conflicts between global market access commitments and unilateral trade measures taken in pursuit of "totem" species protection goals led certain Asian countries to challenge the U.S. Marine Mammal Protection Act through a WTO dispute (the WTO "Shrimp-Turtle" case). As the debate developed, solutions were sought on a hemispheric level. International symposia on sea turtle biology and conservation led to the creation of an Inter-American Convention for the Protection and Conservation of Sea Turtles, with a secretariat in Venezuela.[48] While all Parties to the Convention are not assured of equal voices in certification procedures, the Convention is nonetheless a step in the right direction. The 1996 Convention is in process of being ratified, and already includes 11 Parties.

Broader mechanisms also exist to establish framework regimes for more effective wildlife population management. With regards to the conservation of species, one global environmental regime that has not received much attention

in the Western Hemisphere is the 1979 Convention on the Conservation of Migratory Species of Wild Animals, which provides a framework approach to regional environmental management.[49] Three such regional conservation agreements have entered into force.[50] Two more have been adopted but are not yet in force.[51] No such regional agreements exist in the Americas, and only one bilateral accord protects migratory animals, the 1988 Agreement on the Conservation of the Porcupine Caribou Herd between Canada and the United States.

At a hemispheric level, the 1940 Convention on Nature Protection and Wildlife Preservation in the Western Hemisphere (known as Washington or Western Hemisphere Convention) is one of the earliest attempts to establish an international protected area network. It calls for contracting Parties to: "(1) establish and maintain national systems of protected areas; (2) protect flora and fauna, both within and outside of protected areas, including trade protection; (3) develop international conservation cooperative programs and activities, particularly through the exchange of scientific and other information; and (4) take steps to protect migratory birds." While a hemispheric ecological framework was visionary at that time, the Convention remains largely unimplemented because, among other reasons, it failed to establish administrative apparatus such as a secretariat, or reports on the Parties' progress in implementation.[52]

With direct and measurable objectives, the most specific of these treaties have been quite effective overall in the Americas, and have strong symbolic value. This speaks to the intrinsic worth and social perception aspects of the environmental integrity principle. Across the Americas, concern for non-economic values of nature, particularly certain high profile species, is increasing, as is clear from the proliferation of conservation-oriented organizations and the higher profile being granted to these issues in the media. The concerns are reflected in the establishment of private and international public initiatives to increase respect for key species and their habitat. These kinds of measures alone are prone to address public concern rather than being based on sound science, and can be perceived as a luxury when economic development priorities are found to conflict with their goals. However, they are valuable to galvanize public support for conversation objectives and ethical transformations.

Ecosystem Protection and Management Agreements and the Use of TMEPs

A second level of treaties and cooperation instruments exists to address conservation and environmental management challenges for shared ecological areas. The objective, often to maintain the environmental integrity of the particular region, is directly conservation oriented, with few explicit mentions of trade.

On a regional level, these types of agreements are normally done as framework treaties, and make provision for protocols on specific issues in order to have flexibility to adjust to the changes and needs of the region.[53] One example is the 1978 Treaty for Amazonian Cooperation between signatories Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Suriname and Venezuela. This accord recognizes "the need for the exploitation of the flora and fauna of the Amazon region to be rationally planned so as to maintain the ecological balance within the region…."[54] Management of watershed basins can also be approached from an eco-regional perspective, as has been done in the Titicaca-Desaguadero-Popoo-Salar de Uyuni (TDPS) watershed, a closed drainage basin in the Andean Altiplano of southern Peru and western Bolivia.[55] Its management regime is based on an autonomous bilateral commission.[56]

These treaties and non-binding regimes draw their strength from the very specificity of the ecosystems they are designed to conserve. Rather than attempt to create new structures, many of these regimes form networks or strategies that draw upon existing initiatives.[57] A good example, on a hemispheric basis, in promoting broad cooperation for biodiversity in the Americas is the Inter-American Biodiversity Information Network, IABIN, formed after 1996.[58] As a "network," IABIN has multiple facets. On one hand, it is an Internet-based resource with common infrastructures and content held together by commonly agreed-to standards. On the other hand, it is an institutional and human network or a forum where the countries of the Americas can come together to facilitate developing and sharing of biodiversity information.[59]

Other non-binding initiatives worth examining include the 1983 Red Latinoamericana de Cooperacion Tecnica in Parques Nacionales, otras Areas Protegidas, Flora y Fauna Silvestres. These protected areas networks, which focus particularly on the development of epistemic communities of experts and mutual support, can offer foundations for a strengthened hemispheric effort in protected areas. Efforts to systematize and promote collaboration among these structures should be undertaken in cooperation with global environmental monitoring efforts. Often, lack of resources is the most important barrier to the establishment of effective protected areas strategies in the Americas.[60]

Renewable Resource Use Agreements and the Use of TMEPs

Renewable resource use accords exist to preserve the productive capacity of renewable resources, preventing their misuse and depletion. They are more common in the Americas than might be supposed, and many of them use internationally-agreed trade measures for environmental purposes (TMEPs) and other economic instruments to achieve their goals. These agreements have achieved considerable success in their respective areas, due in part to strong

incentives for joint natural resource management and in some cases, the creation of institutions with a high degree of autonomy and authority.

One example of this type of regime is the way that Andean nations restrict wildlife trade with the 1979 Convention for the Conservation and Management of the Vicuña (Lima) which succeeded a 1969 La Paz Convention for the Conservation of the Vicuña, and only permits sustainably harvested vicuña products (mostly wool) to be traded. It is one of the hemisphere's most notable conservation success stories, and uses TMEPs to accomplish its goals.[61] Another example is the licensing process for joint management of fisheries regimes found in the 1954 Lima Acuerdo relativo a la Expedición de Permisos para la Explotación de los Recursos Marinos del Pacífico Sur (Lima Agreement on Permits for the Exploitation of South Pacific Marine Resources), and other regimes such as those managed by the International Tropical Tuna Commission (Comisión Interamericana del Atún Tropical, CIAT). This commission initiated activities in 1950, and members include Canada, Costa Rica, the United States, Nicaragua, Panama, Venezuela and Mexico.

3.1.2 Environmental Integrity in the Regional Environmental Agreements (REAs)

Increasingly, regional or sub-regional issues of common concern require transboundary environmental management. In particular, challenges such as coordination of environmental laws and environmental standards, forest fires, transboundary air and water pollution, desertification, land use and floods may require uniquely regional cooperation.[62] The two best-known examples are the recent MERCOSUR Framework Agreement on the Environment and the North American Agreement for Environmental Cooperation, but another would also be the Central American Alliance for Sustainable Development, or the efforts of the Andean Consejo de Autoridades Ambientales de la Comunidad Andina (the Andean Council of Environmental Authorities).

The MERCOSUR structure, though still developing, reveals various innovative environmental cooperation mechanisms, which started as integrated into the structure of the MERCOSUR, and are now proposed almost as a parallel or separate regime for environmental cooperation.

There have been several resolutions of the Common Market Group (Grupo Mercado Comun)[63] and decisions of the Common Market Council (Consejo de Mercado Comun)[64] that touch upon issues such as environmental protection, including rules to regulate the levels of pesticide residues acceptable in food products; levels of certain contaminants in food packaging; eco-labelling; and regional transportation of dangerous goods.[65] Most progress is being made in the area of the environmental impacts of new physical infrastructures

for which an environment protocol is being negotiated.[66] In addition, meetings of the four Environment Ministers laid a foundation for cooperation in the sub-region on these issues. Linkages between trade and the environment were recognized early in the process, and the 1992 Canela Declaration created an informal working group, the Reunion Especializada en Medio Ambiente (REMA), to study environmental laws, standards and practices in the four countries. This forum evolved into the creation of a Sub-Grupo No. 6 on the environment, one of the recognized technical working bodies of the MERCOSUR. This group examines issues such as environment and competitiveness; non-tariff barriers to trade; and common systems of environmental information. It negotiated a draft MERCOSUR Environmental Protocol,[67] and in 2001, approved the MERCOSUR Framework Agreement on the Environment. This Agreement, upon ratification by member states, will be added as a decision of the Common Market Council (Consejo del Mercado Comun) to the Treaty of Asuncion of the MERCOSUR.[68]

A comprehensive treaty, the 2001 MERCOSUR Framework Agreement on the Environment, at Chapter 2, Article 4, establishes a shared objective of "sustainable development and environmental protection through the development of economic, social and environmental dimensions, contributing to a better quality of environment and life for the people."[69] This objective establishes the accord as an integrated instrument. The text of the agreement provides for upward harmonization of environmental management systems and increased cooperation on shared ecosystems, in addition to mechanisms for social participation and the protection of health. At Chapter 3, it commits member states to cooperation on the development of instruments for environmental management including quality standards; environmental impact assessment methods; environmental monitoring and costs; environmental information systems; and certification processes. At Chapter 4, Art. 8 to 11, there are provisions for the settlement of any disputes (by reference to the existing MERCOSUR dispute settlement process) and other general mechanisms for implementation of the Framework Agreement. The Annex provides a framework for the future development of protocols in three areas: sustainable management of natural resources (such as protected areas, biological diversity, biosafety, wildlife management, forests and hydrological resources); quality of life and environmental management (such as hazardous waste management, urban planning, renewable energy, and improvement of soil and atmosphere/air quality); and environmental policy (such as environmental impact assessment, economic instruments, environmental information exchange and environmental awareness programs).

Though the regime has much work to do to ensure that the promise of the 2001 Framework Agreement on the Environment is realized, the elements are there, and key civil society actors have expressed cautious optimism in this

linkage at a sub-regional level.[70] It is interesting to note that the 2001 Framework Agreement on the Environment was generated by the consideration of environmental issues from within the structures of the customs union. In this instance, it appears that the international economic negotiations took environmental priorities into account, then created a place for environmental cooperation as part of the general sub-regional economic integration process for convenience and to ensure continued political will.

The North American Commission for Environmental Cooperation

The North American Agreement for Environmental Cooperation makes environmental integrity a priority, recognizing as objectives the need to "foster the protection and improvement of the environment in the territories of the Parties for the well-being of present and future generations" as well as to "increase cooperation between the Parties to better conserve, protect, and enhance the environment, including wild flora and fauna." These objectives are assigned to an institution, the Commission for Environmental Cooperation (CEC), which is governed by a tri-partite Council of Environment Ministers promoting environmental cooperation among the three countries. Specifically, the Council will promote a cooperative work plan based on priority areas, including: establishing limits for specific air and marine pollutants; environmental assessments of projects with transboundary implications; and, reciprocal court access for damage or injury resulting from transboundary pollution. The Council may consider and develop recommendations on environmental issues, including: scientific research and technology; eco-labelling; pollution prevention techniques and strategies; and, public awareness of the environment.[71] If a persistent pattern of non-enforcement of environmental laws is identified, an appeals process also exists.[72] The institution has become the primary regional voice in North America for the promotion of environmental integrity, is served by a secretariat in Montreal, Canada, and may evolve over time to address new concerns. At present, the CEC acts to prevent potential trade and environmental conflicts, and promotes the effective enforcement of environmental law, as part of its mandate under the North American Agreement on Environmental Cooperation (NAAEC). With guidance from its Joint Public Advisory Committee, it has also established programs to link environment, economy and trade issues in North America; promote the conservation of biodiversity in the region; address pollutants; promote health; and strengthen environmental law and policy by compiling legal environmental measures in the sub-region, and reviewing existing mechanisms for compliance.[73] A program for bio-regional mapping of the sub-region has proved very useful in providing a common vision and base of knowledge for further cooperation. Elements of the NAAEC, if improved, might better protect environmental integrity, and certainly the CEC itself demonstrates the usefulness of a credible institution as part of any regional regime which seeks to harmonize environment and trade objectives.

The Caribbean

Caribbean structures for the promotion of environmental integrity have been established without clear links to the common market (CARICOM) process. These provisions appear to be functioning well as such, in particular to attract and coordinate support from foreign donors in achieving specific, measurable environmental goals. They also promote broader Caribbean cooperation on environmental issues. For example, successful initiatives have been established under the UNEP Regional Seas Program.[74] The 1983 Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region has resulted in later protocols for oil spill prevention and clean-up, and special protected areas; as well as on-going negotiations towards an additional protocol on land-based pollution.[75] To follow up on these and other initiatives, the Caribbean countries have also formed the Confederation of Caribbean States, and an initiative to establish the Caribbean Sea as a Special Protected Area was proposed by the Caribbean Ministers during their Meeting on the Implementation of the Small Island Developing States Program of Action.[76] A non-binding Caribbean Action Plan in support of the International Coral Reef Initiative has also been established. In the field of international energy policy, most initiatives are cooperation-based rather than binding. A regional energy information network for the Caribbean has been established as part of a regional Energy Action Plan and a renewable energy centre has been established in St Vincent and the Grenadines. This regime establishes a broad framework for cooperation among the islands, while particular conventions encourage environmental results. While they are not, in any formal way, linked to the economic integration process, the overall framework of cooperation in the Caribbean (which has existed since the establishment of the CARICOM) facilitates these other arrangements. In addition, the CARICOM has now established an environmental unit, which holds the potential to coordinate regional negotiating strategies for environmental accords to which Caribbean countries are Parties; promote exchange of environmental information, technical cooperation and capacity building in the implementation of these accords; and, eventually, jointly address trade and environment policy coordination.

The Andean Community

In the Andes, explicit linkages between trade liberalization and environmental integrity are only just beginning to be made. An Andean Council of Environmental Authorities (Comite Andino de Autoridades Ambientales, CAAAM) has been developed with a mission to advise the Andean Community (ANCOM) General Secretariat on environmental matters and implement, monitor and enforce environmental decisions of the ANCOM[77] and is working to develop a regional biosafety strategy for the ANCOM.[78]

The 1998 Inter-American Development Bank and the ANCOM agreement to create a non-binding Regional Biodiversity Strategy for the Countries of the Andean Tropics has provided a framework for joint new biosafety measures in the community. This regime is only beginning to emerge. In addition, at the 1999 Cartagena Summit, ANCOM Ministers made a commitment to develop, as part of a broader social agenda, an Andean Community sustainable development strategy.

The Central American Alliance for Sustainable Development

The Central American Common Market process was also linked to a parallel regional sustainable development program, which aspired to ensure that the economic integration process could support and promote multilateral cooperation on environmental integrity concerns. Various sub-regional initiatives[79] led to the ALIDES, a comprehensive sub-regional initiative that addresses social and environmental issues which might otherwise have fallen to trade negotiators to resolve. National Councils on Sustainable Development act as instruments for implementation. ALIDES was a starting point for the 1994 CONCAUSA (CONvenio CentroAmérica – USA), a partnership that promoted environmental measures such as the sub-regional conservation of biodiversity; development of renewable energy; environmental legislation standards; and eco-friendly industrial processes. Two tangible developments resulting from this linkage can be noted. First, the Central American Commission for Environment and Development (CCAD) supported the creation of the Central American Inter-Parliamentary Commission on the Environment.[80] This led to a regional Forests Convention that is now being implemented by a regional Central American Forest Council. The CCAD created a regional forestry unit to work on a Tropical Forestry Action Program, which led to the adoption of common guidelines for forestry concessions.[81] Secondly, a Mesoamerican Biological Corridor (MBC) has been proposed as a Central American network of protected areas to serve as an effective biological link between North and South America. The concept of a Mesoamerican Biological Corridor is espoused in the 1992 Central American Convention for the Conservation of Biodiversity and the Protection of Priority Natural Areas. Article 21 states the six countries' commitment to create, associated to the Central American Commission for Environment and Development, CCAD, a Central American Council for Protected Areas, with personnel and institutions related to the World Commission on Protected Areas, CNPPA, and financed by the Regional Fund for Environment and Development, as the main entity charged with coordinating regional efforts towards harmonizing policies related to and for the development of the Regional Protected Area System as an effective Mesoamerican biological corridor. At their regular meeting during the 19th Central American Summit (1997), the region's presidents approved the Central American Council on Protected Areas' (CCAP) proposal for implementation of a Mesoamerican Biological Corridor Program.

Bilateral Environmental Accords Linked to Economic Integration Processes

As evinced above, many bilateral environmental accords exist in the Americas. In terms of the environment-trade linkage, three bilateral trade agreements illustrate innovative mechanisms. First, the Chile-Canada Agreement on Environmental Cooperation (CCAEC) bears special mention in this respect. The CCAEC provides a framework for bilateral cooperation on environmental issues, committing the Parties to effectively enforce their environmental laws and work cooperative to protect and enhance the environment and promote sustainable development. Modelled on the NAAEC, the CCAEC provides a commission for environmental cooperation, the provision of environmental information and a joint public advisory council process. It also obliges Parties to consider implementing limits to specific pollutants and prohibiting the export of domestically prohibited substances, to notify each other of domestic limits or restrictions, ensure transparency through publication and access to justice, including procedural guarantees. It also has provisions for private access to remedies, establishes national secretariats to implement its mandate, and recognizes any prior commitments under other environmental accords. The annexes which phase-in the application of the agreement to Chilean environmental law have led to a comprehensive and valuable revision of environmental law in Chile.[82] A similar environmental cooperation accord has been concluded between Canada and Costa Rica, which is said to focus more upon environmental information exchange and capacity building in the area of environmental enforcement and monitoring. Finally, under the framework of the NAFTA, a technical assistance program has been established between Mexican authorities and the U.S. Environmental Protection Agency to provide an Integrated Border Environmental Plan, which channels transfers of resources and establishes a joint action agenda of collaborative projects.[83]

3.1.3 Recommendations for the Americas

Environmental integrity goals, in the Western Hemisphere as a whole, can best be achieved by international instruments established primarily for this purpose. In particular, challenges such as the need to coordinate environmental laws and standards; design cooperative strategies to address transboundary air and water pollution; provide environmental information and opportunities for participation; conserve biodiversity; and address deforestation, may require uniquely regional cooperation.[84] Each of the four types of environmental accords identified above address different needs for a broad environmental integrity agenda in the Americas. Progressive new sub-regional regimes tend to run parallel to the regional trade agreements or common markets, and can be integrated to different degrees into their structures. Many were formed to address common concerns requiring transboundary environmental management. They have broad mandates, can include institutional or dispute settle-

ment aspects, and exist primarily to promote environmental cooperation on many levels among and within the Parties.

The following procedural recommendations are made to encourage a constructive approach to strengthening environmental cooperation in the Americas:

- **Strengthen comprehensive hemispheric environmental information systems:**

  Environmental information systems are gaining importance in the context of increasing integration, especially in trade-related or trade-sensitive sectors. In the Western Hemisphere, obtaining comparative or systematized information on the environmental situation is still, in itself, a significant challenge. Often, key scientific information on current hemispheric environmental conditions is simply missing, so any survey of priorities or issues is perfunctory at best. Hemispheric scientific and environmental information, monitoring, analysis and access systems with compatible frameworks must be established and strengthened through capacity building. Efforts such as the Inter-American Biodiversity Information Network (IABIN) are invaluable, and there is a need to expand partnership networks and information sharing systems in support of these types of networks, as well as establishing them in other areas of hemispheric environmental cooperation. There is a strong need for information systems which can be cross-referenced, like the electronically accessible, integrated eco-regional mapping systems developed by the North American Commission for Environmental Cooperation.

- **Establish and link hemispheric "state of the environment" reporting systems:**

  It is recommended that new "state of the environment" reporting systems be built through cooperation with sub-regional institutions and instruments. A proposal has been developed by the Forum of Environment Ministers of Latin America and the Caribbean, in "An Environmental Vision for Latin America and the Caribbean," which recommends the establishment of an information exchange system, harmonized at the regional level, that is dynamic, open and decentralized, based on Internet sites of the Ministries of the Environment (or their equivalents) in the region. "Harmonized" web pages are proposed, which will reflect thematic/priority areas and the interests defined by the Forum of Ministers.[85]

- **Establish and link hemispheric protected areas networks for ecosystems and migratory species:**

  Habitat losses are a major threat to biological diversity. Better information is needed on losses of different habitat types, but cooperative action is also

urgently needed. Governments and other actors should commit to cooperative regional initiatives for the management of protected areas, and expand existing hemispheric networks for terrestrial and marine protected areas, including linkages to create biological corridors. There is also a strong need for a hemispheric strategy to enhance the conservation and sustainable use of migratory species throughout the Americas, beginning with the protection of migratory birds, and protecting wintering, breeding and migration routes of species across boundaries. In this context, analysis of key gaps and most highly endangered ecosystems, in cooperation with civil society groups active on these issues, would be extremely valuable. By focusing on key "flagship" indicator species, such as the panther or the condor, these programs could gain higher public profile and generate increased support in the region.

3.2 Efficiency and Cost Internalization

"Environmentalists, development specialists and trade economists share a common interest in promoting efficiency. More efficient production reduces the drain on scarce resources including raw materials and energy, and limits the demands placed on the regenerative capacity of the environment. Efficient use of land, labour and capital is also the heart of development efforts to combat poverty and satisfy human needs. Allowing the most efficient producers to provide the world's goods and services is the main rationale for an open trading system. Efficient resource use requires that the prices paid by producers for inputs, and by consumers for final goods and services, accurately reflect their full costs. In fact, most goods are not priced to reflect full costs (the magnitude of the distortion will vary from case to case), due to such factors as unpaid environmental costs and price-distorting trade barriers. …(H)igh priority should be attached to accurate pricing through cost internalization, in accordance with the 'polluter pays principle.' and through reduction of price-distorting trade barriers."[86]

3.2.1 Efficiency and Cost Internalization in Americas Environmental Regimes

In this section, hemispheric initiatives related to energy and water are the focus. These are key sectors not only from an environmental perspective, but also from an economic and social point of view. First, the general Santa Cruz de la Sierra framework is reviewed, then two specific issues—efficiency in the energy sector, and the hydrological resources sector. Other private sector initiatives are also reviewed. A survey of models and lessons in the sub-regional integration blocks leads to analysis and recommendations, including a summary of four specific steps that can be taken.

Summit of the Americas on Sustainable Development

As mentioned above, the Santa Cruz de la Sierra Declaration and its Plan of Action of 1996 address sustainable development and offer a "map" of the environmental objectives in the region, integrating commitments of 34 heads of State from the 1994 Miami Summit of the Americas. Even though the declaration itself refers to international environmental agreements in which the efficiency and cost internalization principle and the polluter pays principle are recognized (for instance the 1992 Rio Declaration), there is no express recognition of these principles in the text. However, it can be argued that both have been implicitly brought into the process through resolutions to promote the "sustainable use of resources (energy, water, etc.) and the use of cleaner technologies," under the premises that the private sector will finance the cost of its adoption, (though this specific point is controversial). Such lack of clarity is a common problem throughout the 1996 Santa Cruz de la Sierra Declaration itself, and its generalizations reflect intentions more than clear guidance for the design of environmental policy.

Efficiency and cost internalization is, however, found more specifically in initiatives 41 and 60 of the Plan of Action, where reference is made to cost internalization in relation to pollution, and to energy efficiency. In both initiatives, emphasis is placed on the use of mixing regulatory with market instruments—a positive step. In some instances, traditional command and control instruments have proven themselves costly and inefficient, particularly in terms of monitoring the environmental impacts of polluters. This is essential to take into account, considering the lack of resources that usually affects environmental authorities in the hemisphere.

In spite of the ambiguities in these declarations, there are real efforts in the hemisphere in order to improve cooperation on these issues. Many questions have not been addressed, but not due to lack of will. Rather, the OAS Environment and Sustainable Development Unit, the structure charged with most implementation for the 1996 Santa Cruz Declaration, does not have an official mandate to ensure cooperation on environment and sustainable development, though the OAS does have a strong mandate to promote trade liberalization.

Americas Energy Sector

According to current estimations, energy use rate in Latin America and the Caribbean will be one of the highest in the world within the next 15 years. As such, energy efficiency (and the use of alternative sources of energy) is a critical element of regional environmental policy for the coming years. Simultaneously, from an economic perspective, the supply and management of energy are increasingly decisive factors for the promotion of foreign invest-

ment and the expansion of internal productive capacity in many countries of the hemisphere.[87]

The Americas are active in the development of regional responses to the commitments adopted under the 1992 Framework Convention on Climate Change (FCCC), especially in relation to the 1997 Kyoto Protocol. In this context, a hemispheric response appeared to be developing until recently. In the 1994 Miami Summit of the Americas Declaration, section IV states that the governments will ratify and implement the provisions of the FCCC, and 59 out of the 62 energy initiatives adopted in the 1996 Santa Cruz Summit address climate change. These include provisions for financing appropriate and more efficient energy services, and for promoting cleaner technology transfers. In the 1998 Santiago Summit of the Americas Declaration, this agenda was broken down and detailed, in a process of hemispheric policy coordination. The OAS now attends the meeting of the FCCC Conference of the Parties as an official observer, and is promoting alternative strategies to mitigate the emission of green house gases, especially through diversification of energy production, development of renewable energy technology and improvement of energy efficiency. According to some estimates, these improvements could reduce rising rates of energy use and greenhouse gas emissions in developing countries of the Americas up to 25 per cent in the next 30 years. The 1992 Montevideo Declaration on Climate Change was signed by 17 countries of the Western Hemisphere, signalling a commitment to coordinated action, and an Inter-American Institute for the Investigation of the Global Change has been established with the participation of the 17 countries that will coordinate the efforts in this area. Adaptation to global climate change and vulnerability is also of especial concern to Caribbean countries. The Caribbean regional Plan for Adaptation to Global Climate Change, which involves 11 Caribbean countries, is a clear example of this interest. Recent U.S. reversals on this issue have not contributed to hemispheric cooperation.

In addition, the Initiative for the Renewable Energy in the Americas has been promoted since the 1990s. One of its goals is to promote hemispheric cooperation, including through the preparation of renewable energy and energetic efficiency projects with international financial cooperation of over $200 million. In 1997, a Declaration on Renewable Energy in the Americas was signed not only by public sector agents but also by the private and philanthropic sectors in different countries of the Western Hemisphere. Significant efforts have also been made by the Latin American Energy Organization (OLADE), which has facilitated the efforts of 26 countries in the hemisphere in developing energy policy, planning and regulation processes. OLADE is currently carrying out regional cooperation projects promoting financing for renewable energy from multilateral organisms and the private sector.

Americas Hydrological Resources

An Inter-American Hydrological Resources Network exists that focuses on strengthening alliances regarding hydrological resources in the Western Hemisphere. This network promotes efficiency and water conservation, but also takes a role in public health and sanitation policy, managing water within a broad sustainable development context. The network has initiatives to promote the efficient use of water from the consumers' and producers' perspectives through the use of educational campaigns about water conservation. This is an important element in the internalization of environmental costs, as public programs for cost internalization cannot be built without support and understanding from the consumer. Indeed, citizen concern can generate higher political will to take previously externalized costs of public good into account.

These investments are not in vain. According to recent OAS reports, there have been improvements in the majority of Latin American countries, most of which have adopted or modified their water regulations to incorporate the principles contained in the Rio Declaration.[88] Some of the changes relate to decentralization of management structures; incorporation of the participation of many levels of government, consumers and communities for a more dynamic approach; and learning to consider water as an economic good. With regards to this increasingly scarce resource, these measures hold potential to promote more efficient use. Though not without challenges in terms of distribution and equity, these programs can lead to fast, direct changes on the ground. For example, Argentina and Brazil have established pilot programs to ensure that wasteful water use is economically penalized, and other countries have promoted the rationalization of consumption tariffs to improve the efficiency of management and sanitation systems. Peru has introduced a system of tradable water property rights and Mexico has adopted the polluter pays principles by putting charging systems into place based on levels of effluents generated by contaminating entities.[89]

Americas Private Sector Initiatives

Other initiatives are also taking place, driven by multi-lateral private finance and industry actors. These programs can access data that allows policy-makers to better track results in cost internalization efforts and to change corporate attitudes in the Americas on these issues. These are two of the most essential underlying challenges in promoting cost internalization and increased efficiency. For example, a new initiative that promoted innovation in pollution regulation systems has, after six years of investigation by a World Bank project, offered encouraging empirical data showing decreases in total emissions from diverse areas of accelerated industrial development.[90] Mexico, Colombia and Brazil were included in the survey, and the results highlight the essential role of partnerships, networks and information sharing in pollution decision-making processes. Another initiative from

the private sector deserves mention: the Latin American Business Council for Sustainable Development has developed a program on eco-efficiency, which may help to generate a change of attitude in the private sector regarding the issue.

3.2.2 Efficiency and Cost Internalization in Sub-regional Integration Agreements

In the following section, we provide a brief review of cost internalization and efficiency measures in five different commercial initiatives in the Americas: the North American Free Trade Agreement (NAFTA) and 4 customs unions: the Central American Common market (MCCA), the Caribbean Community (CARICOM), the Andean Community and the Southern common market (MERCOSUR). The only agreement that explicitly addresses the trade-environment relationship is the NAFTA, and its seedling, the Canada-Chile Accord, but the MERCOSUR also makes provisions for regional measures which might prove very effective in addressing these issues over the long term.

NAFTA and the Canada-Chile Accord

The North American Agreement for Environmental Cooperation (NAAEC) does not contain any specific regional obligation regarding the internalization of costs, as its mandate is rather to provide a framework for the promotion of environmental issues based on enforcement of domestic environmental laws and regulations. While the Parties agree to promote the use of economic instruments to achieve environmental goals in an efficient and effective manner, this appears to call more for policy efficiency than more concrete internalization of costs by polluters.

The Environmental Cooperation Agreement between Chile and Canada establishes, as one of its objectives, the promotion of environmental measures that can be evaluated as economically efficient and effective. It will be interesting to track the methods by which these principles are applied to environmental measures under this accord. Evaluation of direct and indirect environmental effects of policies can be a challenging area, though if done in a comprehensive, sustainable manner, holds potential to generate very useful comparative data as to results achieved compared to economic investment. For example, the annual budget of the Basel Convention on the Transboundary Movement of Hazardous Wastes is approximately one-twentieth the average clean-up cost for a single hazardous waste site in most OECD countries.[91]

ALIDES

ALIDES mentions the protection of the environment as a fundamental principle to be respected. The Central American Commission for Environment and Development (CCAD) has been charged with promotion of the ALIDES environmental agenda. The protection of biodiversity and the development of

regional cooperation mechanisms, with particular emphasis on wilderness and biological corridors, have been main priorities. The promotion of specific efficiency and cost internalization projects have not yet become a course of action for the Commission. However, local projects have been set in motion toward the promotion of energy efficiency, in the context of appropriate, human scale technology transfer. For example, in 1986 the governments of El Salvador, Guatemala and Honduras concluded an agreement on technical cooperation known as Plan Trifinio with the OAS General Secretariat. The strategy recognizes the need for increased action in the energy sector to prevent desertification as well as emissions. Beyond reforestation, the plan recognizes the need to enhance reductions in private energy consumption through means including promotion of solar stoves and other better-designed methods of cooking and heating to encourage fuel savings.

CARICOM

In the Caribbean, certain initiatives are underway that address efficiency and cost internalization indirectly. The Conference of Ministers responsible for health policy in the Caribbean community approved the Caribbean strategy for environmental health in 1979. This strategy led to the creation of the Caribbean Environmental Health Institute (CEHI), which was given legal personality in 1988. The Institute promotes environmental initiatives, and many of its projects have focused on regional capacity building in environmental management, taking into consideration that due to high levels of poverty in the region, any environmental limits to industrial activity must be balanced carefully with economic growth, international trade and the promotion of health in Caribbean populations. In addition, various specific initiatives have been developed through international cooperation organisms. For instance, incentives were designed for the more efficient use of hydrological sources in the framework of the Caribbean Plan for Adaptation to Global Climate Change, financed by the Global Environmental Facility.

CAN

The Andean Community has developed certain environmental initiatives, mainly through the creation of the above-mentioned Andean Committee of Environmental Authorities, which advises the General Secretariat in environmental issues. While the CAAA is perceived more as a discussion forum than a decision-making entity that can legally commit its members, its broad biodiversity strategy (adopted for the members of the community), has created committees for genetic and plant resources. The framework that has been set in place may encourage investments and operations which internalize the hidden benefits of biological diversity to local communities. However, it will take time to discover whether this new policy ensures that these resources are used more efficiently, or benefits are more equally shared.

MERCOSUR

The MERCOSUR customs union has been relatively successful from the commercial point of view, in spite of recent challenges to financial stability in Argentina. The 1991 Treaty of Asuncion, makes explicit reference to the environment, and the 1996 Sub-Group 6 is cooperating directly for the internalization of costs. Indeed, in this mandate, governments recognized the need for increased "promotion of surveys to evaluate and include environmental costs in the total costs, in order to ensure that environmental protection conditions and competitiveness are on a more equitable footing." In spite of this progress, it is clear that limited attention has been granted to environmental priorities in the sub-region, compared to commercial ones. While interesting, the 2001 MERCOSUR Framework Agreement on the Environment awaits final ratification, and its protocols are not yet negotiated. This protocol does not have among its explicit objectives the internalization of environmental costs, however, it plans to act on these issues in a concrete way. The protocol proposes the harmonization of certain environmental standards, which could facilitate the involvement of the private sector in the issue.

3.2.3 Recommendations for the Americas

- **More attention is needed for cost internalization and efficiency in the Americas:**

  There is a clear gap between the status of the cost internalization principle in international environmental law and its operationalization in environmental regulation in the Americas, as reflected in the lack of clear commitment to the concept in the 1996 Santa Cruz Declaration. There are multiple factors that may explain this failure. From an economic perspective, it is clear that there are not yet sufficient resources to finance a technological transformation of industrial sectors that externalize environmental costs. From an institutional point of view, limitations can also be detected which impact general effectiveness of environmental policies (inefficiency, lack of technical bodies, obsolete regulatory frameworks). In terms of political economy, there is another factor that affects the implementation of cost internalization: governments receive strong pressures from the productive sector to avoid adopting environmental regulation which may affect the competitiveness of their products and services with regard to external competitors. As long as fears exist with regards to competitiveness, this pressure will also exist.

  However, despite these limitations and fears, there have been advances in the region. These may not be taking place as fast as environmental communities now desire, but are still recognizable improvements. As mentioned above, programs have been developed regarding environmental

efficiency in energy and hydrological resources. The more successful projects have been those that involve hemispheric initiatives or regional organisms—this is clearly an area for increased cooperation in the Americas. A possible reason for the success in certain sectors is the targeted financing for initiatives and high-level technical assistance. These specific solutions provide incentives for the private sector to get involved in cost internalization initiatives and efficiency improvements.

Case study tracking and dissemination among private sector actors is also valuable in the region.[92] Certain business actors resist cost internalization as they fear that it may increase prices, affecting competitiveness of the enterprise or sector. In this sense, the role played by the World Business Council for Sustainable Development in Latin America in the promotion of efficiency is innovative, because it has the potential to attract new actors from the private sector without the impression of being forced by regulatory agencies. The concept of eco-efficiency is seen to be based on the experiences of the Americas private sector and, therefore, applicable to industry.

- **Promote environmental efficiency in the hemispheric integration process:**

  Since the Summit of the Americas in 1994, 34 countries of the Western Hemisphere have committed to creating a free trade zone of goods and services by 2005. How can environmental regimes take advantage of the integration process to promote environmental protection, so that if environmental externalities are increased by rising production of goods and services, and their transportation, the overall gains are still positive in economies and the environment of the Americas? Even if freer trade increases wealth, which might potentially finance environmental policies, this process is not automatic. As such, if the FTAA is to exist, it will be essential to strengthen an environmental regime in the Americas which can mitigate these impacts: efficiency and cost internalization are among the basic principles upon which the regime should be constructed. Trade measures are a valuable tool for international environmental accords in the Americas, and have been used extensively by governments to make regimes more efficient and discourage "free riders." For example, CITES and the Montreal Protocol are well documented as having used trade measures to ensure that countries could not gain competitive advantage by failing to put conservation or anti-pollution measures into place.[93] These measures are taken pursuant to and as part of integrated structures based on international cooperation, and can play a key role in meeting the objectives of hemispheric integration and environmental cooperation. The governments of the Americas, and actors in the trade and environ-

ment debates, should recognize and strengthen the effectiveness of trade measures for environmental purposes taken pursuant to the international environmental accords in the Americas.

- **Strengthen sectoral cost internalization programs and generate comparable data:**

  The promotion of cost internalization and efficiency in sectoral programs related to energy and hydrological resources is a crucial advancement which deserves recognition and support. In particular, these initiatives have engaged the private sector with good results. However, not everything should be the responsibility of producers. Energy efficiency also has to be understood and promoted among consumers. In this regard, information to the public is essential to promote a more conscious use of resources, though existing disparities render this difficult, and price mechanisms can be inappropriate due to potential inequities. Initially, more aggressive public campaigns are needed to stop inefficient use of energy and water and to build consumer awareness of the need to have strong environmental authorities and environmentally concerned institutions in the region. In the absence of a hemispheric plan, pilot projects should be tested, as these may help to identify the most suitable environmental management models for the Americas. Much can be gained by the systematization and exchange of experiences. In this sense, the environmental departments of OAS, IDB and the World Bank can play a key role as technical units.

Five Potential First Steps

Five actions can be taken over the short term to set an efficiency and cost internalization agenda for the Americas:

1. governments should set a realistic time framework of 10–15 years, for the commitments that have already been embarked upon in the action plans;
2. governments can concentrate, in the context of new international trade negotiations or other sectoral accords, on the elimination of perverse subsidies, particularly in the agricultural or fisheries sectors;
3. inter-governmental organizations, civil society groups and governments should support and strengthen initiatives to convert external debt into cleaner production funds;
4. economic analysis should be integrated into the environmental regulatory processes and environmental assessments, in turn, should be made part of economic and trade policy-making; and

5. governments, scientific institutions and private sector actors in the Americas need to set monitoring and analytical systems in place that generate comparable economic and environmental data.

Without these systems, attempts to integrate economies in a way that respects the environment are meaningless. Decisions cannot help but be uninformed as to the environmental costs of policies, and the potential savings.

3.3 Equity

"Equity relates to the distribution both within and between generations of physical and natural capital, as well as knowledge and technology. Inequity and poverty contribute significantly to environmental degradation and political instability, particularly in developing countries. At the same time, past use of natural resources already limits the choices available to present generations, particularly in developing countries. [M]any developing countries will require additional resources and strengthened capacities if they are to adequately protect their environmental resources, including many which are of global significance. Other measures to achieve equity and poverty alleviation include strengthening developing country capacity to develop indigenous technologies and to manage environmental resources, and creating mechanisms for the accelerated transfer of existing clean technologies. Continued progress in resolving the debt crisis is also important, as is an increase in transfers of financial resources."[94]

3.3.1 Equity in the Americas Environmental Regimes

The principle of equity reaffirms the need for justice in all contexts. This principle can be used to analyze environmental regimes, supporting environmental improvement for sustainable development; and addressing common concerns which can otherwise cause disruption and poverty. Equitable environmental regimes can help to forestall social problems resulting from inappropriate pursuit of economic goals.[95] As mentioned, TMEPs are being used increasingly in the Americas as a policy tool, either to directly implement MEAs, to discourage "back-sliding" or "free-riders," or to encourage broader participation in environmental regimes.[96] From an equity principle viewpoint, such provisions can correct different kinds of inequities such as inequity among generations, countries, societies. They can also reverse negative situations derived from those inequities, such as environmental degradation.

Implied references to the principle of equity are found in different contexts throughout international and hemispheric environmental laws in the Americas. First, equity regarding decision-making power suggests that all nations must have access to the same information in order to have the potential readiness to make an appropriate decisions on different levels. This can be achieved by promoting further empowerment, capacity and efficiency in deci-

sion-making, with special attention paid to the participation of indigenous peoples.

Second, environmental regimes in the Americas contain mechanisms that promote equity between nations, particularly those that use trade measures for environmental purposes. Sovereignty, and the principle of common but differentiated responsibilities, provide the foundations for this aspect of equity. For example, the rules and procedures with regard to liability and compensation are designed with equity criteria in mind, as if one country becomes exposed to environmentally hazardous agents due to activities in another country (as applied in the Basel Convention). The criterion is also applied in one-country-one-vote and other equitable voting conditions.

Third, equity between contracting Parties concerns equitable sharing of benefits derived from activities carried out by common participation of two or more Parties or elements. This criterion usually takes into particular consideration the interests and needs of developing states, communities or regions. For example, it is an essential principle for the bio-prospecting agreement concluded in 1992 between transnational giant Merck and Costa Rica's National Biodiversity Institute (INBio) that provides rules for equitable distribution of benefits.[97]

Fourth, equity among/within generations concerns the responsibility to manage natural resources in a way that permits future generations to enjoy and manage those natural resources. Equity among/within generations seeks to avoid over-exploitation or extinction of important biodiversity assets. Currently, this is stated mostly in preambles.[98] At a hemispheric level, few agreements specifically address this type of equity, and while most of the domestic environmental laws in the Americas recognize the concern, it is not sufficiently enforced.

Fifth and finally, equity regarding backgrounds takes into account diverse historical and current social, economic and technological conditions. Due to differences in economic size, territory size, biodiversity, and other aspects, the status of countries is taken into account. Developing countries, for instance, are given preferential status when considering financial arrangements[99] or deadlines for compliance with control measures.[100] This is one of the most advanced aspects in environmental regimes. From older conventions, such as the 1958 Geneva Convention on the High Seas, to the 1994 Montego Bay Convention, this type of equity has been reinforced in environmental regimes. It is the most developed, and preferential status is provided to countries that have high levels of biodiversity such as Brazil, Mexico, Colombia, Costa Rica and others in the Americas.

Among the five aspects of the equity principle, respect for distinct backgrounds is the most developed in Americas environmental regimes. It is nec-

essary to strengthen the provisions relating to equity among/within generations and equity among contracting Parties. Furthermore, the principle in general should be more explicitly referenced and implemented.

Examples of equity in environmental regimes are prevalent in current hemispheric accords. For example, the 65 initiatives adopted in Chapter 2 of the Bolivia Plan of Action, in the areas of health, education, agriculture, forests, biodiversity, water resources and coastal areas, cities, energy and mining[101] are seen as a means of strengthening the social aspect of the sustainable development agenda. The 1996 Santa Cruz de la Sierra Plan of Action includes initiatives on sustainable agriculture, sustainable forestry and biodiversity conservation, all of which discourage unsustainable exploitation of natural resources. Three principal land management issues at the 1996 Bolivia Summit on Sustainable Development were the use of agricultural chemicals; soil conservation and desertification; and the preservation of traditional practices. These commitments have been followed through in some cases. Uruguay, Costa Rica and Ecuador have made serious commitments to reduce the intensity of use of agricultural chemicals. Other countries in the Caribbean and Central America have introduced integrated pest control and biological substitutes for pesticides, or have instituted organic farming. Countries seek sustainable development of biological diversity in tandem with fair and equitable income distribution, and recognize a key role for indigenous people, especially in the management of forests.[102]

Even though these initiatives have encouraged sustainable development practices, international environmental instruments have been hampered by lack of implementation. Biological and cultural diversity for indigenous peoples is declining due to a lack of firm commitment to ensure that local communities are fully involved in the sustainable management of natural resources in their ecological regions.[103] A principal challenge is the perpetual lack of financial support for such programming.

On a global level, examples of institutional mechanisms founded upon the equity principles include the 1989 Basel Convention. In this treaty, equity of decision-making power is recognized as each Party is obliged to take the appropriate measures in cooperation with activities of other Parties and developing countries have specific rights over decisions on the transboundary movements of hazardous wastes.[104] Equity between nations is also recognized, referring to the sovereign rights of the signatory Parties, which may impose additional requirements, consistent with the provisions of the convention.[105] In addition, equity among economic, technological and social backgrounds is accepted, in provisions that ensure appropriate measures to empower the technological capacity, in particular that of developing countries, and to reduce, to a minimum, the generation of hazardous wastes, taking into account social, technological, economic and historical aspects.[106]

Another example is found in the Montego Bay United Nations Convention of the Law of the Sea, which shows respect for equity in several provisions. In terms of equity between nations, the Convention promotes cooperation for the effective transfer of marine technology to states, particularly to promote favourable conditions for the conclusion of agreements, contracts and other similar arrangements, under equitable and reasonable conditions, at Article 269 (b). Provisions protect equity between contracting Parties by promoting equitable sharing of commercial benefits among the Parties.[107] With reference to equity within generations, Article 140, in Section 2 regarding "Principles Governing the Area," refers to the benefits for humanity as a whole, as a means of implementing equity in this aspect. In terms of equity among backgrounds, this Convention provides for the special requirements of developing countries, as they are in a disadvantaged position when surpluses are harvested. Also, the accord recognizes the need to set up equitable arrangements on a bilateral, sub-regional or regional basis to allow for participation of those developing states.[108]

Another global example is the 1987 Montreal Protocol to the Ozone Convention. Article 5 on the "Special Situation of Developing Countries" lays out an institutional mechanism to address equity issues. In paragraph 1 it is stated that, in meeting their basic domestic needs, developing countries are allowed to delay for 10 years and their compliance with the control measures is set out in articles 2A to 2E.[109] In addition, article 9 on "Research, Development, Public Awareness and Exchange of Information," and article 10 on the "Financial Mechanism" take into account, with particular references, the needs of developing countries. For instance, the multilateral fund is financed by developed countries only, and transfers are expected to occur under fair and most favourable conditions.

And a final, most recent global example is constituted by the fund that is established under the Kyoto Protocol for assistance to implementation of the Clean Development Mechanism in developing countries.[110]

Regionally, the 1940 Convention on Natural Protection and Wildlife Preservation in the Western Hemisphere, presented some positive legal mechanisms regarding equity in the protection of nature. However, it did not take into account the needs of human populations living in protected areas, especially from non-wood resources. As such, environmental accords with a pure conservation focus may promote the conservation of nature but neglect the conservation of cultures or peoples. This seems particularly unfair for indigenous peoples, they are often those who prove to care most for the resource. On a sub-regional level, innovative aspects of the nascent ANCOM regime include provisions in the 1996 Andean Pact that empower the national authority and indigenous Afro-American and local communities in each coun-

try as custodians of traditional knowledge and resources, to grant prior informed consent to potential users in return for equitable returns.[111]

Equity can also be ensured through the provision of new and additional funding. In most countries, the environmental sector is subsidized mainly by government funds, with resources coming from national budgets, donations, grants, transferable compensatory certificates, fees, loans, contribution legacies, fines, indemnification, auction sales of confiscated products and other resources determined by legislation.[112] In recent years there has also been important support from international aid and bilateral technical cooperation programs, aimed mainly at setting up and strengthening environmental institutions. In the Americas, top actors are UNDP including, through Capacity 21, DESA, the World Bank and the IDB, the OAS, ECLAC and UNEP. The creation of special funds is also a recent development.[113] National examples exist in Argentina, Bolivia, Brazil, Chile, Costa Rica, Ecuador and Uruguay,[114] and some of these are oriented particularly to NGOs. Other funds relate to specific environmental issues.[115] And on a bilateral level, the Agreement on Cooperation for the Protection and Improvement on the Environment in the Border Area between Mexico and the U.S. recognizes "the importance of a healthful environment to the long-term economic and social well-being of present and future generations of each country as well as of the global community."[116] Article 1 of the Agreement founds its provisions for environmental protection in the border area upon the principles of equality, reciprocity and mutual benefit.

In general, equity is being increasingly recognized in the Americas environmental regimes, particularly due to the strengthening of links to social issues. But there is more to be done, particularly in the Americas, where important biological assets and indigenous cultures still need special protection and empowerment.

3.3.2 Recommendations for the Americas

Currently, the equity principle in the environmental regime is only partly being taken into account in the Americas. Global and regional laws should be more explicit, referring to mechanisms and institutions that can strengthen the application of this principle. The following recommendations are intended to support adherence to the equity principle:

- **Support the principles of common and differentiated responsibility and benefit sharing:**

  There must be a recognition of the common and differentiated responsibilities for environmental protection, with provisions made for the balanced participation of unequal partners in environmental accords. As shown above, regimes such as the Merchk-INBIO accord, or the ANCOM benefits-sharing provisions have been established, either

between developing countries in the Americas and larger corporate actors, or between countries and communities. These innovations provide for equitable sharing of biological diversity benefits, and for biosafety. Such mechanisms should be strengthened and extended as part of new regimes at the sub-regional and hemispheric level.

- **Provide new and additional funding to cover the costs of new obligations:**

  Financing issues must be discussed as part of any initiative that might result in additional obligations or activities for already over-stretched environment ministries anywhere in the hemisphere. New and additional funding must be provided to ensure the participation of smaller economies and marginalized voices in the process of negotiations and implementation of environmental accords, to avoid situations where important communities are excluded. Existing funding initiatives might also serve as models, such as those that take advantage of the restructuring of bilateral debts with the United States (the Fund for the Americas), or the specially targeted funds mentioned above in the context of the Montreal Protocol. In establishing these provisions, advice could be obtained from the Inter-Agency Technical Committee of the Forum of Ministers of the Environment of Latin American and the Caribbean, and the developing countries may need to carefully consider manners to link the agendas with commercial or other benefits.

- **Re-negotiate foreign debt provisions in a sustainable development context:**

  The foreign debts of heavily indebted poor countries in the Western Hemisphere must be re-negotiated, so that developing countries have equal opportunities to generate resources that go first to cover the basic needs of their citizens.

3.4 Openness

"Openness comprises two basic elements: first, timely, easy and full access to information for all those affected; and second, public participation in the decision-making process. It is essential for the formulation and practical implementation of environmental and development policies… National and international rule-making and dispute settlement should be transparent, seeking, when appropriate, scientific and technical advice on environmental and developmental impacts and soliciting the views of the public, including specialists in relevant areas to the dispute settlement process."[117]

3.4.1 Openness in Americas Environmental Regimes

Openness is one of the pillars of the development of democracy. Applied in the ambit of international institutions, it is a starting point for more demo-

cratic institutions in an increasingly integrated world. The existing democratic deficit is still a serious challenge for the Americas, due to asymmetrical power relationships among nations, and institutional weaknesses in many national and inter-governmental systems. Openness means access to information, and access to the decision-making process, but it should also include provisions to ensure access to justice.[118] While there have been important advances in recent times, citizens still have trouble gaining access to decision-making processes, even when these have direct repercussions on their lives, and no legal appeal to justice. Environmental regimes in the Americas have been among the most progressive systems in providing for increased openness. Some of the best examples of innovative mechanisms for increased transparency and public participation are found in the multilateral environmental accords (MEAs) that many countries have ratified. In this section, examples from global, regional and sub-regional environmental regimes are reviewed, and recommendations are made for implementing increased openness in the Americas.

The Basel Convention and the Protocol on Responsibility and Compensation

The Basel Convention, ratified by 21 countries in the Americas, is designed to address the problem of transboundary movement of hazardous wastes. This can directly affect communities, and as such, instruments for openness exist in the accord. Information is treated as an exclusive right of the member states, generated by and circulated among state Parties, precluding a stronger role for the Secretariat. A prescribed openness appears in article 3.4, where states agree to provide information (supplied by the Secretariat) regarding the classification of toxic wastes and handling requirements to exporters. This is expanded in article 4, where states agree to take appropriate measures to cooperate with other states and organizations with a direct interest, ensuring distribution of information on transboundary movement of hazardous wastes. Basel is stronger in providing access to the decision-making process. Article 15 grants direct access with observer status to negotiating sessions and Conferences of the Parties (COPs), for any national or international organization, governmental or non-governmental, with competence in the field of hazardous wastes. Article 16 also grants groups the right to provide information to the secretariat to be transmitted to the members. These measures are only partially successful, as lack of intervenor funding means that civil society representation is generally dominated by business lobby groups, their detractors from large international NGOs and NGOs from OECD countries. The third aspect, access to justice, is left mainly to mechanisms provided by national authorities.

The 2001 Protocol on Liability and Compensation to the Basel Convention is the most significant source of examples. The objective of promoting inter-

nal transparency is recognized in various provisions (article 3.6b, article 10.2), in particular through the obligation to inform the Secretariat of implementation measures. By publishing any non-restricted reports, the Secretariat also informs citizens. But the most interesting aspects of the Protocol are its provisions for access to justice. The Protocol establishes that exporting states will hold civil responsibility for damages caused by the transport or disposal of hazardous wastes. Under certain conditions, it even grants redress by holding individuals liable for damages. There is the possibility for private citizens and legal entities to seek reparation, within a 10-year prescription period, with tribunals empowered to adjudicate cases. The United National Economic Commission for Latin America and the Caribbean (CEPAL) has initiated a regional process of consultations for a sub-regional accord on the transportation and disposal of hazardous wastes in Latin America and the Caribbean. The proposed regime would be strictly delineated by the Basel Convention. The proposal has potential to address one of the most serious barriers to openness, by establishing a regional network of centres for capacity building and technology transfer on these issues.

The Convention on Biological Diversity and the Biosafety Protocol

With the notable exception of the United States, most countries of the Americas have ratified the 1992 Convention on Biological Diversity (CBD). The CBD exists for the conservation of biological diversity, the management of genetic resources and sustainable use of its components, and just and equitable sharing in the benefits that derive from the use of genetic resources (article 1). It provides for transfer of appropriate technology, access to biological resources (in accordance with other rights) and appropriate levels of financing.

CBD mechanisms to facilitate public access to information are not all treaty-driven. While article 17 mandates that the Parties will facilitate the exchange of information, it does not clearly state whether this exchange is restricted to government agencies, or if it also includes the general public. There is an accountability system, outlined in article 26, which requires periodic reports from Parties to the COP, but no direct duty to ensure general public access to these reports. Article 23.5 opens space for non-governmental organizations to participate in the CBD. In addition, the Secretariat plays a key role by reaching out to public and civil society actors. It ensures that, in practice, the regime remains open and informative. Indeed, it has impulsed and supported the establishment of hemispheric biodiversity scientific networks and clearing-houses. In an innovation at article 10, mechanisms of public participation are also opened to industry sectors and indigenous peoples groups, recognizing the need for close collaboration in decision-making processes. The importance of industry participation is also highlighted in article 16, which refers to the transfer of new technologies for biodiversity conservation. Indigenous peoples'

involvement is seen as crucial in the implementation of *in situ* conservation mechanisms and benefit sharing, and this is noted in article 8. As such, the CBD offers several examples of specific mechanisms to provide for public participation and exchange of information with the general public.

Though almost untested to date, the 2000 Cartagena Protocol on Biosafety to the CBD has a much more transparent mechanism of information dissemination that is directed through a Biotechnology Information Clearinghouse. This system uses Internet technologies to achieve many of its goals cost-effectively. Article 23 also establishes a duty to promote public participation through education and awareness raising in the national context. The Cartagena Protocol, should it prove effective, will demonstrate a mechanism to defuse serious public concerns through information and participation, but does not provide such clear measures for international liability or access to justice.

The United Nations Framework Convention on Climate Change and the Kyoto Protocol

Most countries in the Americas have ratified the UNFCCC, though its Kyoto Protocol is still seeking further support. The FCCC has a series of provisions to facilitate access to information, and several public participation mechanisms. At the international level, the right to access information is exercised through the obligation of the Parties to present reports made public by the Conference of the Parties and the Secretary. In practice, debates can still be limited to state Parties and certain international organizations with the resources to follow debates. At the national level, the FCCC also provides access to information to individuals regarding climate change and its effects, though this is more limited. Finally, in terms of access to justice in case of environmental disputes, individuals or non-governmental organizations—or even state Parties—have not gained a mechanism that permits claims. As such, the FCCC addresses the principle of openness, but in a limited manner. The Kyoto Protocol does not build upon openness in the FCCC in the same way that other Conventions have been updated on these issues, since the majority of the provisions of the Convention apply to the Protocol as well. However, the private sector, non-governmental organizations and the scientific community participated in the negotiations. In situations where governments find themselves paralysed, these partners and several inter-governmental agencies, such as the EU, have proven themselves by advancing the goals of the accord.

The Inter-American Strategy for Public Participation

Existing inter-governmental structures could also serve as a tool for openness, providing institutional Inter-American support to implement otherwise forgotten commitments. This depends on the mandate they are given. The 1996 Santa Cruz Summit Declaration affirmed the need for full integration of civil

society into the design and implementation of sustainable development policies and programs at the hemispheric and national levels.[119] Coordinated by the Environment and Sustainable Development Unit of the OAS, the Inter-American Strategy for Public Participation was designed as an open and transparent process to implement this mandate.[120] The primary goal of the ISP is to "promote transparent, effective, and responsible public participation in decision-making and in the formulation, adoption and implementation of policies for sustainable development in Latin America and the Caribbean." Several aspects provide models for future hemispheric openness instruments. First, ISP has sought internal transparency by actively soliciting input from ISP project members and stakeholders.[121] Second, the strategy is pitched to address the various relevant levels. Most obligations require action at the national level.[122] However, at the regional level, consultation processes are also provided. These include regular forums for dialogue, held at high level meetings convened by the OAS. Third, ISP uses case studies and concrete examples to be more accessible. It has established public participation demonstration sites in the Portland Bight, Jamaica; the Gulf of Honduras; (transboundary: Honduras, Belize and Guatemala); and the Bay of Ferrol in Chimbote, Peru. Fourth, ISP takes legal frameworks into account through a legal inventory and case studies. The inventory provides the first empirical assessment of participation provisions in environmental law in the Americas, while case studies offer a more complete picture of how these laws function (or fail to function) in practice. Fifth, to share data, an information network is contemplated. Indeed, a pilot regional network has been developed for disseminating information about public participation approaches in biodiversity and international waters programs. Finally, the strategy includes components on technical assistance and training, which provides for these needs in the region.

3.4.2 Openness in Americas Sub-regional Environmental Accords

The North American Agreement on Environmental Cooperation

The NAAEC is a particularly good model for openness in a regional environmental agreement, testing various innovative mechanisms with some degree of success. This has granted it some legitimacy in the eyes of civil society organizations in North America. One reason is that efforts are based on a firm mandate. The preamble of the NAAEC recognizes the importance of civil society participation in the conservation, protection and improvement of the environment. Regarding access to the information process, NAAEC establishes a series of provisions related with the general public access to information at all levels. Within the boundaries of each country member, according to article 2, Parties should periodically produce reports about the state of the environment that have to be made public and administrative and legal procedures are contemplated to guarantee access. Similar provisions are in place regarding public

participation, one of this mechanisms is established in article 9, mandating that the Council hold public meetings in all its ordinary sessions and consult with non-governmental organizations, including independent experts, in the decision-making process. In particular, the Joint Public Advisory Council, is a useful innovation. JPAC hosts a web site, listserve, consultations and public meetings on issues of interest to citizens, and provides a mechanism for civil society groups to feed into the work of the NACEC.

Regarding access to justice, the NAAEC contemplates an array of access mechanisms to resolve environmental controversies at the national level, mechanisms that are reinforced with a system of access to information. There is also the possibility for individuals or organizations to file complaints that will be investigated outside their boundaries, with the intermediation of the Council of Environmental Ministers according to provisions in articles 10, 14 and 15. Finally, it should be noted that the NAFTA itself grants controversial access to closed tribunals for investors in Chapter 11.[123]

The CARICOM Civil Society Charter

The Caribbean region is far ahead on its formal mechanisms for the participation of civil society. First, in 1997, a Civil Society Charter was ratified, which recognized the need for participation from a wide range of actors. This Charter is now being revisited by the CARICOM, to strengthen existing mechanisms of consultation between government and civil society. Most recently, at the Seventh Special Meeting of the Conference of Heads of Government of CARICOM, the Consensus of Chaguaramas, from October 1999 in Trinidad and Tobago, Community leaders recognized the important role of civil society in the ongoing integration process. Representatives of the region's private sector, civil society groups, labour, government, youth and the media are developing a CARICOM Forum. The forum will examine issues such as reform of the Caribbean's education system and its relationship to employment, productivity and technology acquisition; recapturing/retaining migrating skills; instruments at the regional and national level to promote domestic savings, and focusing on the Caribbean as a "zone of peace." These would be elements in the search for a "New Model of Economic Development" for the Caribbean.[124]

3.4.3 Recommendations for the Americas

While participatory processes are generally recognized for the implementation stage of the different accords and regimes, a more complicated question relates to participatory processes and transparency during the negotiation and elaboration phase of these regimes. These recommendations refer mainly to the implementation phase.

- **Recognize the need for access to information, participation and justice:**

  Processes of democratization, empowerment, capacity-building and good governance at all levels are preconditions of openness in the Americas. As shown in the Aarhus Convention, three key aspects of openness are access to information, access to mechanisms for civil society participation and access to justice. Any new regimes for environment or trade cooperation can, and should, include provisions to ensure that these conditions can be met. The above-mentioned mechanisms of the Basel Convention Protocol on Liability and Compensation, the UNFCCC and the CBD for particular communities (such as indigenous groups), provide examples of ways to ensure openness in international environmental regimes.

- **Promote new technologies for public information and discussion:**

  Environmental regimes can use new technologies, such as clearinghouses, discussion groups and web sites, to ensure that citizens have better access to information. The examples provided above in the new CBD Protocol on Biosafety offer potential starting points. It is also possible to mandate, directly, for mechanisms to ensure that citizens and civil society groups can become more involved in decision-making processes at all levels. Just as in the CBD and Basel Convention, the Secretariats of REAs can play a key role in ensuring that processes exist and are used in practice. Models can be found in the MERCOSUR Technical Working Groups processes, as well as in the work of the Inter-American Strategy for Public Participation. These extra efforts of Secretariats support civil society participation, and just as in the Kyoto Protocol, can also lead to a stronger regime if governments find themselves blocked. An excellent example of civil society involvement is the impetus created by the 1997 Civil Society Charter of the CARICOM. A Hemispheric Civil Society Forum process, building on the experiences of the Peoples' Summits of the Americas, can re-invigorate public interest, and bring in diverse sectors such as those identified in the 1996 Santa Cruz Summit agenda (and in the original 1992 Agenda 21). Such models should be built upon in the upcoming debates surrounding the Americas Summits process.

- **Encourage public confidence by providing access to justice:**

  Environmental regimes must have effective mechanisms to encourage access to justice and resources, and integration regimes do not necessarily resist these structures. Of the MEAs examined above, the Basel Convention's new Protocol on Liability and Compensation offers a model. Access to justice does not always mean direct civil society appeal to courts or tribunals, though this has might be most effective. It can also mean a complaints procedure that allows non-governmental organizations

to challenge governments in particular situations where clear violations or non-enforcement of domestic environmental law have been observed. As seen above, examples of such procedures—which have been developed by the Commission for Environmental Cooperation, and offer potential models—exist in the North American Agreement on Environmental Cooperation.

- **Build civil society capacity, analysis and resources:**

  While opportunities can be created by accords or mandated by governments, it is the responsibility of civil society and other groups to take these opportunities. Often, these groups and marginalized communities lack the very capacity, analysis and resources to take advantage of spaces for dialogue. This leaves many formal channels underutilized, particularly in environmental regimes, and produces disparities in regional and sub-regional representation that could hinder the development of effective processes on the hemispheric level. The centres proposed by CEPAL to support regional implementation of the Basel Convention, the regional information networks created by the CBD to encourage sharing of information and capacity, and the work of the ISP all offer examples. These processes can build capacity, channel dialogue and promote exchanges of views and information. Recommendations for a new hemispheric mechanism or institution, civil-society driven, to lead this mandate, are detailed further in the general conclusions of this book.

3.5 Science and Precaution

"In the development of policies intended to reconcile trade, environment and development interests, science, in particular ecological science and the science of complex systems, can provide the basis for many necessary decisions, including the suitability of health, safety and environmental standards. It is… also essential in certain instances to adopt a precautionary and adaptive approach that seeks the prevention and easing of environmental stress well before conclusive evidence concerning damage exists, and which adapts policy as new scientific information becomes available."[125] Such an approach should include transparent efforts to identify and clarify the changing risks and to relate the risks to benefits and costs of corrective measures.

3.5.1 Science and Precaution in Americas Environmental Regimes

In the Americas, scientific inquiry is an essential foundation for regional and international environmental regimes. Information has generally become more available on environmental issues.[126] National-level programs to develop information systems and data management have been created in support of environmental policies, but they are still at an early phase and their impact on decision-making cannot yet be assessed.[127] The most common problem in

collecting and organizing environmental information is the incompatibility of data among different agencies and different countries, but in certain areas, there is still significant scientific uncertainty. The norms of environment accords permit Parties to take action to prevent or mitigate projects that may present serious damage to the environment and public health. In contrast, current trade rules work to reduce the unilateral use of protectionist measures by requiring persuasive, quantitative scientific evidence to legitimize invoking a trade restriction. The precautionary principle does not reject the goal of scientific certainty, but encourages taking action to prevent harm in its absence. Environmental regimes use scientific inquiry where possible, then adopt precautionary policies. For example, while the Inter-American Institute for Global Change Research bases policy-making decisions on the most accurate scientific information available, the Organization of American States (OAS) and United States Agency for International Development joint initiative, Caribbean Disaster Mitigation project and the OAS "Caribbean: Planning for Adaptation to Global Climate Change" project (CPACC) both use vulnerability and risk assessments to achieve their goals.

Environmental regimes in the Americas have stated their commitment to using precaution in policy-making. For instance, Americas debates on nuclear non-proliferation have invoked precaution,[128] and precautionary concerns have affected policies on the transport of radioactive materials, as exemplified by the dramatic display of public resistance towards the Pacific Pintail, a Japanese vessel carrying nuclear wastes in 1995.[129] Key countries in the Americas such as Mexico,[130] Bolivia[131] and Chile[132] have recently expressed renewed commitment to precaution.

3.5.2 Scientific Cooperation and Precautionary Measures in the Americas

A survey of the regimes governing biodiversity, climate change and chemical and hazardous waste transportation further illustrates the recognition of precaution in Americas environmental and sustainable development law.

Biological Diversity and Biosafety

The Americas have a particularly important stake in negotiating a strong precautionary regime for biodiversity conservation. Many of the environmental regimes in the Americas have emulated the CBD, seeking to reconcile science and precaution in the formulation of local, national and regional regimes. They develop scientific knowledge, which is essential for measures to preserve and protect the region's biodiversity, and stress the need to harmonize national approaches for common conservation strategies. The Inter-American Biodiversity Information Network (IABIN), linked to Initiative 31 of the 1996 Bolivia Summit Plan of Action, provides decision-makers with relevant

scientific information to better develop policy related to biodiversity. It focuses primarily on the exchange of scientific information, linking scientific and policy communities. On a sub-regional level, the North American Biodiversity Network was created by the North American Commission for Environmental Cooperation (CEC) to link national, regional and international networks (such as the IABN) to share essential biodiversity information. The CEC has also coordinated a series of initiatives to harmonize biodiversity indicators and data collection methods. The MERCOSUR's Framework Agreement on the Environment proposes the development of a protocol between member nations for biodiversity conservation, using scientific criteria to establish priorities. Other sub-regional institutions such as the Comite Andina de Autoridades Ambientales have similarly devised science and precaution-based biodiversity strategies to harmonize policies between member states within the Andean Community.[133]

At a national level, precaution has also been an organizing principle. For example, Mexico, in its environmental protection laws, instructed adoption of precautionary security measures when there is an imminent risk of ecological disequilibrium[134] and precaution is also incorporated in Costa Rica's laws related to biodiversity.[135]

Finally, to address biosafety concerns, the 2000 Cartagena Protocol was negotiated under the auspices of the CBD to address potential threats to biodiversity posed by transboundary movement of Living Modified Organisms (LMOs). Similar precaution has been adopted in other environmental regimes. For example, the MERCOSUR Council of the Common Market has instructed each member to establish mechanisms based on current scientific knowledge, but the focus is still on analyzing and managing biotechnology risks.

Climate Change Regimes

Climate change regimes in the Americas have undertaken a series of initiatives based on precaution. The mandate of the Caribbean: Planning for Adaptation to Global Climate Change (CPACC) project is to prepare Caribbean countries to cope with the potential adverse effects of global climate change through vulnerability and risk assessment analysis to devise regional mitigation plans. This way, in the absence of conclusive evidence to substantiate the existence or the extent of a threat, scientific inquiry such as climate analysis, sea level trend analysis and vulnerability studies are used to assess and mitigate potential harm. A common sub-regional risk assessment methodology is contemplated and operationalized through workshops and special training sessions in coastal areas. On a regional level, the OAS-sponsored Inter-American Institute for Global Change Research is a hemispheric clearinghouse for the exchange of scientific information relevant to global change that recognizing

the gaps that exist in understanding the region's collective environment is conducting various scientific programs and improving scientific and technical capabilities in the region. This commitment towards the promotion of scientific knowledge is also expressed in the United Nations Framework Convention on Climate Change, which created a body to promote scientific research and conduct periodic reviews of the adequacy of its provisions in light of new scientific developments.

Chemical and Hazardous Waste Regimes

Many countries in the region have been the recipients of hazardous and chemical wastes, often without being informed of the potential risks for human health and the environment. To respond to this potential threat, precautionary regimes have been devised to regulate transportation and trade in hazardous wastes. These regimes allow for an exchange of information on negative effects of specific chemicals and hazardous wastes, and for the development of mechanisms to identify potentially dangerous substances.

Several sub-regional mechanisms are worthy of review. Under MERCOSUR's Framework Agreement on the Environment, members will be encouraged to harmonize their classification systems and their administration plans used to regulate hazardous wastes. Through this capacity building process, members will become aware of national prohibitions and formulate a regional system built upon the collective knowledge of the region. The Agreement provides for protocols to formulate a regional risk assessment based on harmonizing members national risk assessment plans. A common methodology for identifying new hazardous products could be governed under the protocol. In North America, the CEC has coordinated various intergovernmental programs to avert the risks associated with persistent toxic substance to human health and the natural environment in the region. Under the Sound Management of Chemicals (SMOC) program, the CEC developed a Process for Identifying Candidate Substances for regional action for those substance that pose a potential risk to North American health and environment. The precautionary principle has been proposed as one of the fundamental principles to guide policy-makers in identifying potential substances to be governed under the North American Agreement on Environmental Cooperation (NAAEC).[136] The CEC has devised a series of North American Regional Action Plan (NARAP) to support SMOC's objectives. Finally, the Protocol Concerning Cooperation in Combating Oil Spills in the Wider Caribbean Region encourages "the adoption of measures to prevent and combat pollution..." The Protocol not only applies to the oil spills themselves but also to other incidents that might "pose a significant threat" to the natural environment in the wider Caribbean region.[137] Until an investigation is done and full scientific certainty exists, this presents scope for concerned citizens or governments to prevent the departure

of vessels they suspect, without full knowledge of the conditions, to be unsafe. The widespread bio-accumulative nature of chemical and hazardous wastes means effects of an activity will be spread over large areas over long periods of time. Past experience and the seriousness of potential harm have generated public awareness, and all sectors cooperate to prevent potential accidents. The region has also taken special precautions to identify and monitor chemicals and hazardous wastes. Regimes regulating chemical and hazardous waste have gone beyond quantitative analysis to examine the reversibility of an activity, the magnitude of the potential harm, and the vulnerability of certain regions to the effects.[138]

One more environmental regime is worthy of consideration, one which has been developed in the European context. The 1991 Espoo Convention on Transboundary Environmental Impact Assessment provides measures to address scientific uncertainty, identifying risks and appropriate precautionary measures.

3.5.3 Recommendations for the Americas

Precautionary measures have been recognized within regional, sub-regional and domestic environmental regimes pertaining to certain sectors, particularly where significant harm is possible. Global environmental regimes can set a general framework and acceptance of the need for action, which then supports both scientific cooperation and precaution on regional or sub-regional levels. However, in many cases, decision-makers are still without sufficient tools to fully operationalize the precautionary principle, particularly when economic interests are at stake. Further steps must be taken:

- **Operationalize the Precautionary Principle:**

  There needs to be a balance between application of precautionary environmental measures on one hand and the prevention of technical barriers to trade through arbitrary standards based on less than robust scientific information. In the Americas, there is an opportunity to build cooperative links on issues of standards and harmonization of methodologies, particularly if technical cooperation is provided and countries approach the issue by building on pilot projects or success stories in particular sectors. As mentioned above, pioneer work in the area of biosafety, chemical management and biodiversity conservation provides examples of such cooperation. A regional work plan should be established, with the cooperation of hemispheric institutions, to recognize and put the precautionary principle into practice.

- **Coordinate precautionary risk and impact assessment methods:**

  Regimes in the Americas have created methodologies to undertake risk assessment analysis and encouraged Parties to harmonize national meas-

ures or formulate coordinated sub-regional methods. As expressed above, cooperative risk and impact assessment methodologies can be formulated in priority sectors, based on precaution. The CPACC project devised a regional risk assessment strategy for climate change and has attempted to operationalize this strategy through workshops, manuals and special training sessions. Sustainability risk and impact assessments can provide crucial information to decision-makers, permitting the identification of prevention and mitigation measures, also strategic choices. Still, such technologies and processes are embryonic and only as good as the scientific data upon which they are based. Cooperative ventures are necessary to build quantitative scientific evidence, and develop coordinated, precaution-based responses. An international protocol or convention could also be drafted to establish a methodology for social and environmental impact assessments of transboundary projects that might affect sustainable development objectives in the Americas. Modelled on the 1991 Espoo Convention of Europe, this accord would build further scientific and precautionary cooperation links across the Americas.

- **Strengthen the burden of proof dimension of the precautionary principle:**

  Recent uses of the precautionary principle have stressed the notion that the proponent of an activity must prove the *harmlessness* of an activity rather than the recipient proving the *harm*. This important dimension of the precautionary principle has not been adequately stressed within counterpart environmental regimes in the Americas. By doing so, countries in the Americas can avoid being placed in a position to undertake the expensive and time-consuming task of proving an activity's harm. This aspect of the principle should be built into all regional environmental regimes in the Americas to assign the costs associated with a potentially harmful activity to the appropriate Party.

3.6 Subsidiarity Principle

"Subsidiarity recognizes that action will occur at different levels of jurisdiction, depending on the nature of issues assigning priority to the lowest jurisdictional level of action consistent with effectiveness. Environmental policies in different jurisdictions can reflect differences in environmental conditions or development priorities, leading to variations in environmental standards within countries or among groups of countries. Harmonization of emission standards, ambient environmental quality standards, procedural requirements or laws, supplemented where feasible by negotiated minimum process standards, can play an important role by ensuring that these essential differences respect a common framework. In this sense, where there are significant trans-border environmental impacts, solutions should be sought multilaterally. Subsidiarity requires an important element of cooperation in international affairs."[139]

3.6.1 Subsidiarity in Americas Environmental Regimes

Subsidiarity, for environmental regimes, refers to the degree that a concern can be satisfactorily addressed within the boundaries of a particular jurisdiction. Environmental regimes exist at multiple levels of political organization, from municipalities to international entities of a regional, hemispheric or global nature. The principle of subsidiarity insists that decisions be made, consistent with effectiveness, at the level closest to those affected.

In an increasingly global arena, national governments are still the principal policy-makers for ecological systems that exist irrespective of political boundaries. Governance structures are not yet in place to effectively administer the earth. This has been described as a "single, complex and highly integrated ecosystem within the constraints of a political system made up of over 170 states, each claiming sovereign authority within its territory."[140] It is still unclear which circumstances make global, regional, sub-regional action or response more appropriate than national control. This problem, of the degree to which supra-national authorities should regulate national environmental problems, has been debated in the European Community since its First Environmental Action Program of 1973. More recently, the issue received much attention during the Maastricht Treaty negotiations.[141] In the Americas, however, this principle is only beginning to be explored. Potential levels of international decision-making for a problem include global (through multilateral accords and tribunals), hemispheric (comprising of the countries of the Americas), regional (generally described as Latin America and the Caribbean, and North America), sub-regional (the five sub-regions of the Americas) and bilateral. As seen above, this creates a complex overlapping system of international obligations, and potentially hinders effectiveness. Which level is most appropriate to address which ecological issues? How do we ensure that new hemispheric regimes are still close to those most affected?

The principle of subsidiarity also extends to the relationship between national governments and sub-national governing structures. There are seven federal nations in the Western Hemisphere: Argentina, Brazil, Canada, Mexico, United States, St. Kitts-Nevis and Venezuela. International accords affect powers which, in federal states, are in the purview of provincial or local jurisdictions.[142] The validity of sub-national trade-related environmental measures can be scrutinized by other governments, or international competitors, seeking to limit barriers to trade and investment. While it is increasingly accepted that measures can be taken in the context of agreed international environmental goals,[143] this requires sub-national coordination and coherence. Balance is still being sought between environmental governance systems at the central government level, and the corresponding obligations and jurisdiction of states, provinces or cantons. In addition, subsidiarity should not stop at the

national or even provincial level—it also implies empowering community and indigenous peoples' participation in local environmental issues.

In the Americas, hemispheric, regional and sub-regional cooperation arrangements are beginning to incorporate the subsidiarity principle "particularly in the clarification of national-local democratic relationships and in the changing relationships with indigenous peoples."[144] Countries have responded to the evolving challenge of environmental resource management by implementing diverse legal, institutional, and administrative frameworks.

3.6.2 Addressing Environmental Governance at Appropriate Ecological Scales

Ecological subsidiarity is based on the recognition that environmental linkages extend from a local level on through to hemispheric processes, and, as noted, are still almost independent of administrative boundaries.[145] This implies that the full extent of relevant ecological systems must be taken into account when designing cooperative mechanisms to ensure environmental problems are addressed at appropriate ecological scales. For example, actions aimed at environmental remedies or prevention must operate at the same scale as problems occur—while an oil spill might require international attention, many stream clean-ups can be done locally. Concerning MEAs, agreements should involve all relevant national jurisdictions. An eco-regional approach to environmental management is recommended to achieve this. An eco-region can be defined, at varying scales, as "a geographically distinct assemblage of natural communities that share a large majority of their species, ecological dynamics, and similar environmental conditions."[146]

Ecological subsidiarity is also of importance when discussing species-based conservation. Environmental regimes aimed at the preservation of particular species or groups of species must take into account the full geographic range of such organisms. In the Americas, a successful regional agreement that restricts wildlife trade with the specific purpose of conserving remnant populations of a particular species is the 1979 Lima Convention for the Conservation and Management of the Vicuña. Parties include Argentina, Chile, Bolivia, Ecuador and Peru, and the treaty replaced a 1969 La Paz Convention for the Conservation of the Vicuña.[147] The dramatic effects of regional cooperation towards the conservation of vicuñas are well illustrated by the species' population increase at the 6,500-ha Pampa Galeras Reserve, which currently harbours approximately half of the world vicuña population. In 1969, there were only about 2,660 vicuñas left in the reserve; by 1979, the population had increased to 18,150.[148]

Ensuring Internationally Coordinated, Sub-national Eco-management

In terms of environmental management, another important aspect of subsidiarity is the relationship between the multiple territorial, administrative

units that make up a country, such as states or provinces, and the country's central government. Differing interpretations as to the jurisdiction limits of federal vs. territorial environmental regimes are often a source of uncertainty and contention. For example, petroleum is managed as property of the government, in trust for the citizens in Canada, Ecuador and Argentina. However, in Ecuador, the resource is controlled by the national government and administered centrally.[149] In Argentina and Canada it is controlled by each province, and management regimes can differ wildly depending on the provincial development priorities.[150] Territorial environmental standards can sometimes surpass the federal standards as with the well-known efforts of the State of São Paulo in Brazil; the Province of Mendoza in Argentina; or California and New York in the U.S., which apply federal environmental impact assessment requirements to private as well as government acts.[151] Unfortunately, the opposite is also true. Sub-national governments might be better positioned to address environmental challenges, but lack the capacity or political will to prevent problems.

Watershed management in North America, where all countries are federal, has a history of taking action through joint institutions that are coordinated at both the national and sub-national government levels. For example, national but also municipal initiatives are part of a joint effort to improve water quality in the Great Lakes region.[152] Likewise, the two biggest federal nations in South America, Argentina and Brazil, also have agreements to cooperate in watershed management issues.[153] This type of coordination on different tracks might present ways forward in the Americas.

A further extension of this type of effort is required for the conservation of migratory animals, which are an important ecological link between geographically separated ecosystems because they rely on different environments depending on their life stages. Among the very first efforts at international management of wildlife are two early North American treaties on the conservation of migratory birds.[154] As seed dispersers, pollinizers, predators and prey, birds are important components of most terrestrial and near-shore environments, to the degree that birds increasingly are being used as indicators of ecosystem well-being.[155] Conservation regimes must involve communities and experts from different countries in monitoring and restoration efforts, leading to a type of subsidiarity specific to ecological conditions—migratory flight paths.

In some federal countries, implementation of an international accord has successfully provided legal justification for central government action in areas traditionally viewed as state jurisdiction. International wildlife conservation, for instance, has used this approach to implement the 1973 Convention on International Trade of Endangered Species (CITES), which all countries in the

hemisphere—except Haiti and Grenada—have signed and ratified. In certain cases, domestic control of wildlife capture and commercialization has been achieved only by means of centralized legislation taken in accordance to constitutional provisions giving national governments the right to implement international agreements, irrespective of federal jurisdiction.[156] The principle of subsidiarity suggests that such override should be used sparingly. In the long term, ecological measures will require the support of local and regional populations to be sustained, and this is difficult if communities feel decisions have been made without their involvement.

Empowering Indigenous Participation on All Levels

Native inhabitants of the Americas face an ample spectrum of environmental and social concerns, many of which are intricately related to the need for recognition, control and management of resources on a community level for indigenous peoples. Increasing human populations and progressive economic growth have led to ever-more intensive and extensive use of the hemisphere's natural environments and resources. By and large, indigenous populations in the Americas have gained little from these processes, remaining largely marginalized from "modern" society and its socio-economic benefits. However, the perspective is changing, as Native American populations throughout the hemisphere begin to exert political pressure, both domestically and internationally.[157] At an international level, the need for increased indigenous participation in environmental management has been declared in numerous non-binding instruments. The only binding instrument to do so is the International Labor Organization's 1989 Convention on Indigenous and Tribal Peoples in Independent Countries (ILO 169).[158]

Curbing the loss of biological diversity has become a pressing concern for indigenous peoples whose livelihoods depend directly on the wildlands accessible to them. Traditional human communities in Amazonia, for example, sustainably utilize thousands of different organisms, not just to feed themselves, but for clothing, construction, transportation, recreation, adornment and more. Though not often recognized, ecological diversity within Amazonia, such as the differences between upland and flooded forests, plays a key role in the maintenance of indigenous cultural diversity in the region, providing the basis for a variety of distinct sustenance systems, each dependent on different Amazonian eco-regions.[159]

Regarding cultural diversity, these same regions host the largest indigenous populations in the Western Hemisphere. By the mid-1990s, approximately 936,000 Amazonian Amerindians of 376 different ethnic groups inhabited the Amazon Cooperation Treaty area.[160] In 1992, the Andean Community had an estimated 19 million Amerindian inhabitants; countries in this subregion with over 30 per cent Amerindian population include Bolivia (60–74

per cent), Peru (40 per cent), and Ecuador (34 per cent). The treaty only mentions indigenous peoples indirectly in article 14, stating that "the Contracting Parties shall cooperate in ensuring that measures adopted for the conservation of ethnological and archeological wealth of the Amazon region are effective." However, the Parties have recognized the regional importance of indigenous affairs through the creation of a Special Commission. The Confederation of Indigenous Organizations of the Amazon Basin, COICA, is particularly relevant in this process. At a national level, most have also begun to recognize indigenous rights to land, bilingual education and organizational autonomy in varying degrees.[161]

As mentioned above, the Andean Community shows positive signs in the degree to which indigenous peoples are empowered towards management of natural resources and environmental affairs. Regionally, indigenous peoples are explicitly mandated to receive benefits deriving from the use of biological resources.[162] The ANCOM Decision cannot directly recognize individual communities or ethnic groups, and depends on national level legislation to establish appropriate systems for increased indigenous participation in biological resource management.[163] However, several national constitutions in the region, such as those of Colombia and Ecuador, now explicitly recognize indigenous rights in terms of access to and ownership of natural resources, as well as participation in the benefits generated from their exploitation.

The issue of biodiversity conservation is especially contentious where it relates to intellectual property rights and the sharing of benefits deriving from biotechnological use of traditional knowledge. Benefits generated from a traditionally used plant or animal need to flow to communities that provided the knowledge from which financial gains were derived.[164] A promising instrument for protection of indigenous intellectual property is found in *sui generis* systems, which article 27 (3b) of the GATT Agreement on Trade-Related Aspects of Intellectual Property Rights explicitly leaves to the prerogative of national governments. However TRIPS, just as with the Andean Community's regime, does not recognize indigenous rights *per se*. This situation leaves the door open for appropriation of indigenous rights or voices by other social actors. To implement subsidiarity, sub-regional and hemispheric integration projects could support the development of *sui generis* systems. At this level, it might be easier to ensure that provisions are compatible with the legislation of several countries, as well as the expectations of multiple traditional societies.

3.6.3 Recommendations for the Americas

In essence, ecological subsidiarity implies that governments must address ecological concerns at a level which reflects the scale of the ecosystems or environmental challenges, and the general subsidiarity principle suggests that this

should result in decision-making by those most closely affected. This requires both defining the scale of the ecosystem or impact, and identifying those who will be affected. Only then can the "most effective level of government" be determined with any degree of success. As mentioned above, this study also recommends that national governments and sub-regional environmental institutions encourage sub-national cooperation, and empower indigenous communities.

Finally, for environmental regimes in the Americas, this study recommends that regional, sub-regional and hemispheric integration processes consider subsidiarity. The principle provides a conceptual foundation for a new, integrated hemispheric management based firmly upon existing sub-regional and regional management systems. The countries of the Americas have established numerous legal regimes in their attempts to curb domestic, sub-regional, regional and global environmental degradation. At the domestic level, multiple types of regulation are being used to ease the impact of human activities on ecological systems. Internationally, binding and non-binding multilateral agreements on natural resources and habitats are attempting to forge more efficient systems of transboundary environmental management. Not surprisingly, then, environment and natural resources in the Americas are managed with multiple, sometimes conflicting, national, sub-regional, regional and international standards. As hemispheric integration proceeds, new governance structures will need to be vigilant for decisions to be made closest to those most affected. Respect for this principle places a strong caution on the creation of extensive new international structures or institutions, suggesting that where appropriate, networks of existing smaller regimes might be more appropriate.

3.7 International Cooperation Principle

"Sustainable development requires strengthening international systems of cooperation at all levels, encompassing environment, development and trade policies. The most desirable forms of international cooperation will avoid conflicts, through international efforts at development and environmental protection, and by improving the functioning of the global trading exchange rate and financial system. When international disputes arise, the procedures for handling them must be capable of addressing the interests of the environment, development and the economy together. This may involve changes to existing rules, changes to existing dispute settlement mechanisms, or the creation of new mechanisms. Dispute settlement procedures need to be open, effective and impartial, protecting the interests of weaker countries against the use of coercive political and economic power by more powerful countries. Unilateral action on transboundary environmental issues—an option generally available only to a few large countries—should be considered only when all possible avenues of cooperative action have been pursued."[165]

By "cooperation," this study refers primarily to "positive cooperation" activities, wherein actions are undertaken by some countries in order to accommodate others. A more restricted view would be to examine all instruments that are "not coercive," which includes a specific examination of the way that mechanisms were decided upon (unilaterally or not) or even negotiated, but this would not reveal the full picture.

3.7.1 International Cooperation in Americas Environmental Regimes

In general, environmental regimes in the Americas are not coercive, but rely on cooperation, notably technical cooperation or policy coordination, to achieve their goals. Countries bind themselves in international accords, and comply voluntarily. Modern approaches towards ensuring effective implementation and compliance with international environmental agreements place "less emphasis on formal mechanisms of legal settlement (mediation, conciliation, arbitration, judicial settlement), instead favouring ongoing and institutionalized bargaining between the Parties at both a technical and a political level."[166]

International cooperation necessarily implies a high degree of accountability to ensure that burdens and costs of environmental protection are fairly shared. A hemispheric regime would be different from all sub-regional models. There is an extraordinarily high degree of diversity and complexity in an arrangement to integrate 34 countries in the Western Hemisphere. Indeed, concerns have been raised as to inequalities between bargaining power where the countries have such economies in terms of scale and sheer size.[167] However, agreements involving large and small economies are not extraordinary. The MERCOSUR, the second largest regional trade arrangement in the hemisphere, consists of two large and two relatively small economies, yet they have signed a Framework Environmental Agreement. Mexico is a full-fledged NACEC member, and Bolivia is completing trade negotiations with the MERCOSUR as a whole. In addition, Chile and Costa Rica each have a bilateral environmental side agreement with Canada—an economy 10 and 50 times their sizes, respectively.[168] As such, asymmetric agreements are feasible and can even be a positive development for the hemisphere.

Five mechanisms to achieve international cooperation have been widespread and relatively successful in the Americas. The first is the use of general framework conventions with subsequent specific protocols. Framework treaties or conventions represent international recognition of an environmental matter needing attention, rather than a statement of detailed environmental practices or standards. For example, the 1979 Convention on Long-Range Transboundary Air Pollution encompasses three protocols on sulfur, nitrogen oxides and volatile organic compounds, respectively. Also, the 1992 Framework Convention on Climate Change has a not-yet-in-force Kyoto Protocol, which will establish binding, quantified greenhouse gas emission limitations and reduction commit-

ments.[169] The Antarctic Treaty System covers various protocols for the protection of the fragile southern Antarctic environment.[170] Second, as a means to achieve regime flexibility, and thus facilitate inter-governmental negotiation and cooperation, governments can separate substantive agreements from technical, procedural or administrative details. These are included in separate annexes, schedules, appendices and lists. This mechanism is widely employed by environmental regimes aimed at conservation of living resources and appropriate management of pollutants. The 1971 Convention on Wetlands of International Importance[171] and the 1989 Convention on the Control of Transboundary Movements of Hazardous Wastes are examples.[172] Third, through the creation of regulatory and supervisory institutions, governments set mandates in motion to build future cooperation on contentious issues. An early example is the 1946 International Convention for the Regulation of Whaling, which created the International Whaling Commission.[173] Fourth, governments use incentives and disincentives to achieve broader participation in a regime (trade-related environmental measures are in this category). The 1985 Convention for the Protection of the Ozone Layer has an internationally recognized 1987 Montreal Protocol on Substances that Deplete the Ozone Layer that uses trade measures to prevent non-Parties from benefiting from the technological restriction faced by Parties.[174] Fifth, in certain cases in the Americas, governments have agreed to binding or advisory dispute settlement processes with appellate functions that allow a development of international law on issues of concern. While these mechanisms are rare within ecological regimes, certain examples are possible. At present, existing regional and multilateral environmental agreements use these and other mechanisms in different degrees and combinations. Successful regimes must be capable of withstanding the rigours of continuous international negotiation, while providing sufficient flexibility to incorporate new knowledge of environmental phenomena requiring changes in accepted practice.

At a regional level, the United Nations Environment Programme Forum of Environmental Ministers of Latin America and the Caribbean has created considerable impetus for cooperation in international environmental challenges, and develops highly professional technical information for environment authorities.[175] With observers from Canada and the United States, this forum holds the potential to provide foundations for a hemispheric regime. Also, throughout the Americas, deeper economic integration is stimulating increased sub-regional cooperation in environmental matters.

International Cooperation in the NAAEC

North American integration efforts have led to a tri-national regime based on balancing environmental requirements laid down in a free trade agreement, with the facilitation capacity and effectiveness of a separate environmental cooperation agreement. This structure was meant to aid commercial institu-

tions in fulfilling their environmental responsibilities, as well as foment increased cooperation and continued improvement of the Parties' domestic environmental regimes. However, the NAAEC and the CEC, its institution, were severely hampered for the first few years by the rushed and pressured process of negotiations for the NAAEC, leading to lack of consensus among Parties as to the value of the agreement itself. Mexico, for one, felt strong-armed into the environmental cooperation process. The country resisted implementation of the agreement, and is only beginning to recognize the trade and environment linkage. The principle of international cooperation strongly suggest this type of process should be avoided in hemispheric negotiations. The NAFTA text also offers a positive example of international coherence. It clearly establishes the paramount nature of "specific trade obligations" set out in three global environmental regimes: the CITES, the 1987 Montreal Protocol, and the 1989 Basel Convention on hazardous wastes, as well as those that may be listed in Annex 104.[176] This promotes international cooperation by reducing the likelihood that one international regime will be played off against another, and keeps "forum-shopping" down to a minimum.

International Cooperation in the MERCOSUR Environmental Framework Agreement

Unlike the NAFTA accords, which came into force with pre-negotiated institutional structures stipulated in the text of the agreements, the MERCOSUR began as a political idea that was only slowly formalized. In 1991 the Asunción Treaty launched the MERCOSUR, but it was not until 1994 that the Ouro Preto Protocol laid down the MERCOSUR's definitive institutional structure. The development of the MERCOSUR 2001 Framework Agreement on the Environment was similar. While the MERCOSUR's institutions were being negotiated, the Common Market Group (GMC)[177] called for a specialized conference on the environment, which succeeded in drafting a set of basic directives for environmental policy. This was subsequently approved by the GMC through Resolution 10/94. The MERCOSUR provided for future development of regional environmental regimes as part of a wider integration agenda. As noted by one early commentator, while "the Asuncion Treaty's text emphasizes commercial objectives and does not make explicit other fields related to full integration, it offers an important starting point for making viable the dynamics of integration including its environmental aspects."[178] The Framework Agreement is a classic example of a treaty that establishes objectives, then contemplates further protocols for specific implementation. Of particular note for the principle of international cooperation, at Chapter 4 from articles 8 to 11 on the general mechanisms for implementation, there are provisions for the settlement of any disputes, by reference to the existing MERCOSUR dispute settlement process. This suggests that at least inter-state disputes on the environment could be brought under general MERCOSUR

procedures for dispute settlement, rather than being resolved through sanctions. While the promise of the 2001 Framework Agreement on the Environment will take time to be realized, key civil society actors have expressed cautious optimism in this linkage at a sub-regional level.[179]

International Cooperation in the Central American Sub-region

In Central America, inter-governmental environmental commissions exist at two levels of government: executive and legislative. Ministerial contact is provided by the Central American Commission for Environment and Development (CCAD), while links among the respective legislatures are provided by the Central American Inter-Parliamentary Commission on the Environment (CICAD). Establishment of the Central American Integration System in 1991 (Tegucigalpa Protocol) has led to the relatively rapid negotiation and adoption of multiple regional environmental agreements, covering biodiversity and protected areas, hazardous-waste movements, forest conservation and climate change, among others.[180]

International Cooperation in the Andean Sub-region

Environmental matters became a fixed part of the Andean integration agenda in 1982, when the Andean Commission[181] recognized the importance of regional cooperation in agriculture, food security and general environmental policy and research.[182] Since launching the Andean integration system in 1996, in the Trujillo Protocol, the newly structured commission has agreed on a Common Regime on Access to Genetic Resources[183] and created an Andean Committee of Environmental Authorities.[184] These provisions set systems in place for international cooperation on environmental issues.

International disputes, including those concerning the environment, can be settled in the CAN through venerable institutions. In the 1969 Cartagena Agreement, the CAN first sought means for peaceful settlement of disputes between states.[185] Ten years later, member states established, via a separate treaty, an Andean Court of Justice.[186] The 1979 Treaty Creating the Court of Justice of the Cartagena Agreement developed by-laws and internal rules for a Court of Justice. A Protocol Modifying the Treaty Creating the Court of Justice of the Cartagena Agreement has been recently added. These agreements lay out a dispute settlement regime consisting of the following elements. The Court has jurisdiction over all disputes involving CAN norms, including disputes brought by member states or CAN institutions and, in appropriate cases, even disputes brought by private Parties.[187] As such, in principle the Court has significant supranational authority. The Court produces judgements, and member states found by the Court to be in non-compliance with CAN norms must take all necessary measures to come into compliance. National courts are required to refer questions of CAN law to the

Court after exhausting local appeals to their rulings, and the interpretations of the Court must be adopted by the referring judge. In practice, the Court's effectiveness was, until recently, affected by the general lack of political cooperation and coordination among CAN member states.[188]

Inter-American Forum for Environmental Law (FIDA)

On a hemispheric level, initiatives are being put into place to stimulate comparative analysis and understanding of environmental law. The Inter-American Forum for Environmental Law (FIDA) was created during the 1996 Santa Cruz Summit process. It operates within the institutional framework of the Sustainable Development and Environment Unit of the OEA, with a goal of facilitating the exchange of knowledge and experiences in the field of environmental law.[189] The FIDA has collected data and conducted comparative analysis on environmental laws in the Americas, working mainly on national best practices and case studies.

Private representatives can also be included in environmental cooperation agendas *ab initio* through their sectoral associations or trade representatives. If they have been consulted, industry groups are able to support international cooperation through efforts to develop corporate social and environmental responsibility. For example, this is the case in the Convenio Regional para la Administracion y Conservacion de los Ecosistemas de Bosques Naturales y el Desarrollo de Plantaciones Forestales (signed by Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua and Panama). If policies are needed to shape future trade and investment patterns, industry support for proposals will be helpful. Companies can start with efforts to develop codes of good practice, for the Americas, and become involved in developing a strengthened environmental cooperation agenda.

Dispute Settlement Mechanisms

The MERCOSUR, NAFTA and CAN, among others, have developed quite distinct dispute settlement mechanisms.[190] Two types of disputes are apparent, in terms of the parties to a disagreement. First, there are mechanisms to address differences that might arise between member governments (inter-state disputes). States are parties to these disputes, which consist mainly of reviewing decisions taken at the domestic level. Second, there are provisions to resolve disputes that might arise between states and non-state actors (private-public disputes). Among these, separate recourses have been developed. One type of mechanism exists to settle disputes between states and private parties (investors or individuals) of other states, and another addresses complaints lodged by citizens or public interest organizations against their own or another state. Different regimes in the Americas use distinct mechanisms in this respect.[191]

The MERCOSUR's current dispute resolution system is premised on two accords: the Brasilia Protocol negotiated in 1992, and the Ouro Preto Protocol, which took effect in 1995.[192] This system provides for the resolution of inter-state and private-state disputes.[193] Of particular note, in the 2001 MERCOSUR Framework Agreement on the Environment at Chapter 4 from articles 8 to 11on the general mechanisms for implementation of the Framework Agreement, there are provisions for the settlement of any disputes, by reference to the existing MERCOSUR dispute settlement process. It is not clear, but the language suggests that as such, both inter-state and also state-private disputes on the environment could be brought under the above-described MERCOSUR procedures for dispute settlement.

The NAAEC provides for the resolution of two general types of controversies: those not involving allegations that a NAFTA government has failed to enforce its environmental laws; and those wherein a government's failure to enforce its environmental laws is directly at issue. The category of enforcement matters is further divided into cases of mere failure to enforce environmental laws and a "persistent pattern" of failure to enforce environmental laws. As to all cases other than "persistent pattern" cases, the only measures available to the Environmental Secretariat are to conduct an investigation, subject to limitation by the Council, and to prepare a factual report, potentially for distribution to the public. Disputes involving allegations of a "persistent pattern" of failure to enforce environmental laws are subject to a more intricate settlement process, involving consultations, a special session of the Council, and ultimately an arbitration panel. Assuming it does not occur voluntarily, compliance with adverse determinations by an arbitration panel is to be obtained by imposing a "monetary enforcement assessment" on the offending country or suspending NAFTA benefits to it. In addition, under the NAAEC Articles 14 and 15, a private citizen in Canada, Mexico or the United States may lodge a complaint with the North American Commission on Environmental Cooperation when it appears that one of the NAFTA governments has failed to enforce its environmental laws. Either individuals or non-governmental organizations may lodge such complaints. The Secretariat of the Commission may then look into the substance of the allegation and may require a response from the Party under investigation. Several factual reports of this sort have been produced, leading to more careful attention toward the situation from the governments, and some resolutions of the problems.[194]

The CAN has developed significant provisions for dispute settlement. In the Cartagena Agreement, the CAN first sought means for peaceful settlement of disputes between states,[195] but it was not until 10 years later that member states established, via a separate treaty, the Andean Court of Justice.[196] The 1979 Treaty Creating the Court of Justice of the Cartagena Agreement developed by-laws and internal rules for a Court of Justice. A Protocol Modifying

the Treaty Creating the Court of Justice of the Cartagena Agreement has been recently added to the treaty law for dispute settlement in the sub-region. It is not yet clear whether adherents to this process, or civil society groups with concerns if they think governments have not complied with commitments under this strategy, can seek redress in the Andean Court of Justice for the settlement of disputes. But according to the structures in place, there appear few reasons why they should not. A legitimate claim in a national court would, if it addressed concerns for the region as a whole, proceed in due course to the regional Court of Justice. However, it has been seen that groups with environmental concerns in the Andean region to date have not chosen this course. For example, civil society groups concerned with Texaco's operations in Ecuadorian Amazon recently alleged massive oil spills and pollution in rivers on indigenous territory, but chose to sue in the United States under the Alien Tort Claims Act (ATCA).[197]

3.7.2 Recommendations for the Americas

As mentioned above, there are over 272 environment and sustainable development accords in the Americas, many of which currently use measures relating to trade to achieve their goals. No single accord yet brings all of the countries of the Americas together for a common environmental purpose. This system of interacting international accords is chaotic and broad, with little internal coherence or structure. The following recommendations could lay a solid foundation for deeper international environmental cooperation in the Americas:

- **Develop a compendium of existing environmental cooperation instruments:**

  Many environmental issues have only remote ties to the trade agenda, and could be adequately addressed by discussions in forums specific to environmental cooperation across the Americas. Steps can be taken now to build this agenda, as they were by the North American Commission for Environmental Cooperation at the start of their work program. First, in cooperation with relevant technical bodies, sub-regional institutions and civil society experts, a compendium of existing environmental accords should be produced. This can survey existing environmental management principles, provisions, institutions and instruments in the Americas at bilateral, sub-regional, regional, hemispheric and global levels. The compendium can build on the above-mentioned efforts of the FIDA.

- **Encourage political linkages on environmental issues:**

  An ecological cooperation agenda will not be possible without new and serious political will. Meetings of the environment ministers of the Western Hemisphere should build upon the above-mentioned structure of the UNEP Forum of Environment Ministers of Latin America and the

Caribbean, contributing to deeper understanding and environmental analysis. As a further step, governments should launch a process of policy dialogues to identify and clearly define substantive and procedural items for an Americas ecological cooperation agenda. This process can fulfil both an information exchange and capacity building function for participating governments and inter-governmental agencies, as well as private sector and civil society actors. By compiling and assessing existing international environmental commitments across the hemisphere, exchanging and building upon best practices, actors can lay the foundations for inclusive, transparent, step-by-step strengthening of the hemispheric environmental cooperation agenda with like-minded countries from all sub-regions. The proposed goal of such a process—a new stand-alone ecological accord of the Americas—is explored in the concluding section of this book. When necessary, a Secretariat should be provided for the partners, and links should be explored with the Organization of American States Sustainable Development and Environment Unit, the Inter-American Development Bank and among sub-regional institutions and other relevant international organizations.

- **Explore potential for a hemispheric ecological dispute settlement mechanism:**

  Within the framework of broader environmental cooperation, models should be reviewed to provide examples of suitable hemispheric regimes to address environmental complaints and to seek the peaceful settlement of disputes about ecological problems. In this regard, the different strategies used by the MERCOSUR, the NAAEC and the CAN are worthy of consideration.

- **The need for leadership and openness:**

  Countries in a position to exercise leadership in dealing with environmental issues should invest the time and energy needed to achieve the harmonization of existing agreements and the brokerage of stronger cooperation. As was shown in the MERCOSUR institution-building process, political rivalries can be broken down gradually. Building a small international group to examine mechanisms for pursuit of this agenda, with countries from each region to support a strengthened hemispheric agenda, will take commitment and resources. But the information and technology sharing, capacity building, new resources and coordination might be well worth the effort. As noted in the analysis of the flawed last-minute nature of the NAAEC process, the negotiations process itself is key to ensure sustainable international cooperation in establishing a functional, effective environmental regime. In a hemispheric agreement with 34 Parties and several strong, existing regional institutions with serious mandates and

historical trajectories, it will be impossible for any one country to simply push the others forward. All Parties must be open, and political will must exist to implement the results. Another essential element, as seen in the Central American process, will be the degree of willingness among all Parties to be flexible as to sustainable development issues, such as health. These can be broader than simply environmental concerns, but are part of the ecological cooperation agenda.

Endnotes

42 International Institute for Sustainable Development. *Trade and Sustainable Development Principles – The Winnipeg Principles,* (Winnipeg: International Institute for Sustainable Development, 1994).

43 Organization of American States. Consejo Permanente, Medio Ambiente y Desarollo Sostenible, (Washington: OAS, 1996).

44 Katz de Barrera-Hernandez, L. and A. Lucas. "Environmental Law in Latin America and the Caribbean: Overview and Assessment," *Georgetown International Environmental Law Review*, Vol. 12: 207, 1999.

45 Vaughan, S. and A. Dehlavi. "Policy Effectiveness and Multilateral Environmental Agreements," UNEP Environment and Trade Series, (Geneva: UNEP, 1998).

46 Cordonier Segger, M., *et al. Trade Rules and Sustainability in the Americas*, (Winnipeg: IISD, 1999). See also UNEP, IISD, "Regional Trade Agreements," in *Environment and Trade: A Handbook*, (Winnipeg: UNEP/IISD, 2000), or Cordonier Segger, M. "Regional Integration and Sustainability in the Americas," in Trade, Investment and Sustainability: Which Way Now for the WTO? Conference Proceedings (London: Royal Institute for International Affairs, March 27–28, 2000).

47 Birnie, P. W. and A. E. Boyle. *International law and the environment*, (Oxford, U.K.: Oxford University Press, 1992); Birnie, P. W. and A. E. Boyle. Basic documents on international law and the environment, (Oxford, U.K.: Oxford University Press, 1995); Bergensen, O. B., G. Parmann and O. B. Thommessen. *Yearbook of international cooperation on environment and development* 1998/99, Fridtjof Nansen Institute-Earthscan Publications.

48 The Convention sets standards for the conservation of endangered sea turtles and their habitats. Measures proposed include support for regional management plans and accords, and places great importance on environmental conservation, as well as the reduction of bycatch by developing more selective fisheries gear and practices, for example through the use of Trawling Efficiency Devices (also called Turtle Excluder Devices – TEDs). Currently, six States have signed: USA [13/XII/96]; Venezuela [15/XII/96]; Costa Rica [31/I/97]; Nicaragua [4/III/97]; Brazil [21/III/97]; and Peru [8/IV/97]. On 5 August 1998, the Government of Venezuela ratified the treaty (Gaceta Oficial No. 5.242), and the governments of the other five Signatory nations are now in the process. Conservationists antici-

pate U.S. ratification in 1999. Web site http://www.seaturtle.org/iac/convention.shtml

49 Under article 2 of the, formal conservation agreements of a regional nature are to be negotiated and concluded as needed with regards to "species [or populations] which have an unfavorable conservation status and which require international agreements for their conservation and management, as well as those which have a conservation status which would significantly benefit from the international cooperation that could be achieved by an international agreement."

50 Seals in the Wadden Sea; bats in Europe; and, cetaceans in the Baltic and North seas.

51 African-Eurasian migratory waterbirds; and, cetaceans of the Black and Mediterranean seas and contiguous Atlantic areas.

52 Rogers, K. and J. Moore. "Revitalizing the Convention on Nature Protection and Wild Life Preservation in the West Hemisphere: Might Awakening a Visionary but Sleeping Treaty Be the Key to Preserving Biodiversity and Threatened Natural Areas in the Americas?" *Harvard International Law Journal.* Vol. 36, No. 2, Spring 1995.

53 OAS. *Binational Programs for Border Cooperation – A Model for the Development of the Amazon Region*. General Secretariat of the Organization of American States, Executive Secretariat of Economic and Social Affairs, Department of Regional Development and Environment, (Washington D.C.: OAS, 1993). This document was prepared by the technical units for the binational border programs of Bolivia, Brazil, Colombia, Ecuador, and Peru, with the technical and financial support of the General Secretariat of the OAS.

54 Treaty for Amazonian Cooperation at http://sedac.ciesin.org/pidb/pidb-home.html

55 Water bodies in the TDPS Basin include Lake Titicaca, at 38,000 m and covering 8,300 square kilometres, the world's highest navigable body of water. Severe flooding and droughts in 1985–86 accelerated previous cooperation processes undertaken by a Mixed Sub-Commission for the Development of the Lake Titicaca Integration Zone, known as Subcomilango which developed a Global Directive Plan for the Management of hydrological resources in the TDPS Basin.

56 The Autonomous Bilateral Authority for the Basins of the TDPS System was officially created in 1993 to implement the Global Directive Plan.

57 Inter-American instruments, such as the Organization of American States and the Inter-American Development Bank focus on country-specific environmental challenges for the most part, or on the management of particular transboundary ecosystems, rather than hemispheric or sub-regional environmental data. Sub-regional networks for information exchange include the Fisheries Newsnet of CARICOM, Caribbean Community. Others such as AMBIONET, CARISPLAN, CEIS, INFONET, and UNEPNet focus on the creation and maintenance of regional databases on socio-economic and environmental data and information.

58 OAS Inter-American Council for Integral Development (CIDA), II Regular Meeting of the Inter-American Committee on Sustainable Development, October 13–15, 1999, Washington, D.C. "Inter-American Biodiversity Information Network (IABIN) Progress Report," Inf. 3/99 prepared by the Secretariat for item 2 (c) of the Draft Agenda (CIDI / CIDS / doc. 1/99).

59 This sharing process includes identifying data requirements, facilitating data identification and access, and capacity building. It is envisioned as an open, self-sustaining network where users needing biodiversity information can find high quality, relevant information in a timely manner.

60 Inter-American Development Bank. *1996 Annual Report on the Environment and Natural Resources,* (Washington: IDB, 1996).

61 FAO. "El manejo de la Vicuña: su contribución al desarrollo rural en los altos Andes del Perú." Food and Agriculture Organization, 1985. Torres, H. *South American Camelids: an action plan for their conservation*, 1992. IUCN-SSC, Convention for the Conservation and Management of the Vicuña at htpp://sedac.ciesin.org/pidb/pidb-home.html

62 Altmann, J. and I. Freier. *Trade Policy and Sustainability: The Regional Approaches*, (Berlin: IIEE, 2000) [forthcoming].

63 The Grupo Mercado Común is the executive body of the MERCOSUR. It is coordinated by the Ministers of Foreign Relations, and it aims at overseeing the implementation of the Treaty. It elaborates workprograms and concrete measures to assure this implementation.

64 This is the decision-taking superior body of the MERCOSUR, constituted by the Ministers of Foreign Relations as well as the Economics Ministers. It looks after the political conduct of the MERCOSUR.

65 See IDB, 1996.

66 See Gligo, 1997.

67 *Protocolo Adicional Al Tratado De Asuncion Sobre Medio Ambiente*, Draft, Capitulo XXVI, Montevideo, Uruguay.

68 *Acuerdo Marco sobre Medio Ambiente del MERCOSUR*. Approved Text from the XX Reunión del Consejo Mercado Común, 22 June 2001, Asunción, MERCOSUR/CMC/DEC. No. 2/01. To be annexed, upon ratification by member states, to *El Tratado de Asunción, el Tratado de Ouro Preto*, la Resolución No. 38/95 del Grupo Mercado Común y la Recomendación No. 01/01 del SGT No. 6 "Medio Ambiente." According to reports of a meeting of the SGT No. 6 in August 2001 in Montevideo, by August there was still no ratification of the treaty in any of the member countries – see http://www.fundacionecos.org

69 See *Acuerdo Marco sobre Medio Ambiente del MERCOSUR*. Approved Text from the XX Reunión del Consejo Mercado Común, 22 de junio de 2001 en Asunción MERCOSUR/CMC/DEC. No. 2/01. at Art. 4 where the objective is stated to be "desarrollo sustentable y la protección del medio ambiente, mediante la artic-

ulación de las dimensiones económicas, sociales y ambientales, contribuyendo a una mejor calidad del ambiente y de la vida de la población."

70 Leichner, 2001.

71 See http://www.cec.org, Articles 1 and 10:2 of the *North American Agreement for Environmental Cooperation*.

72 Haverkamp, J.A. Assistant United States Trade Representative for the Environment and Natural Resources, in *Trade and Environment, Opening the Dialogue*, (San Jose: National Audubon Society/Intel Corporation, 1998).

73 See Commission for Environmental Cooperation, "Voluntary Measures to Ensure Environmental Compliance: A Review and Analysis of North American Initiatives," and "Environmental Management Systems and Compliance: Report to the Council of the Commission for Environmental Cooperation on Results and Recommendations Pursuant to Council Resolution 97-05," in *North American Environmental Law and Policy*, (Cowansville: Les Editions Yvon Blais Inc., Fall 1998).

74 See http://www.unep.org. 10 such programs exist worldwide, wherein nations cooperate under a framework "regional sea convention" which calls for subsequent affiliated protocols on specific areas of the marine environment.

75 Miller, M.A. *Protecting the marine environment of the Wider Caribbean Region: the challenge of institution building*, in Bergesen, H. O. and G. Parmann, eds. *Green Globe Yearbook of international cooperation on environment and development,* (Oxford, U.K.: Fridtjof Nansen Institute-Oxford University Press, 1996), pp. 37–45, quote from http://www.cep.unep.org

76 The Meeting was held in November 1997 (UNEP/UWICED/EU, 1999).

77 See http://www.comunidadandina.org, where a few strategies have now been announced by this group, such as methods to prevent Declaration by the Andean Committee of Environmental Authorities, Sept. 5–6, Lima, Peru, 2000.

78 ICTSD. "Comercio y medio ambiente en los acuerdos regionales" (Junio–Julio, Agosto, 1999). *Puentes Entre el Comercio y el Desarollo Sostenible,* Vol. 2, No. 1, (Geneva: International Centre for Trade and Sustainable Development, 1999).

79 Following the 1989 signature of the Central American Convention for the Protection of the Environment (CPC), the creation of the Central American Commission for the Environment and Development (CCAD), and the signature of the Alliance for Sustainable Development (ALIDES) in 1994, a conceptual and operational framework was generated for sub-regional and national goals and strategies.

80 CCAD's success stems partly from its transparent and participatory decision-making process: civil society organizations, representatives of indigenous peoples, and businesses all participate in CCAD's quarterly meetings and other sponsored events. In addition, as only a small number of member countries with clear common interests are involved, progress on sensitive issues is possible.

81 Guidelines include commitments to establishing a forestry policy based on zoning of permanent forestry, the adoption of a contractual system for the long-term use of forests, and the even-handed application of laws regulating forestry activities to national and foreign concessionaires.

82 Agreement on Environmental Cooperation Between the Government of Canada and the Government of the Republic of Chile, Articles 2, and 10, Sections 1 and 2, web site: http://www.sice.oas.org/trade/chican_e/env1e.stm#art1

83 Esty, D.C. *Greening the GATT: Trade, Environment and the Future,* (Washington: Institute for International Economics, 1994), pp. 376–378.

84 See Altmann, J. and I. Freier. *Trade Policy and Sustainability: The Regional Approaches,* (Berlin: IIEE, 2000) [forthcoming].

85 Inter-Agency Technical Committe of the Forum of Ministers of the Environment of Latin America and the Caribbean, Twelfth Forum of Ministers of the Environment of Latin America and the Caribbean Bridgetown, Barbados, March 2–7, 2000, Preparatory Meeting of Experts, March 2–3, 2000, UNEP/LAC-IGWG.XII/TD.6, February 1, 2000, Original: Spanish.

86 International Institute for Sustainable Development. *Trade and Sustainable Development Principles – The Winnipeg Principles*, (Winnipeg: International Institute for Sustainable Development, 1994).

87 Inter-American Council for Integral Development, 1997.

88 Inter American Council for Integral Development, 1997.

89 Inter American Council for Integral Development, 1997.

90 World Bank, 2000.

91 Vaughan, S. and A. Dehlavi. *Policy Effectiveness and Multilateral Environmental Agreements*, UNEP Environment and Trade Series No. 17, Geneva, p. 19.

92 Borregaard, N. and C. Gana, eds. *Connecting Environment, Economics and Trade in the Mining Sector*, 2001. CIPMA, for example have calculated domestic resource costs including environmental externalities of mining production in Peru, Bolivia and Chile. Such studies can provide sectoral overviews about cost internalization in the Region.

93 Vaughan, Scott and Ali Delavi. *Policy Effectiveness of MEAs*, Trade and Environment Series, (Geneva: UNEP, 1998).

94 International Institute for Sustainable Development. *Trade and Sustainable Development Principles – The Winnipeg Principles*, (Winnipeg: International Institute for Sustainable Development, 1994).

95 See Schmidheiny, Stephan. *Changing Course. A Global Business Perspective on Development and the Environment*, (London: Massachusetts Institute of Technology, 1992).

96 Brack, D. Paper in the "Openness, Sustainability and the FTAA" workshop of IISD/ECOS/FOCAL in Ottawa, Canada, October 5–6, 1999.

97 Coughlin, Micheal D. Using the Merck-INBio Agreement to Clarify the Convention on Biological Diversity, 31 *Colum. J. Transnational L.* 337 (1993); Peterson, Kirstin. Recent Intellecutal Property Trends in Development Countries, 33 *Harv. Intl. L. J.* 277 (1992). See also Hunter, Christopher. Sustainable Bioprospecting: Using Private Contracts and International Legal Principles and Policies to Conserve Raw Medicinal Materials, 25 B. *Envtl. Aff. L. Rev*. 129 (1997).

98 Lately, the Forest Principles (1992) (Prin. 2 (b); Prin. 7; Prin. 8 (f)), Article 140 of the Montego Bay Convention (1999) and the Kyoto Protocol (1997), in Article 3 paragraph, have inserted this aspect in the environmental regime.

99 See Article 20 of the 1992 UNEP Convention on Biological Diversity.

100 See Article 5 of the Montreal Protocol to the Convention for the Protection of the Ozone Layer.

101 Report of the Secretary General on the Bolivia Summit Implementation, http://www.cd.oas.org/summitbo.htm. Most of the activities linked to the initiative were begun prior to the Bolivia Summit in 1996.

102 Many best practices can be learned from: Enrique Leff and Julia Carabias (coordinators) *Cultura y Manejo Sustentable de los Recursos Naturales* (2 Volumes). Edited by CIIH and Grupo Editorial Miguel Angel Porrúa, with support from PNUMA – Red de Información Ambiental de America Latina y el Caribe. México, 1993.

103 Eco-region refers here to an ecological region and to an economic region.

104 See Art. 4, pa. 2 (h), pa. 4; Art. 6, pa. 2; Art. 6, pa. 9, pa. 11; Art. 9 pa. 5; Art. 13; Art. 16.

105 See Art. 4, pa. 2 (e), pa. 11, pa. 12; Art. 9 pa. 3, pa. 4; Art. 12; Art. 24.

106 See Art. 4, pa. 2 (a); Art. 4, pa. 13; Art.10 pa. 2 (a), (b) (c), (d) and (e), pa. 3 and 4; Art. 11 pa. 1; Art. 15, pa. 5 (a).

107 See Art. 69 pa. 3; Art. 155 pa. 1 (f); Art. 160 pa. 2 (f)(i) and 2 (g); Annex III, Art. 5 pa. 2 (e); Art. 8; Art. 9 pa. 3 and pa. 4; Art. 11; Art. 13, pa. 1 (d) and (f), and pa. 9 (b); Annex IV Art. 12 pa. 3 (b) (ii).

108 See Art. 61 pa. 3; Art. 62 pa. 2, 3, 4(a); Art. 70 pa. 4; Art. 82 pa. 3 and 4; Art. 119 pa. 1 (a); Art. 140 pa. 1; Art. 143 pa. 3 (b); Art. 144; Art. 148; Art. 151 pa. 10; Art. 152 pa. 2; Art. 160 (k); Art. 266, Art. 268 (d); Art. 269 (a), (c), (d) and (e); Art. 271, 272, 273, 274, 275 and 276; Annex III Art. 15; Art. 17 pa. 1 (b) (xi); also the Annex to the Agreement, Section 1, 12 (c).

109 Montreal Protocol. http://www.tufts.edu/departments/fletcher/multi/texts/BH906.txt

110 See: http://www.unfccc.de/text/issues/mechanisms

111 The ANCOM has a Common Regime for the Protection of the Rights of Obtentors of New Plant Varieties approved in October 1993, and a Common Regime on Access to Genetic Resources, approved in June, 2000. See Prakash, S. "Towards a synergy between intellectual property rights and biodiversity," *Journal of World Intellectual Property*, (September, 1999). According to the 1992 Convention on Biological Diversity (CBD), access to resources is subject to the prior informed consent (PIC) of the provider of such resources. This means that any company or individual seeking access to genetic resources must first seek and receive the consent of the custodian of these resources, before procuring any genetic resources from the provider's jurisdiction. Therefore, access must be granted on mutually agreed terms, as defined by the seeker and provider.

112 IDB, 1996.

113 An initiative contained in ALIDES seeks to establish a Central American Fund for Environment and Development that would fill the funding gap in national and regional conservation projects. Similar initiatives of this kind in South America are Colombia's National Fund for the Environment, the Amazon Fund and ECOFONDO, which works with NGOs. Brazil has a National Environmental Fund, created in 1989 to finance projects related to the sustainable use of natural resources and the management and improvement of environmental quality; government agencies and environmental NGOs can request funds for activities that meet environmental policy aims. Some countries are also creating specific funds to finance forestry activities, offering better interest conditions than the financial market (Acuña and Orozco, 1997).

114 CEPAL/PNUMA, 1997; IDB, 1996.

115 Examples include Bolivia's National Environmental Fund (FONAMA) established in 1990, which aims to capture and manage funds oriented towards biodiversity; Paraguay's Protected Wilderness Areas, Wildlife and Forest Fund; Chile's Environmental Protection Fund; Brazil's Federal Fund for Forest Replacement, supported since 1973 by payments for the exploitation of forest resources; and the Rain Forest Trust Fund administered by the World Bank. Brazil's National Environment Programme, with 70 per cent financing from the World Bank, was set up to strengthen environmental bodies, implement the National System of Conservation Units, protect endangered ecosystems and help reconcile economic interests with environmental protection.

116 The Mexico and U.S.A. Agreement on Cooperation for the Protection and Improvement on the Environment in the Border Area (1983). http//cec.org/english/resources/information/Lapaz.cfm?format=1

117 International Institute for Sustainable Development. *Trade and Sustainable Development Principles – The Winnipeg Principles,* (Winnipeg: International Institute for Sustainable Development, 1994).

118 See Economic Commission for Europe Committee on Environmental Policy Fourth Ministerial Conference "Environment For Europe," Aarhus, Denmark, 23–25 June 1998 *Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters*.

119 The Declaration proclaims that the signatories "will support and encourage, as a basic requirement for sustainable development, broad participation by civil society in the decision-making process, including policies and programs, and their design, implementation and evaluation." Available online: http://www.ispnet.org/ and http://www.oas.org/usde/News/news7.htm

120 Available online: http://www.oas.org/usde/isp.htm

121 The Project Advisory Committee (PAC) has provided ongoing guidance and advice and facilitated input from government and civil society, including the private sector, labour women, indigenous populations, and other ethnic minorities.

122 The ISP seeks to 1) promote the exchange of experiences and information between government representatives and groups in civil society for the formulation, implementation, and improvement of sustainable development policies and programs; 2) develop legal and institutional mechanisms for enabling broad participation in decisions of broad public concern; 3) facilitate access to and a flow of information among the relevant actors; 4) develop training programs to improve technical and administrative capacities so that citizens and organizations may contribute to sustainable development policies and decisions; 5) support the integration and strengthening of national sustainable development councils; and 6) develop national consultation processes to ensure that civil society may play an important role in sustainable development.

123 IISD/WWF. *Private Rights, Public Problems: A guide to NAFTA's controversial chapter on investor rights*, (Winnipeg: IISD, 2001).

124 http://www.caricom.org.
http://www.caricom.org/pressreleases/pres123_00.htm
http://www.caricom.org/chartercivilsoc.html

125 International Institute for Sustainable Development. *Trade and Sustainable Development Principles – The Winnipeg Principles*, (Winnipeg: International Institute for Sustainable Development, 1994).

126 Inter-American instruments, such as the Organization of American States and the Inter-American Development Bank focus on country-specific environmental challenges for the most part, or on the management of particular transboundary ecosystems, rather than hemispheric or sub-regional environmental data. Sub-regional networks for information exchange include the Fisheries Newsnet of CARICOM, Caribbean Community. Others such as AMBIONET, CARISPLAN, CEIS, INFONET, and UNEPNet focus on the creation and maintenance of regional databases on socio-economic and environmental data and information.

127 On a sub-regional level, in Central America, the UNDP Programme of Sustainable Development Networks (SDN) began in Honduras in 1994, with the aim of improving mechanisms for processing and exchanging information in support of sustainable development, involving the government and all actors of civil society at a national and regional level. On a national level, different information systems address specific issues, managed by sectoral institutions, such as the Information System of Protected Areas of the National Office for Biodiversity Conservation in Bolivia, where a Council on Sustainable Development disseminates regular reports. Comprehensive national systems also exist. In Chile, a National System of Environmental Information was launched in 1994, based on a decentralized, low-maintenance, open and flexible platform. It has a pilot web site with information organized in environmental modules and topics. Information policies have concentrated mainly on natural resources, with little information on the dynamics of ecosystems. Some attempts have been made in Brazil since 1984 to maintain a National Environmental Information System, despite the difficulties of coordinating federal and state environmental agencies. A National Information Centre connected with national and international scientific organizations is being built and its implementation has begun.

128 Decision 11 adopted in the IX Meeting of Ministers of Environment in Latin America and the Caribbean held in La Habana, Cuba, September 21–26, 1995.

129 Van Dyke, Jon M. *The Legal Regime Governing Sea Transport of Ultrahazardous Radioactive Materials*. Malaysian Institute for Marine Affairs. October 18, 1999.

130 Mexican Position in the negotiations of the Cartagena Protocol Biosafety of the 1992 Biodiversity Convention, http://www.nappo.org/anrep_s-19-9899.htm

131 Standards for the certification of forestry management of the lower lands of Bolivia (Version 7.2.a, which fulfills the Forest Stewardship Council requirements). Approved by the Directorio del CFV and by the Secretaria del FSC Santa Cruz, Bolivia, January 1999.

132 Precautionary Principle and Potentialities: The Chilean case. Presentation to the sub regional seminar for Persistent organic pollutants (COPs) of the United Nations Program for the Environment, Chemical Products and Intergovernmental Forum of Chemical Safety Unit held in (IFCS) Puerto Iguazu, Argentina, 1–3 April, 1998.

133 Article 3c, 94, Extraordinary Session Period of the Commission, 11 June, 1998.

134 Decreto Que Reforma, Adiciona y Deroga Diversas Disposiciones de la Ley General del Equilibrio Ecológico y la Protección al Ambiente Disposiciones Generales.

135 Article 11(2) Ley Nº 7788; the Biodiversity Law of the Legislative Assembly, Costa Rica.

136 Article 4, Proposed Principles for Selecting Substances, Sound Management of Chemicals Council. Resolution 95-05, Oaxaca, October 13, 1995.

137 Preamble and Article 2, Protocol Concerning Cooperation in Combating Oil Spills in the Wider Caribbean Region, Cartagena de Indias, March 24, 1983.

138 Schettler, Ted. Science and Environmental Health Network. *The Precautionary Principle and Persistent Organic Pollutants,* March 2000.

139 International Institute for Sustainable Development. *Trade and Sustainable Development Principles*, (Winnipeg: International Institute for Sustainable Development, 1994), pp. 23–24.

140 Hurrell, A., and B. Kingsbury. "The International Politics of the Environment: An Introduction," in Hurrell, A. and B. Kingsbury, eds. *The International Politics of the Environment: Actors, Interests, and Institutions*, (Oxford, U.K.: Oxford University Press, 1992), pp. 1–47.

141 Usher, J. Protection of the environment through trade restrictions and the Community's external relations: the respective competence of the Community and of its member states. Pages 261–276 in Cameron, J., P. Demaret and D. Geradin. *Trade and the environment: the search for balance*. Vol. 1, (London, U.K.: Cameron and May, 1994); von Moltke, K. *The Maastricht Treaty and the Winnipeg Principles on Trade and Sustainable Development*, (Winnipeg: IISD, 1995).

142 Housman, R., D. Goldberg, B. van Dyke and D. Zaelke. The use of trade measures in select multilateral environmental agreements. *Environment and Trade* 10, (Nairobi, Kenya: UNEP, 1995); Ewing, K. P. and R. G. Tarasofsky. The "Trade and Environment" agenda: survey of major issues and proposals. *Environmental Policy and Law Paper* No. 33, (Gland, Switzerland: IUCN, 1997).

143 See Robb, C. ed. International environmental law reports, Vol. 2, *Trade and Environment*, p. 234–345, which summarises the 1998 WTO Case of United States Import Prohibition of Certain Shrimp and Shrimp Products (India, Malaysia, Pakistan and Thailand vs. United States of America), Lauterpacht Research Centre for International Law, (Cambridge, U.K.: Cambridge University Press, 2001).

144 Cordonier-Segger *et al. Trade rules and sustainability in the Americas*, (Winnipeg: IISD, 1999), p. 50.

145 Pickering, K. T. and L. A. Owen. *An introduction to global environmental issues*, 2nd ed. (London, U.K.: Routledge, 1997).

146 Dinerstein, E., D., M. Olson, D. J. Graham, A. L. Webster, S. A. Primm, M. P. Bookbinder and G. Ledec. *A conservation assessment of the terrestrial ecoregions of Latin America and the Caribbean*, (Washington, D. C.: WWF-World Bank, 1995), p. 4.

147 Article 3 of the 1979 Convention for the Conservation and Management of the Vicuña (Lima) prohibits the "internal and external trade of the Vicuña, its products in their natural state and those manufactured therefrom," unless a camelid's national population is deemed large enough to support consumption, whereupon trade in

meat, viscera, and bones, as well processed skins and wool, could be allowed "under strict State control" and "after coordination with the Parties ... and in coordination with the Convention on International Trade in Endangered Species."

148 FAO. *El manejo de la Vicuña: su contribución al desarrollo rural en los altos Andes del Perú*, (Rome, Italy: Food and Agriculture Organization, 1985).

149 Ley de Hidrocarburos 1978, Art. 1.

150 Ley 24.145 de Federalización.

151 Rosencranz, A., R. Campbell and D. A. O'Neil. Rio plus five: environmental protection and free trade in Latin America, *Georgetown International Environmental Law Review* 9, 1997.

152 1978 Canada-U.S. Great Lakes Water Quality Agreement.

153 The 1969 Rio de la Plata Basin Treaty, which groups the four MERCOSUR members and Bolivia. The regular ministerial meeting of 1989 created an Intergovernmental Committee for the Paraguay-Paraná Hidrovía (CIH) (Resolution 239). Among other functions, the CIH was responsible for undertaking studies on the environmental impacts of the proposed Hidrovía, a 3,400 km waterway that would make ocean-vessel navigation possible from the Atlantic to Cáceres, Brazil, deep inside the South American continent. Sub-national cooperation in environmental matters is often catalyzed by international regimes. Birnie and Boyle. *International law and the environment*, (Oxford, U.K.: Clarendon Press, 1992), p. 246. http://www.ijc.org; http://www.ssdnet.com.ar/hidrovia; http://chasque.chasque.apc.org/rmartine/hidrovia

154 Canada-U.S. Convention on the Protection of Migratory Birds, 1916 and, 1936 Convention on the Protection of Migratory Birds and Game Mammals (Mexico-U.S.).

155 Lyster, S. *International wildlife law*, (Cambridge, U.K.: Grotius, 1985).

156 De Klemm, C. and C. Shine. Biological diversity conservation and the law: legal mechanisms for conserving species and ecosystems. *Environmental Policy and Law Paper* No. 29, (Gland, Switzerland: IUCN, 1993).

157 Yashar, D. J. *Indigenous protest and democracy in Latin America*, in Domínguez, J. I. and A. F. Lowenthal, eds. *Constructing democratic governance: Latin America and the Caribbean in the 1990s*, (Baltimore: Johns Hopkins University Press, 1996), pp. 87–105.

158 In particular, article 15 that states that "the rights of interested peoples to the natural resources that exist on their land must be specially protected ... rights include those of participation in the use, administration, and conservation of such resources."

159 Moran, E. F. *Through Amazonian eyes: the human ecology of Amazonian populations,* (Iowa City, U.S.A.: University of Iowa Press, 1993).

160 CDEA. Amazonia without myths. Commission on Development and Environment for Amazonia, IADB-UNEP-Amazon Cooperation Treaty, 1996.

161 Over 1,100,000 square kilometers of Amazonia have been set aside by national governments as ethnic areas and indigenous reserves, presumably to encourage self-empowered management of natural resources. CDEA; *op. cit.* note 24.

162 Art. 7, Decision No. 391 on Access to Genetic Resources, 1996. CDEA; *op. cit.* note 24.

163 Bravo, E. Etnobotánica, derechos de propiedad intelectual y biodiversidad, in Rios and Pedersen, eds. *Uso y manejo de recursos vegetales*, (Quito, Ecuador: Abya-Yala, 1997), pp. 119–139.

164 Toledo, A. Economía de la biodiversidad. *Textos Básicos para la Formación Ambiental* No. 2. PNUMA-Oficina Regional América Latina y el Caribe, 1998.

165 IISD. *Trade and sustainable development principles*, (Winnipeg: International Institute for Sustainable Development, 1994).

166 Hurrell and Kingsbury. *The international politics of the environment: an introduction*, in Hurrell, A. and B. Kingsbury, eds. *The international politics of the environment: actors, interests, and institutions*, (Oxford, U.K.: Oxford University Press, 1992), pp. 1–47.

167 "The Americas Drift Towards Free Trade" *The Economist* 35, 8 July 1995.

168 See "Chile-Canada FTA Differs From NAFTA, but Could Aid Chilean Accession" *Inside NAFTA* (27 Nov. 1996), pp. 1, 21. See also "MERCOSUR, Andean Group Make Little Headway Towards South American FTA" *Inside NAFTA* (27 Nov. 1996), p. 1.

169 For signatories see http://www.unfccc.de

170 Which embodies the present global management regime for that continent. Birnie, P. W. and A. E. Boyle. *Basic documents on international law and the environment*, (Oxford, U.K.: Oxford University Press, 1995); Bergesen, H. O., G. Parmann and O. B. Thommessen. *Yearbook of international cooperation on environment and development* 1998-9, (London, U.K.: Fridtjof Nansen Institute-Earthscan, 1998), http://www.ext.grida.no/ggynet/index.htm

171 Article 2 establishes the "List of wetlands of International Importance."

172 Article 1 designates hazardous wastes as those that " belong to any category contained in Annex 1" as well as those designated as such by domestic legislation of Party states.

173 Article 5 establishes an amendable schedule that regulates protected species, open seasons, sanctuary areas, size limits, methods and intensity of whaling, types and specification of equipment used, methods of measurement, statistical and biological record keeping, and inspection requirements.

174 Brack, D. *The Montreal Protocol*. Royal Institute of International Affairs, (London: Earthscan, 1998).

175 See http://www.unep.rolac.mx for details.

176 Article 104, 1994 North American Free Trade Agreement.

177 Executive body in charge of overseeing implementation of the integration treaty.

178 Tarak, P. El medio ambiente en el MERCOSUR, in FARN. *Bases para la armonización de exigencias ambientales en el MERCOSUR*, (Buenos Aires, Argentina: Fundación Ambiente y Recursos Naturales, 1995), p. 18.

179 See Leichner, M. "The MERCOSUR Framework Agreement on the Environment" (Fall, 2001) 15 *Bridges* (Journal of the International Centre for Trade and Sustainable Development), Geneva.

180 http://www.sieca.org.gt/publico/menu.htm.

181 Previously the Commission of the Cartagena Agreement or JUNAC.

182 Decision Number 182. Pardo, E. F. La política ambiental en el Grupo Andino, in Guhl, E. and J. G. Tokatlian, eds. *Medio ambiente y relaciones internacionales,* (Bogota, Colombia: Tercer Mundo Editores, 1992), pp. 179–189, http://www.sieca.org.gt/publico/menu.htm

183 Decision number 391, 1996.

184 Decision number 435, 1998. http://www.comunidadandina.org

185 1969 Treaty of Cartagena, supra note 55 at Ch. II, E Concerning the Andean Community Tribunal of Justice and I – Concerning Dispute Settlement.

186 Treaty Creating the Court of Justice of the Cartagena Agreement, May 28, 1979, 18 I.L.M. 1203 (1979) [hereinafter "1979 Andean Court of Justice Treaty"] at 3. This resolves in principle a major gap in the earlier legislative process of the 1969 Cartagena Agreement. See Horton, S. "Peru and ANCOM: A Study in the Disintegration of a Common Market, 17 *Tex. Int'l L. J*. 39, 43–44 (1982).

187 1979 Andean Court of Justice Treaty, *ibid*. at 1, 19, 27, 29, 33, 17–33. These norms include the 1969 Cartagena Agreement, its protocols and instruments, the Treaty itself, the decisions of the Commission and the Resolutions of the Board. Actions which can be brought concerning these norms include actions for nullification of acts of CAN institutions, actions for non-compliance on the part of a member state, and requests by national courts for advisory opinions.

188 See Wiesner, E. A. "ANCOM: A New Attitude Toward Foreign Investment?" (1993) 24 *U. Miami Inter-Am. L. Rev*. at 435, 436–37 which argues that foreign direct investment in CAN member states has been impeded by the continuing vitality of the Calvo Doctrine.

189 See http://www.oas.org for details.

190 This section will concentrate on the major regional trade agreements involving three or more Parties. Within this hemisphere there are also a multitude of bilateral FTAs, principally originating with Mexico and Chile. See J. R. Holbein and G. Carpentier, "Trade Agreements and Dispute Settlement Mechanisms in the Western Hemisphere" (1993) 25 Case *W. Res. J. Int'l L.* at 531, 552–53; "Peru to Negotiate FTA with Mexico Starting in November, 12" *Int'l Trade Rep*. (Oct. 4, 1995) at 1647.

191 Blum, J. S. "The FTAA and the Fast Track to Forgetting the Environment: A Comparison of the NAFTA and the MERCOSUR Environmental Models as Examples for the Hemisphere" (Summer, 2000) 35 *Tex. Int'l L.J.* 435. See also Huntington, D. S. supra note 78.

192 See *Protocol of Brasilia for the Resolution of Controversies*, Dec. 12, 1991, 6 InterAm. Legal Materials 1 (1992) [hereinafter 1992 *Brasilia Protocol*]. Also see *Additional Protocol to the Treaty of Asuncion on the Institutional Structure of MERCOSUR*, Dec. 17, 1994, 34 I.L.M. 1244, 1258 (1995) [hereinafter 1995 *Ouro Preto Protocol*].

193 See O'Keefe, T. A. "An Assessment of MERCOSUR's Present Legal Framework and Institutions and How They Affect MERCOSUR's Chances of Success," 6 *Int'l L. Practicum* 14, 1993.

194 For more information, see the NACEC Factual Reports, which are summarised at http://www.cec.org

195 1969 Treaty of Cartagena, supra note 55 at Ch. II, E Concerning the Andean Community Tribunal of Justice and I – Concerning Dispute Settlement.

196 *Treaty Creating the Court of Justice of the Cartagena Agreement*, May 28, 1979, 18 I.L.M. 1203 (1979) [hereinafter "1979 *Andean Court of Justice Treaty*"] at 3. This resolves in principle a major gap in the earlier legislative process of the 1969 Cartagena Agreement. See Horton, S. "Peru and ANCOM: A Study in the Disintegration of a Common Market, 17 *Tex. Int'l L. J.* 39, 43–44 (1982).

197 Aguinda v. Texaco, Inc., 18 B. C LEXIS 4718 and Aguinda II, 850 F. Supp. at 282, See Kimmerling, J. "Disregarding Environmental Laws: Petroleum Development in Protected Natural Areas and Indigenous Homelands in the Ecuadorian Amazon" (1991) 14 *Hastings Int'l & Comp. L. Rev*. 849 which sets forth allegations about the negative impact of the petroleum industry on indigenous populations. See also Rankin, J. K. "U.S. Laws in the Rainforest: Can a U.S. Court Find Liability for Extraterritorial Pollution Caused by a U.S. Corporation? An Analysis of Aguinda v. Texaco, Inc., 18 B. C." (1995) Note, *Int'l & Comp. L. Rev*. 221.

4
General Conclusions

COORDINATION MUST BE STRENGTHENED between the diverse aspects of the ecological regimes identified above, ensuring operational coherent structures that benefit the shared environment of all the countries of the Western Hemisphere. In particular, as mentioned above, a survey of the general agreements for coordination of ecological policy reveals that no truly hemispheric accord exists at present in the Americas. If a hemispheric trade agreement is to be negotiated, equivalent environmental cooperation initiatives would make a significant contribution. This can help to ensure that the hemispheric cooperation process as a whole supports sustainable development, in a balanced way.[198] While political processes are in place, in particular the United Nations Forum of Ministers of the Environment of Latin America and the Caribbean, these meetings are simply a first step. Existing sub-regional environmental agreements offer useful models and indeed, provide the foundations of a cooperative hemispheric environmental management system. If the hemispheric agenda succeeds, particularly the FTAA, a coherent and integrated system of hemispheric environmental management will be essential for the Americas. This system must have the capacity to respond to the challenges mentioned in the first part of this document, and others not yet identified. Based on the Winnipeg Principles analysis carried out above, the following general conclusions can be drawn:

4.1 The Need for a Stand-alone Americas Ecological Accord

This study reveals the need for more effective, coordinated and integrated hemispheric ecological regimes. Regional environmental accords can also play a strong capacity building and information sharing role, helping to implement multilateral environmental commitments. And, though they lack formal treaty

status, civil society institutions or grassroots networks can also strengthen international cooperation for the environment. A strong common ecological agenda could defuse opposition to hemispheric integration and even develop flanking measures that would lessen potential secondary effects of increased trade in the Western Hemisphere.

This study proposes that a new "Americas Ecological Accord" (AEA) could act as an international legal and policy coordination body of this cooperation, to achieve environmental integrity goals on a hemispheric basis.

The Americas offer an environmental and geographic system with common migratory species and linked ecosystems. The region would benefit from a coherent ecological cooperation agenda. Any new arrangement must be woven into a broad, flexible network of existing bilateral, sub-regional and regional institutions and environmental accords, many of which constitute regimes in their own rights. These must be taken into account as an essential part of the regional picture, particularly the five comprehensive sub-regional regimes detailed above. A new regional environmental agreement for the Americas would need to build upon existing gaps in cooperation. It should be based on the lessons learned from a comprehensive review of existing instruments. Based on the analysis above, the following preliminary recommendations for substance and procedure can be proposed for a new AEA:

Potential agenda items for hemispheric cooperation in an AEA:

An AEA should cooperatively address the most serious environmental management challenges faced by its Parties, adding value to the existing regimes.

- First, an AEA could play a strong role in compiling and developing methodologies for the collection of aggregated, empirical data on environmental conditions in the Western Hemisphere, making it available to citizens and policy-makers.
- Second, an AEA can support the domestic implementation of environmental laws, providing analysis, best practices, mechanisms for capacity building, policy linkages and even accountability through streamlined procedures for challenges of non-enforcement.
- Third, an AEA can provide a space for countries of the Americas to join forces on particular environmental issues of common concern or harmonized standards, especially the three pressing priorities identified by the Forum of Environment Ministers of Latin America and the Caribbean; deforestation, unsustainable urbanization and vulnerability to disaster.
- Fourth, an AEA can save governments time and resources by providing, where common agendas exist, regional negotiating mechanisms

in multilateral environmental agreements. The joint positions can be followed up by cooperative implementation, monitoring and reporting which include hemispheric clearinghouses, experts networks, technology transfer and financing mechanisms.

Considerations for the AEA process:

Negotiations for an AEA should be launched through a series of high-level political and expert environmental policy dialogues, organized through credible regional mechanisms such as the Forum of Ministers of the Environment of Latin America and the Caribbean (which is already attended by Canadian and U.S. observers). These dialogues can be informed by the 1996 Santa Cruz Summit of the Americas Declaration of Principles and Action Plan, and could take place in the context of future Americas Summits. They should be based on the following considerations:

- The AEA should be negotiated in an open, transparent and accountable way, with careful preparations and full participation from all countries of the hemisphere from the start. It is essential to avoid last minute negotiations that could alienate key actors and countries.
- An AEA would be most effective if provided with a strong implementing institution, sensitive to the needs of diverse sizes of economies and distinct ecological zones of the Americas. There is a growing trend to establish qualified national environmental authorities with the ability to coordinate and integrate environmental and resource management and protection across the different sectors, as evinced by the recent opening of the Consejo Nacional del Ambiente in Peru, the Comision Nacional del Medio Ambiente in Chile, and the new SEMARNAT in Mexico.[199] Sub-regional environmental instruments also exist in five areas of the hemisphere, and are increasingly effective. A new hemispheric institution would require a mandate to work with these national and sub-regional environmental authorities, a secretariat and office to support its activities, a clear program of activities with financing, and a structure to ensure effective cooperation and feedback.
- The negotiations for an AEA will need to identify a mechanism to address environment and trade linkages from a hemispheric environmental policy perspective. This agenda could incorporate such issues as a gradual process of mutual recognition or harmonization, where appropriate, of Americas-wide environmental standards and certification procedures (potentially on natural resources such as mining or forestry), methodologies for sustainability assessment of trade agreements, the promotion of trade or technology transfer in environ-

mental goods and services. It could also examine ways to promote more environmentally-beneficial investment policies, eliminate unsustainable subsidies, and settle eventual hemispheric trade and environment disputes.

- Negotiations should provide concrete, accessible mechanisms that would facilitate civil society participation, founded upon access to information and justice. This is necessary to ensure respect for legitimate public environmental or social goals, provide incentives for compliance with environmental law and resolve disputes.[200]

4.2 Conduct a Hemispheric Sub-regional Integrated Assessment of the FTAA

In order to advance the integration agenda, either for an AEA or simply for trade liberalization, legitimate fears and concerns of smaller economies and the public must be addressed. This cannot be done without accurate, independent information, analysis and awareness on key impacts. A process should be launched immediately to conduct comprehensive, participatory sustainability reviews of the proposed FTAA. This integrated assessment can be conducted *ex-ante* (prior to the conclusion of the agreement) through the use of a consistent methodology[201] for scenarios analysis, by sub-regional institutions across the Americas. Such a review process could also be based upon the lessons learned from studies conducted for the recent North American Symposium for the Assessment of Trade and Environment policies;[202] studies of the Chilean mining sector by CIPMA for the United Nations Environment Programme; or the recent study of environmental effects changes in the export structures of Argentina, Bolivia, Brazil, Chile, Jamaica, Mexico and Peru, conducted by ECLAC.[203] It should also build on assessments already performed in the U.S. and Canada (NAFTA, NAFTA retrospective, Uruguay Round retrospective[204]), and those due to be performed under new requirements. Finally, it can take into account recent methods developed in the Organization for Economic Cooperation and Development (OECD) and in the European Union. Results will identify useful parallel measures for trade policy, support the development of sequencing options to mitigate or lower any negative environmental effects, and serve to strengthen the sustainable development benefits of liberalization. Such studies can also generate comparative data to identify perverse environmental subsidies leading to elimination programs. They can identify key areas where clean technology is needed for the most efficient industrial gains. For a hemispheric study, appropriate efforts must be made to include not only partners such as the IDB, ECLAC and OAS (hemispheric and regional institutions that provided in-depth analysis of the region's trade structures prior to the launch of the FTAA), but also smaller economies of LAC, through their sub-regional institutions. In addition to *ex-ante* studies,

ex-post reviews are essential to assess ongoing impacts, and make necessary adjustments or implement adequate flanking measures. The review can compile comparative data and develop a matrix, which builds upon recent work at UNEP,[205] the OECD, various national governments and the North American Commission for Environmental Cooperation. Civil society organizations should participate as partners in all aspects of the sustainability reviews.

4.3 Specify New, Innovative Financing Mechanisms for Americas Cooperation

In keeping with the principle of equity, a strengthened environmental cooperation agenda in the Americas should not burden already over-stretched environmental ministries, particularly in smaller economies. Environmental activities are normally subsidized by government funds, with resources coming from national budgets, donations and grants, licenses and fees, loans, contribution legacies, fines, indemnification, auction sales of confiscated products and other resources determined by legislation. In recent years, there has been support from international aid and bilateral technical cooperation programmes, aimed mainly at setting up and strengthening environmental institutions. In the Americas, top actors are UNDP including, through Capacity 21, DESA, the World Bank and the IDB, the OAS, ECLAC, and UNEP. One expert body worthy of consultation is the Inter-Agency Technical Committee of the Forum of Ministers of the Environment of Latin American and the Caribbean. Special funds, modelled on the ALIDES Central American Fund for Environment and Development project, can be created to support regional environmental priorities. Other funding initiatives might also serve as complementary examples, such as those that take advantage of the restructuring of bilateral debts with the United States (the Fund for the Americas), and are oriented particularly to civil society cooperation, or those which focus on addressing specific environmental issues.[206] These issue-specific cooperative mechanisms, if independence can be assured, also hold good chances of accessing corporate social and environmental responsibility programs, and investment advantages. In the context of discussions for a new AEA, serious attention must be given to the establishment of mechanisms for new and additional resources to properly finance the agenda in a realistic, cost-effective manner which is controlled by the Parties to the accord themselves in a just and equitable way.

Independent of whether a new AEA instrument is negotiated, the comparative analysis above has generated recommendations for four broader initiatives that could provide an "early harvest" for strengthened and more effective environmental cooperation in the Americas.

4.4 Establish Hemispheric Environmental Monitoring Systems

Information systems should be established and networked to provide better, more hemispheric accurate data to decision-makers and researchers. As mentioned above, while advances have been made, obtaining comparative or aggregated information on the environmental situation in the Americas is still, in itself, a significant challenge. In order for truly hemispheric analysis, key scientific information on current environmental conditions is missing, without which any survey of priorities or issues is perfunctory at best. Hemispheric scientific and environmental information, monitoring, analysis and access systems with compatible frameworks must be established. There is a strong need for data which can be cross-referenced, like the electronically accessible, integrated eco-regional mapping systems developed by the North American Commission for Environmental Cooperation. It is recommended that new "state of the environment" reporting systems be built through cooperation with sub-regional institutions and instruments. A proposal has been developed in "An Environmental Vision for Latin America and the Caribbean," where Latin American and Caribbean governments recommend the establishment of an information exchange system—harmonized at the regional level—that is dynamic, open and decentralized. They propose that this system be based on Internet sites of the Ministries of the Environment (or their equivalent) in the region, through "harmonized" web pages reflecting thematic/priority areas and the interests defined by the Forum of Ministers of the Environment of Latin America and the Caribbean.[207] This type of system would help to address the paucity of scientific ecological conservation information in the Americas.

4.5 Compile a Hemispheric Compendium and Conduct Gap Analysis

Efforts are needed to strengthen environmental policy coherence, coordination and implementation on a hemispheric level. At present, information is not readily accessible as to which instruments exist, and even less how to ensure coordination or effectiveness. International environmental regimes are currently being formed and in the area of environmental policy, there is a proliferation of problem-based, resource-based, ad-hoc instruments and norms, including those mentioned above. Information on existing agreements, institutions and experiences, including gap analysis, is lacking. Smaller economies, in particular, find themselves committed to a wide range of increasingly complex environmental accords on many levels. As a first step to increase effectiveness and coordination of international environmental policy, a hemispheric compendium of existing international environmental accords and their application should be developed, and made accessible on the Internet. This comprehensive guide can be investigated and produced in cooperation with relevant technical bod-

ies and civil society experts, producing a survey of existing environmental management principles, provisions, institutions and instruments in the Americas. As part of the compendium initiative, a *diagnostico* should be carried out, where policy gaps can be identified and mechanisms developed to address them. This follows on recommendations made in the 1996 Santa Cruz de la Sierra Declaration of Principles (para. G) to strengthen legal frameworks, and can be placed within the broader political context of "environmental commitments" within a sustainable development agenda. The document, particularly if placed online, could be a valuable resource for the hemisphere.

4.6 Create a Space for Ecological Debates, Including Consideration of Trade Issues

To build effective international cooperation and political will, further meetings of the environment ministers of the Americas should be held, with a view to becoming a regular session. The Forum of Environment Ministers of Latin America and the Caribbean, in cooperation with the Organization of American States and others, is one obvious starting point for such an initiative. This would require an expanded mandate and invitations for deepened engagement from countries such as Canada, and the United States, as well as the North American Commission for Environmental Cooperation and other institutions. Due to the interconnected nature of Americas ecosystems and the ongoing economic integration agenda, a joint mandate founded upon environmental health concerns, the protection of natural areas, the conservation of species and populations, and the sustainable use of natural resources, can be developed. This forum can ensure more effective follow-up to the 1996 Santa Cruz de la Sierra agenda, and include actors from civil society, regional environmental accords and secretariats, and the various hemispheric institutions. In order to ensure that trade and sustainability issues are not lost in this discussion, it is also recommended that a hemispheric roundtable or standing committee should be established to examine potential areas of policy linkage. This can be done in coordination with the existing Hemispheric Working Group on Trade and Environment of civil society organizations. This roundtable can serve three essential functions:

1. It can provide a forum for the exchange of experiences and open dialogue on trade and sustainable development issues, to address fears and concerns and take steps toward building a common political understanding.
2. It can undertake an agenda of research, analysis and identification of hemispheric policy options that will obtain support from essential actors and institutions, particularly trade and environment departments within governments, civil society, inter-governmental institutions and private sector leaders.

3. It can become a space for participation from key sectors of society, granting legitimacy and increased transparency to the debates on trade and sustainable development which stops these issues from preventing other environmental cooperation advances. It can also provide a mechanism for capacity-building and knowledge-building on these challenges and new issues.

4.7 Establish Mechanisms to Ensure the Participation of Civil Society

As we have seen through the openness principle analysis, environmental accords rely upon the input, support and involvement of civil society, indigenous peoples and local communities. For effective inclusion, capacity-building is needed for governments and civil society, and citizens must gain access to information, decision-making processes and justice. Existing sub-regional environmental regimes provide models of participatory mechanisms and lessons learned. For example, openness can be encouraged through effective legal mechanisms to ensure citizen rights in processes, new and additional intervenor resources, and open, equitable and accountable selection processes. While environmental negotiations have their protesters, criticism raises awareness, strengthening agendas. Constructive, informed dialogue usually takes place alongside, and environmental policy can benefit from civil society advice, expertise and innovation. There is also a positive side to engaging the increasingly active hemispheric environmental community, as it leads to more lively monitoring and follow-up. Governments have a key role in facilitating effective and accessible mechanisms to ensure openness. The next few years could establish adequate, or even a precedent-setting regional architecture on environmental cooperation, so that the Americas integration agenda as a whole is not derailed later by civil society concerns.

Methods to include civil society participation are varied. Governments can sub-contract civil society organizations from across the Americas to organize workshops parallel to negotiations. At a minimum, environmental organizations should be accredited to hemispheric negotiations, with speaking rights, as has been done in many MEA Conferences of the Parties. Expert non-governmental speakers can be included in agendas, and interested stakeholders can be invited onto government delegations. Very legitimate concerns exist that civil society voices are of uneven strength and that increased openness might lead to unbalanced participation from some countries. But the solution is not to keep environment groups out and risk losing the process. Instead, it is essential, as discussed above, to build a strong hemispheric civil society voice with the capacity to participate effectively in shaping trade and integration policy. Support is needed to establish mechanisms driven by civil society to build bridges between trade and sustainable development communities. In

addition to Civic Forums being held in parallel with meetings of FTAA Trade Ministers and other processes, a centre or institution should be created with a mandate to undertake capacity-building and increase information analysis and flow. This organisation should provide technical support on sustainable development issues for the FTAA, and facilitate the flow of information (similar to the International Centre for Trade and Sustainable Development in Geneva in the WTO context).[208] Such a non-advocacy mechanism can facilitate comprehensive policy dialogues among the different interests, sub-regional perspectives and sectors.

Interesting Times: Evolving Sub-regional and Hemispheric Ecological Regimes

As the Summit of the Americas process, particularly the proposed Free Trade Area of the Americas negotiations, gathers momentum, governments, business, inter-governmental agencies and civil society groups are increasingly focused on the need for balancing measures to ensure that the hemispheric agenda supports sustainable development objectives. Diverse, overlapping environmental regimes are already in force in the Americas on many levels, structured around cooperative international arrangements and in many cases, international environmental agreements. From this study, it is clear that existing agreements and instruments do not provide a coherent or effective regime. The environmental cooperation agenda in the Americas has great potential to innovate. Possibilities exist for a stand-alone Americas Ecological Accord. This could be structured as a hemispheric forum for environmental dialogue linked to existing sub-regional accords; an Americas Framework Agreement on the Environment with specific protocols; or even an Americas Environmental Accord with an effective, well-structured hemispheric Commission for Ecological Cooperation.

The first steps toward a strengthened environmental cooperation agenda in the Americas must set a process in place which can meet the needs of all countries and stakeholders. A progressive agenda in this respect will have three key characteristics. First, existing environmental instruments on all levels will be thoroughly examined and taken into account, as they could provide valuable models or even the foundations for an emerging regime. Second, capacity-building based on joint development of environmental information, knowledge and analysis, will increase the level of partnership among national environmental authorities, civil society experts and the private sector actors with an interest in strengthened environmental cooperation in the Americas. And third, a roundtable or other mechanism will be identified or created in which dialogue can take place to develop a hemispheric trade and sustainability agenda. This agenda can lead to the creation of a new instrument for joint stewardship of the ecological tapestry of the Americas, and a more sustainable Americas agenda.

Endnotes

198 In the ICTSD (1999) paper, existing regional integration agreements (RIAs) are compared with a view to integration of environmental cooperation objectives. Frier points out that RIAs in general are structured in three stages: 1) political dialogue, 2) negotiation of targets and baselines, and 3) institution-building. On the environment, political dialogue forums exist for ALL regional agreements surveyed. Targets and baselines exist in several (including commitments to improve and implement national environmental policy, regional environmental protection mechanisms in all policy fields, and solutions for selected environmental problems). Institutionalization also exists in several—the EU, NAFTA, SADC and ECOWAS, and shortly for the MERCOSUR (including meetings of ministers, working groups, functioning institutions and environmental agreements). This footnote does not support the argument to which it is attached.

199 See Ley 26410, El Peruano, 22 de deciembre de 1994 (Peru); Ley de Bases del Medio Ambiente, D.O., 9 de marzo de 1994 (Chile).

200 Burnstein, M. "Sunrise in the Americas: Environmental Protection and Hemispheric Integration," DRAFT, (New Haven, CT: Yale Centre for Environmental Law and Policy, 1998).

201 While there is no clear relationship between rates of economic growth and rates of environmental degradation, the "environmental Kuznet's curve" (where environmental protection improves as economies improve) has been discredited. Methodologies are becoming increasingly refined, including ways of studying effects by economic sector (agriculture, services), environmental media (air quality, water, biodiversity) or qualitative sustainability benchmarking (such as using the Winnipeg Principles).

202 Models for sectoral reviews include above-mentioned processes conducted in the North American Commission for Environmental Cooperation, which focused on the corn in Mexico, cattle in the U.S. and Canada, and electricity in North America. Also, for more details see "Evaluación de los efectos ambientales del tratado de Libre Comercio de América del Norte. Marco de Trabajo Analítico (Fase II) y Estudios Temáticos" which is available at http://www.cec.org

203 Shapher. Economic Commission for Latin America and the Caribbean, 2000.

204 Previo a la III Reunión Ministerial de la Organización Mundial de Comercio en 1999, varios gobiernos anunciaron oficialmente su compromiso con la evaluación de los impactos ambientales de las iniciativas comerciales en su agenda de negociación. Por ejemplo ver declaraciones de Estados Unidos (WT/GC/W/304); la Unión Europea (WT/GC/W/194) y Canadá (WT/GC/W/358) se encuentran en http://www.wto.org/wto/online/ddf.htm

205 A handbook for the integrated assessment of global and regional trade liberalization accords is in the process of being developed by the United Nations Environment Programme. This guide will offer policy tools for governments and other actors to commission such studies, and should be used in combination with

existing frameworks to conduct an *ex-ante* review of the work of the nine FTAA negotiating groups on the hemispheric level.

206 Examples include Bolivia's National Environmental Fund (FONAMA) established in 1990, which aims to capture and manage funds oriented towards biodiversity; Paraguay's Protected Wilderness Areas, Wildlife and Forest Fund; Chile's Environmental Protection Fund; Brazil's Federal Fund for Forest Replacement, supported since 1973 by payments for the exploitation of forest resources; and the Rain Forest Trust Fund administered by the World Bank. Brazil's National Environment Programme, with 70 per cent financing from the World Bank, was set up to strengthen environmental bodies, implement the National System of Conservation Units, protect endangered ecosystems and help reconcile economic interests with environmental protection.

207 Inter-Agency Technical Committee of the Forum of Ministers of the Environment of Latin America and the Caribbean, Twelfth Forum of Ministers of the Environment of Latin America and the Caribbean Bridgetown, Barbados, March 2–7, 2000, Preparatory Meeting of Experts, March 2–3, 2000, UNEP/LAC-IGWG.XII/TD.6, February 1, 2000, Original: Spanish.

208 See ICTSD at http://www.ictsd.ch; a description can be found in "Recommended Resources" at Chapter 6.

5
Table of ERSA Winnipeg Principles Recommendations

1. **Environmental Integrity Principle**
   - Strengthen and develop comprehensive hemispheric environmental information systems.
   - Establish and link hemispheric "state of the environment" reporting systems.
   - Establish and link hemispheric protected areas networks for ecosystems and migratory species.
2. **Efficiency and Cost Internalization Principle**
   - Track case studies and disseminate their results to promote support and action from corporate citizens and the private sector.
   - Promote environmental efficiency in the hemispheric integration process.
   - Strengthen sectoral cost internalization programs and generate accurate, comparable analytical data on their progress.
3. **Equity Principle**
   - Recognize and support the principles of common and differentiated responsibility and benefit-sharing in the hemispheric integration process.
   - Establish mechanisms to provide new and additional funding to cover the costs of new obligations.
   - Re-negotiate foreign debt provisions in the context of sustainable development.

4. **Openness Principle**
    - Recognize the need for civil society access to information, participation and justice.
    - Promote new technologies for public information and discussion.
    - Encourage public confidence by providing streamlined mechanisms for access to justice.
    - Build civil society capacity, analysis and resources.
5. **Science and Precaution Principle**
    - Operationalize the precautionary principle in REAs.
    - Coordinate precautionary risk and impact assessment methods.
    - Strengthen the burden of proof dimension of the precautionary principle.
6. **Subsidiarity Principle**
    - Address environmental governance at appropriate ecological scales (ecological subsidiarity).
    - Ensure coherence between existing bilateral, sub-regional, regional, hemispheric and global environmental accords.
    - Ensure internationally coordinated, sub-national environmental management programs.
    - Empower the participation of indigenous communities in sustainable development at all levels.
7. **International Cooperation Principle**
    - Develop a compendium of existing environmental cooperation instruments.
    - Encourage political linkages on environmental issues.
    - Explore potential for a hemispheric ecological dispute settlement mechanism.
    - Address the need for leadership and inclusion.

6
Tables of Existing Environmental Accords in the Americas

Sustainable Agriculture and Forests

1. Sustainable Agriculture

Global Instruments in the Hemisphere

- Food and Agriculture Organization of the United Nations, established in 1945.
- International Fund for Agricultural Development (IFAD), established in 1976, headquarters in Rome.

Regional Institutions

- Inter-American Institute for Cooperation on Agriculture (IICA), established in 1979.

Declarations

- Declaración de Santiago sobre el Desarrollo Sostenible y el Medio Ambiente en los Sectores Agrícola, Forestal y Pesquero de A.L. y el Caribe, 30 de Abril de 1992.

2. Conservation and Ecological Management of Forests

Global Instruments in the Hemisphere

- International Agreements on Tropical Woods of 1993.
- International Agreements on Tropical Woods of 1994.
- Intergovernmental Forum on Forests of April, 1995.

- Global Forum of Peoples Native to the Forests and Other Peoples Dependent on the Forests Regarding Preservation and Sustainable Management of Forests.
- First Forum of the International Program of Model Forests in 1997, Mexico.
- United Nations Forum on Forests of 2001.

Regional Instruments

- Acuerdo de Cooperación Técnica entre México y la OEA para la Ejecución de un Proyecto de Ordenamiento Ecológico de Regiones Geográficas con Actividades Prioritarias, 1990.
- Convenio Regional para la Administración y Conservación de los Ecosistemas de Bosques Naturales y el Desarrollo de Plantaciones Forestales, Guatemala. [6 CA]

3. Use of Agrochemicals and Pest Control

Global Instruments in the Hemisphere

- The Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, 1998. [15 H]
- Code of Ethics on International Trade in Chemicals, developed by UNEP in 1994.

Regional Instruments

- Two Conventions to Combat the Locust that ranges from Mexico to South America, 1946, 1951.
- Convention to combat the "Mediterranean fly" between Mexico and Guatemala, 1975.
- Convention to combat the "Mediterranean fly" between Mexico and the United States, 1980.

4. Traditional Practices and Indigenous Peoples.

Global Instruments in the Hemisphere

- International Labour Organization Convention C:169. ILO Convention concerning Indigenous and Tribal Peoples in Independent Countries. [9 LA]

Regional Instruments (not signed by states, but cooperative between communities)

- Declaration of Kari-Oca and Letter from the Land of Indigenous Peoples, 1992. [various indigenous peoples of the Americas and others]
- Letter from the Indigenous Tribal Peoples from the Tropical Forests, 1992.
- Declaration from the Indigenous Peoples and Farmers on Natural Resources from Mexico, 1991.

5. Land Tenure Rights

Regional Instruments

- Agreement for the Establishment of a Regional Centre of Agricultural Reform and Rural Development of Latin America and the Caribbean, 1981. [still open for ratification]

6. Conservation and Sustainable Management of Natural Resources

Global Treaties in the Hemisphere

- UNESCO Convention for the Protection of the World Cultural and Natural Heritage, 1972. [28 H]

Global Institutions

- World Conservation Union. (IUCN). Fontaineblau; October 5, 1948. (1978 and 1990). [14 H]

Regional Institutions

- Council for the Exchange of Information on Natural Resources between Canada and the United States, 1991. [2 NA]

7. Desertification and Soil Conservation

Global Instruments in the Hemisphere

- United Nations Convention to Combat Desertification, 1994. [30 H]. (Certain countries also participated in the United Nations Conference to Combat Desertification in 1977).

Regional Instruments

- Acuerdo de Asistencia Técnica entre Brasil y la OEA para la ejecución de un estudio para el control de la erosión rural y urbana en el Noroeste del Estado de Paraná, 1977.

- Acuerdo entre México y Estados Unidos sobre Cooperación para mejorar la situación de tierras áridas y semiáridas y para controlar la desertificación, 1979.

8. National Parks and Protected Areas

Regional Instruments

- Western Hemispheric Convention on the Protection of Wild Flora and Fauna, 1940. [20 H]
- Protocolo para la Conservación y Ordenación de las Zonas Marinas y Costeras Protegidas del Pacífico Sudeste, 1989. [15 LA]
- Protocolo Relativo a las Zonas y la Fauna y Flora Silvestres Especialmente Protegidas del Convenio para la Protección y Desarrollo del Medio Marino de la Región del Gran Caribe, 1990. [12 LAC]
- Convenio para Establecer y Conservar la Reserva Natural del Bosque de Mbaracayu y la Cuenca que lo rodea del Río Jejui. Asunción; 1991. Firmado entre Paraguay, la ONU, Nature Conservancy y la Fundación Moisés Berttoni para la Conservación de la Naturaleza.
- Convenio para la Conservación de la Biodiversidad y Protección de Áreas Silvestres Prioritarias en América Central, 1992. [6 CA]
- Memorándum de Entendimiento para la Colaboración en el Manejo y Conservación de Áreas Naturales Protegidas y sus Recursos Culturales de 1988. [2NA]
- The First Latin American Congress on National Parks and Other Protected Areas, 1997.

Regional Institutions

- The Central American Council on Forests and Protected Areas.

9. Protection and Sustainable Use of Biological Diversity

Global Instruments in the Hemisphere

- International Plant Protection Convention. Rome; December 6, 1951. [29 H]
- Convention on International Trade in Endangered Species of Wild Fauna and Flora, March 3, 1973. [33 H]
- Amendments to CITES. Bonn; June 22, 1979. [10 H]
- Amendments to CITES. Gabarone; April 3, 1983. [9 H]

- Agreement on the Conservation of Polar Bears. Oslo; November 5, 1973. [2 NA]
- Convention on Biological Diversity. Rio de Janeiro, June 5, 1992. [34 H]
- Cartagena Biosafety Protocol. Montreal, January 14, 2000. [Ratification in progress]
- Convention on the Conservation of Migratory Species of Wild Animals, Bonn, 1979. [7 SA]

Regional and Sub-regional Instruments

North America

- The 1916 Convention on the Protection of Migratory Birds in Canada and the United States.
- The 1936 U.S.-Mexico Convention for the Protection of Migratory Birds and Game Mammals.
- Multilateral North American Plant Protection Agreement, 1976.
- Agreement between the Government of Canada and the Government of the United States of America on the Conservation of the Porcupine Caribou Herd, 1987.
- Acuerdo de Cooperación sobre el Control del Tráfico de Especies de Flora y Fauna Silvestres de 1987 (Estados: México y Estados Unidos).
- Acuerdos de Cooperación para la Conservación de la Fauna mediante el Control del Tráfico de Especies de Flora y Fauna y sobre Estudios de Investigación y Colecciones Científicas de Especies Terrestres y Acuáticas de Flora y Fauna Silvestre de 1987 (México y Estados Unidos).
- Acuerdo Cooperativo Complementario del Acuerdo de 1976 de los Países de América del Norte para la Protección de las Plantas. Quebec; 17 de octubre de 1989 (Estados: Canadá, Estados Unidos y México).
- Environmental Cooperation Agreement between Canada and Mexico. (Monarch Butterfly and Migratory birds) 1990.
- North American Plan for the Joint Management of Water Birds. [3NA]
- Memorandum of Understanding on Strategies for the Conservation of Migratory Birds and their Habitats, 1988. [3NA]
- XIII Meeting of the Joint Committee for wild Flora and Fauna, 1989. [3NA]

Regional and Sub-regional Institutions

- North American Plant Protection Organization, and Tri-lateral Committee for the Conservation of Wildlife and Ecosystems, both established in 1984. [3NA]

Antarctic

- Annex II to the Antarctic Treaty. Measures Agreed for the Conservation of the Antarctic Wild Flora and Fauna of 1964 signed by Argentina and Chile.

South America

- Agreements on Conservation of Wild Flora and Fauna in the Amazon Basin between Brazil and Colombia in 1973 and between Brazil and Peru in 1975.
- Agreement for the Conservation and Treatment of Vicuña. Lima; December 20, 1979. [4 LA]

Central America

- Convention for the Conservation of Biodiversity and Protection of Priorities Wilderness Areas of Central America of 1992.

10. Genetic Resources

Global Instruments in the Hemisphere

- International Initiative on Plant Genetic Resources, 1999. [26 LAC]
- Tratado para la libertad de las Formas de Vida del Pacífico, 1995.[209] [indigenous peoples from Pacific]

Global Institutions

- International Centre of Genetic Engineering and Biotechnology, established in 1983, headquarters in Madrid. [13 LAC]

Cities and Sustainable Communities

1. Housing and Access to Basic Services

Global Instruments in the Hemisphere

- United Nations Conference on Human Settlements (UNCHS) 1976 and the Habitat II UNCHS Global Plan of Action, 1996.

Regional Instruments

- Acuerdo entre México y Estados Unidos en torno a la Cooperación en Materia de Vivienda y Desarrollo Urbano, 1979.

- La Declaración de Montelimar sobre Desarrollo Sostenible de los Asentamientos Humanos de Centroamérica, 1999. [5 CA]

Regional Institutions

- Consejo Centroamericano de Vivienda y Asentamientos Humanos.
- Centro de Recursos para el Desarrollo Sostenible de los Asentamientos Humanos de Centroamérica (CERCA).

2. Workplace Health and Safety

Global Instruments in the Hemisphere

- Empleo de la Cerusa en Pintura, 1921.
- La protección contra las radiaciones ionizantes 1960, y sobre la intoxicación por benceno, 1971.
- Los riesgos por contaminación de aire, ruido y vibraciones en el ambiente de trabajo, 1974.
- Riesgos profesionales por sustancias o agentes cancerígenos, 1974.
- International Labour Organisation (ILO) Convention No. 155 On Workers Health and Safety, and on Environmental in the Workplace, 1981.

3. Urban Environments

Regional Instruments

- Agreement to Reduce Air Pollution in Eastern North America; Ottawa; 23 August 1983. [2NA]
- Acuerdo para la Protección y Mejoramiento del Medio Ambiente en la Zona Metropolitana de la Ciudad de México. Washington; 3 October 1989. [2NA]
- Air Quality Agreement. 13 March 1991. [2NA]

4. Treatment of Hazardous Wastes and Toxics

Global Instruments in the Hemisphere

- Basilea Convention on the Control of Transboundary Movement of Hazardous Wastes and their Disposal, 22 March 1989. [21 H]

Regional Instruments

- Agreement on the Transboundary Movement of Hazardous Wastes, 1986. [2NA]

- Acuerdo Regional sobre el movimiento transfornterizo de desechos peligrosos, Centroamérica. [CA]

Water Resources and Coastal Areas

1. Clean Drinking Water

Regional Instruments and Meetings

- A Regional Meeting on the Quality of Drinking Water was held in Peru, in 1996.

Regional Institutions

- Comité Coordinador Regional de Instituciones de Agua Potable de Centroamérica, Panamá y República Dominicana, CAPRE, 1989.

2. Hydrological Resources

Global Instruments in the Hemisphere

- Convention on Wetlands of International Importance especially as Waterfowl Habitat, 1971. [17 H]

Sub-regional Instruments

- Convención para la explotación de pesquerías en el Lago Titicaca entre Bolivia y Perú de 1935, 1955 y 1957.
- Acuerdo sobre el Río Pilcomayo entre Argentina Bolivia y Paraguay, 1941.
- Tratado sobre el Lago Guija, 1957.
- Acuerdo sobre el Río Bermejo entre Argentina y Uruguay en 1970.
- Convenio sobre el Río Paraná entre Argentina y Paraguay, 1971.
- Acuerdo sobre el Puyango-Tumbes y el Catamayo-Chira entre Ecuador y Perú, 1971.
- Tratado sobre la laguna Marín entre Brasil y Uruguay en 1977.
- Tratado sobre recursos hídricos compartidos del Río Uruguay y el Pepiri-Guaçu entre Brasil y Uruguay, 1980.
- Protocolo sobre recursos Hídricos del Río Yaguarón entre Brasil y Uruguay.
- Protocolo específico sobre Recursos Hídricos Compartidos entre Argentina y Chile, 1991.
- Acuerdo sobre el Río Quaraí entre Brazil y Uruguay, 1991.

- Tratado sobre el Río de la Plata entre Argentina, Bolivia, Brasil, Paraguay y Uruguay.

3. Waste Water Treatment

Sub-regional Instruments

- Acuerdo entre México y Estados Unidos sobre la solución conjunta, tratamiento y disposición de aguas residuales en la ciudad de Tijuana, 1990. [2NA]

4. Marine and Costal Areas

Global Instruments in the Hemisphere

- Convención sobre el Mar Territorial y la Zona Contigua. Ginebra; 29 de abril de 1958. [16 H]
- Convention on the High Seas. Geneva; April 29, 1958. [16 H]
- Convention on the Continental Shelf. Geneva; April 29, 1958. [11 H]
- United Nations Convention on the Law of the Sea. Montego Bay; December 10, 1982. [31 H]

Regional Instruments

- Antarctic Treaty. Washington; December 1, 1959. [9 SA, with Cuba and Guatemala]
- Arctic Cooperation Agreement 11 January, 1988. [2 NA]
- Declaración de Montevideo sobre el Derecho del Mar. 8 de mayo de 1970. [9 LA]
- Declaración de los Estados Latinoamericanos sobre el Derecho del Mar. Lima; 8 de agosto de 1970. [16 LA]
- UNEP Regional Seas Programme: 13 Conventions and Regional Action Plans.[210]
- Centro de Actividades del Programa para Océanos y Zonas Costeras.
- Anexo IV al Protocolo del Tratado Antártico de 1991. [7 SA, with Cuba and Guatemala]
- Convención para la Protección del Medio Ambiente Marino y el Área costera del Pacífico Sudeste. [SA]
- Convención para la protección del medio marino en la región del Gran Caribe. [18 H]

5. Conservation and Sustainable Use of Fisheries Resources

Global Instruments and Declarations in the Hemisphere

- Convención Internacional para la Reglamentación de la Caza de Ballena, con Reglamento y Protocolo Anexo. Washington; 2 de diciembre de 1946 y 4 de mayo de 1959. [17 H]
- Convención de Pesca y Conservación de Recursos Vivos de la Alta Mar. Ginebra; 24 de abril de 1958. [15 H]
- Convención para la Conservación de Focas del Pacífico Norte. 1963, 1976 y 1980. [2 NA]
- Convención para la Conservación de Focas Antárticas. Londres; 1 de junio de 1972. [5 H]
- Convención para la Conservación del Salmón del Atlántico Norte. Reikiavik; 2 de marzo de 1982. [2 NA].
- Declaración de Cancún, Conferencia Internacional de Pesca Responsable. 8 de mayo de 1992. Estados de la región. [17 LAC]
- Iniciativa Internacional sobre los Arrecifes de Coral del Seminario de las Zonas Tropicales de las Américas.

Regional Instruments

- Convenio para el Establecimiento de una Comisión Interamericana del Atún Tropical. Washington; 31 de mayo de 1949.
- Reglamento sobre la Caza de la Ballena en las Aguas del Pacífico Sur. Santiago; 18 de agosto de 1952. [4 LA]
- Acuerdo relativo a la Expedición de Permisos para la Explotación de los Recursos Marinos del Pacífico Sur. Lima; 4 de diciembre de 1954. [4 LA]
- Convenio Internacional para la Conservación del Atún del Atlántico. Río de Janeiro; 14 de mayo de 1966. [7 H]
- Acuerdo para la Conservación de los Recursos Naturales del Atlántico Sur. 1967. [2 SA]
- Convenio sobre la Conservación de los Recursos Vivos del Atlántico Sudoriental. Roma; 23 de octubre de 1969. [Cuba].
- Acuerdo de Pesca entre México y Cuba. 16 de julio de 1976.
- Acuerdo de Pesca frente a las Costas de Estados Unidos. 27 de diciembre de 1977. [Cuba and U.S.A.]

- Convenio sobre la Futura Cooperación Multilateral en las Pesquerías del Atlántico Noroeste. Ottawa; 24 de octubre de 1978 y 8 de noviembre de 1980. [Cuba and Canada]
- Convención sobre la Conservación de los Recursos Vivos Marinos Antárticos. Canberra; 20 de mayo de 1980. [5 LA]
- Acuerdo para la Pesca del Atún en el Océano Pacífico Oriental. San José; 15 de marzo de 1983. [2CA]
- Protocolo del Convenio Internacional para la Conservación del Atún del Atlántico. París; 1984. [3 LA]
- Acuerdo Regional sobre la Investigación y Administración de Tortugas Marinas en el Pacífico Americano. San José; 3 de diciembre de 1986.
- Protocolo para enmendar el Párrafo 2 del Artículo X del Convenio Internacional para la Conservación del Atún del Atlántico. Madrid; 5 de junio de 1992. [3 LA]
- Inter-American Convention for the Protection of Endangered Sea Turtles, 1996. In the process of ratification. [11 H and others]

Regional Declarations

- Declaración Conjunta sobre los Problemas Pesqueros del Pacífico Sur. Santiago; 18 de agosto de 1952. [4 LA]
- Declaración sobre la Zona Marítima. Primera Conferencia sobre la Explotación y Conservación de los Recursos Marinos del Pacífico Sur. Santiago; 18 de agosto de 1952. [4 LA]
- Resolución de Ciudad Trujillo. Conferencia Especializada Interamericana sobre la Conservación de los Recursos Naturales: Plataforma Continental y Aguas Marinas. 28 de marzo de 1956.
- Declaración de Castries Relativa a la Protección de los Recursos Marinos. Organización de Estados del Caribe Oriental. 24 de noviembre de 1989. [6 C]
- Declaración Relativa al Desarrollo Pesquero Regional de la VII Conferencia de Ministros de la OLDEPESCA. La Paz; 23 de noviembre de 1990. [10 LA]
- Resolución de la Comisión Internacional para la Conservación del Atún del Atlántico relativa a la Captura del Atún de Aleta Azul por los países No Miembros. 15 de noviembre de 1991.

Regional Institutions

- Comisión Interamericana del Atún Tropical (CIAT). Inicia actividades en 1950. [6 H]
- Comisión Permanente de la Conferencia sobre Explotación y Conservación de las Riquezas Marítimas del Pacífico Sur. Creada por el Convenio sobre la organización de esta Comisión. Santiago; 18 de agosto de 1952. [4 LA]
- Comisión de Pesca para el Atlántico Centro-Occidental. Noviembre de 1973.
- Organización Latinoamericana de Desarrollo Pesquero (OLDEPESCA). México; 29 de octubre de 1982. [18 LA]
- Organización Latinoamericana del Atún. Lima; 21 de julio de 1989. (No ha entrado en vigor).
- Organización Atunera del Pacífico Oriental. Lima; 24 de julio de 1989. [2LA]
- FAO. Centro para los Servicios de Información y Asesoramiento sobre la Comercialización de los Productos Pesqueros en América Latina y el Caribe. (INFOPESCA). 17–18 de febrero de 1994. [10 LA]

6. Marine Pollution from Oil and Other Noxious Substances

Global Instruments in the Hemisphere

- Convenio Internacional para Prevenir la Contaminación de las Aguas del Mar por Hidrocarburos. Londres; 12 de mayo de 1954. [9 LAC]
- Enmiendas al Convenio Internacional para Prevenir la Contaminación de las Aguas del Mar por Hidrocarburos de 1954. Londres; 11 de abril de 1962. [8 LAC]
- Enmiendas al Convenio Internacional para Prevenir la Contaminación de las Aguas del Mar por Hidrocarburos de 1954. Londres; 21 de octubre de 1969. [9H]
- Convenio Internacional relativo a la Intervención en Alta Mar en Casos de Accidente que causen una Contaminación por Hidrocarburos. Bruselas; 29 de noviembre de 1969. [16H]
- Convenio Internacional sobre Responsabilidad Civil por Daños Causados por la Contaminación de las Aguas del Mar por Hidrocarburos. Bruselas; 29 de noviembre de 1969. [22 LAC]

- Enmiendas al Convenio Internacional para Prevenir la Contaminación del Mar por Hidrocarburos relativo a la Disposición de los Tanques y la Limitación de su Capacidad. Londres; 12 de octubre de 1971. [2 LAC]
- Enmiendas al Convenio Internacional para Prevenir la Contaminación de las Aguas del Mar por Hidrocarburos de 1954. Londres; 15 de octubre de 1971. [5H]
- Enmiendas al Convenio Internacional para Prevenir la Contaminación del Mar por Hidrocarburos, concerniente a la Protección de la Gran Barrera de Arrecifes. Londres; 12 de octubre de 1971. [3H]
- Protocolo relativo al Convenio Internacional relativo a la Intervención en Alta Mar en Casos de Accidente que causen una Contaminación por Hidrocarburos (1969). Bruselas; 1973. [6H]
- Protocolo relativo al Convenio Internacional sobre Responsabilidad Civil por Daños Causados por la Contaminación de las Aguas del Mar por Hidrocarburos de 1969. Londres; 19 de noviembre de 1976. [10 H]
- Convenio Internacional sobre Cooperación, Preparación y Lucha contra la Contaminación por Hidrocarburos. Londres; 30 de noviembre de 1990. [17 H]
- Enmiendas al Convenio Internacional sobre Responsabilidad Civil por Daños Causados por la Contaminación de las Aguas del Mar por Hidrocarburos de 1969. Londres; 27 de noviembre de 1992. [11 H]
- Protocolo relativo a Convenio Internacional de Constitución de un Fondo Internacional de Indemnización de Daños causados por la Contaminación por Hidrocarburos de 1971. Londres; 27 de noviembre de 1992. [12 H]

Global Institutions

- Fondo Internacional de Indemnización de Daños causados por la Contaminación por Hidrocarburos. Bruselas; 18 de diciembre de 1971. [11 H]

Regional Instruments

- Acuerdo sobre el establecimiento de Planes Conjuntos de Contingencia en casos de Contaminación por Derrames de Petróleo y otras Sustancias Nocivas. 19 de junio de 1974. [2 NA]

- Acuerdo de Cooperación sobre la Contaminación del Medio Marino por Derrames de Hidrocarburos y otras Sustancias Nocivas. 24 de julio de 1980. [2 NA].
- Acuerdo sobre la Cooperación Regional para el Combate contra la Contaminación del Pacífico Sudeste por Hidrocarburos y otras Sustancias Nocivas en Casos de Emergencia. Lima; 12 de noviembre de 1981. [5 LA]
- Protocolo Concerniente a la Cooperación en el Combate a los Derrames de Hidrocarburos en la Región del Gran Caribe. Cartagena; 24 de marzo de 1983. [16 H]
- Protocolo Complementario del Acuerdo sobre Cooperación Regional para el Combate contra la Contaminación del Pacífico Sudeste por Hidrocarburos y otras Sustancias Nocivas en Casos de Emergencia. Quito; 22 de julio de 1983. [5 LA]
- Plan de Contingencia de Cartagena para Combatir la Contaminación por Hidrocarburos en el Pacífico Sudoriental en Casos de Emergencia. Quito; 22 de julio de 1983. [4 LA]

7. **Marine Pollution in General**

Global Instruments in the Hemisphere

- Convenio sobre la Prevención de la Contaminación del Mar por Vertimiento de Desechos y otras Materias. Londres, México, Moscú y Washington; 29 de diciembre de 1972. [19 H]
- Protocolo relativo a la Intervención en Alta Mar en casos de Contaminación del Mar por Sustancias Distintas de los Hidrocarburos. Londres; 2 de noviembre de 1973. [8 H]
- Enmiendas al Anexo de la Convención para la Prevención de la Contaminación del Mar por Vertimiento de Desechos y otras Materias, concerniente a la Incineración en el Mar. Londres; 3 de noviembre de 1989. [13 H]

Regional Instruments

- Protocolo para la Protección del Pacífico Sudeste contra la Contaminación Radiactiva. Paipa; 21 de septiembre de 1989. [5 LA]
- Resolución 223, Décima Conferencia General de OPANAL: Prevención de la Contaminación Radiactiva en los Mares Adyacentes a los Espacios Continental e Insular de América Latina y el Caribe. 1987.

8. Land-based Sources of Marine Pollution

Global Instruments in the Hemisphere

- Convenio sobre la Seguridad de los Contenedores. Ginebra; 2 de diciembre de 1972. [8 H]
- Convenio Internacional para Prevenir la Contaminación por Buques. Londres; 2 de noviembre de 1973. [9 LAC]
- Protocolo relativo al Convenio Internacional para Prevenir la Contaminación por Buques. Londres; 17 de febrero de 1978. [25 H]
- Enmiendas al Convenio Internacional para Prevenir la Contaminación por Buques. Londres; 7 de septiembre de 1984. [9 LAC]
- Enmiendas al Protocolo del Convenio Internacional para Prevenir la Contaminación por Buques. Londres; 5 de diciembre de 1985. [9 LAC]
- Enmiendas al Anexo II del Convenio Internacional para Prevenir la Contaminación por Buques. Londres; 5 de diciembre de 1985. [9 LAC]
- Recomendaciones de la Reunión Intergubernamental de Expertos sobre Fuentes Terrestres de Contaminación Marina. Halifax; 6 de mayo de 1991.
- Programa Global de Acción para la Protección del Medio Marino contra Actividades Terrestres.

Regional Accords and Instruments

- Protocolo para la Protección del Pacífico Sudeste contra la Contaminación proveniente de Fuentes Terrestres. Quito; 22 de julio de 1983. [5 LAC]
- Recomendaciones de la Reunión de Expertos sobre Fuentes Terrestres de Contaminación relativo a la Formulación de un Protocolo sobre Fuentes Terrestres de Contaminación a la Convención para la Protección y Desarrollo del Medio Marino de la Región del Gran Caribe. Veracruz; 10 de julio de 1992.

Energy and Minerals

1. **Sustainable Use of Energy and Cleaner, Renewable Energy Sources**

   Global Instruments in the Hemisphere

   - Accord for an International Energy Programme. [2 NA]
   - World Bank Solar Energy Initiative, 1994.

   Regional Instruments

   - OAS Initiative for Renewable Energy in the Americas, 1994. [15 LAC]

   Regional Institutions

   - Organización Latinoamericana de Energía (OLADE), 1973. [22 LAC]
   - Consejo de electrificación de América Central, 1985. [6 CA]

   Bilateral Instruments

   Various bilateral agreements exist on hydro-electricity projects among South American countries:

   - Bolivia and Perú, 1955. Lago Titicaca.
   - Brasil and Paraguay, 1956. Acaray and Monday Rivers.
   - Argentina and Paraguay, 1958. The Paraná River.
   - Argentina and Brasil, 1960. Cuenca del Alto Río Uruguay.

2. **Sustainable Mines and Minerals**

   Global Instruments in the Hemisphere

   - The Convention for the Regulation of Activities Related to Mineral Resources in Antartica, 1988. [4 SA]

   Regional and Sub-regional Instruments

   - Acuerdo de Cooperación entre México- Estados Unidos sobre contaminación transfronteriza del aire causada por las fundidoras de cobre a lo largo de su frontera común, 1987. [2 NA]

3. **Climate Change**

   Global Instruments in the Hemisphere

   - Vienna Convention on Substances that Deplete the Ozone Layer, 1985. [34 H]

- Montreal Protocol to the Vienna Convention, 1987. [32 H]
- United Nations Framework Convention on Climate Change, 1992. [34 H]
- Kyoto Protocol, 1997. [23 H signatures, fewer ratifications]
- The Hague Declaration on Climate Change, 1989. [only Brasil]
- Noordwijk Declaration on Climate Change, 1989. [9 LAC & H]

Regional Instruments and Declarations

- Montevideo Declaration on Global Change, 1992. [17 H]
- Caribbean Plan of Adaptation to Global Climate Change. [11 CA]

Regional Institutions

- Inter American Institute for Research on Global Change, 1992. [17 H]

Endnotes

209 Though in this case, indigenous peoples rather than countries are signatories to this accord, this accord is listed as an instrument due to the particular subject matter, which is arguably under the control of these communities. The treaty's objectives are to monitor, publicize and control biological prospecting in the Pacific.

210 http://www.rolac.unep.mx/recnat/esp/recnanew.htm

Appendix 1
Recommended Resources

American Society of International Law (ASIL)
http://www.asil.org/welcome.htm

Founded in 1906 by U.S. Secretary of State Elihu Root, its purpose was to educate and engage the public in international law, and to expand its frontiers as a vehicle for resolving disputes and international conflict. Since then, the ASIL's mission has remained the same, while the world has changed dramatically. International law is now not only for government. International law is a factor in economics, trade, the environment, communications, transportation, health and human rights.

Canadian Institute for Environmental Law and Policy (CIELAP)
http://www.cielap.org/

Founded in 1970, The Canadian Institute for Environmental Law and Policy is an independent, not-for-profit research and education organization. They have partnership projects with various Latin American groups to design international and comparative legal frameworks for issues such as biodiversity and mining.

Common Frontiers of Canada
http://www.web.net/comfront/contact.htm

Common Frontiers is a multi-sectoral working group engaged in research, analysis and action around the social and economic effects of economic integration in the Americas. Their goal is to work with labour, environmental human rights, church development and economic justice organizations on ways to generate an alternate framework to re-regulate corporate power

Canadian Labour Congress
http://www.clc-ctc.ca/

The Congress is the national voice of the labour movement, who speaks for all workers and their families, in Canada and beyond. The Congress is actively involved with social justice groups. It has developed close ties with the women's movement, with seniors, with anti-poverty activists, with churches, environmentalists, peace activists and groups seeking social and economic equality at the national, regional and community level.

Commission for Environmental Cooperation – NAFTA
http://www.cec.org

The Commission for Environmental Cooperation (CEC) is an international organization whose members include Canada, Mexico and the United States. The CEC was created under the North American Agreement for Environmental Cooperation (NAAEC) to address regional environmental concerns, help prevent potential trade and environmental conflicts and to promote the effective enforcement of environmental law. The Agreement complements the environmental provisions established in the North American Free Trade Agreement (NAFTA).

Dante B. Fascell North-South Center at the University of Miami
http://www.miami.edu/nsc/

For over a decade, the North-South Centre has been dedicated to the intensive study of complex global problems, with special emphasis on the Western Hemisphere. As an independent research and educational organization, it produces policy-relevant research aimed at facilitating the resolution of the most critical issues. The Centre's research, co-operative study, education, and training have benefited citizens of the Western Hemisphere by supplying significant knowledge and expertise relevant to an inter-American agenda that grows more pressing each year.

Economic Commission for Latin America and the Caribbean (CEPAL)
http://www.eclac.org/

The UN Economic Commission for Latin America and the Caribbean (ECLAC) was established by Resolution 106(VI) of the Economic and Social Council of the United Nations on February 25, 1948 as the UN Economic Commission for Latin America (ECLA) with the aim of helping Latin American Governments promote the economic development of their countries and improve the standard of living of their peoples. ECLAC also endeavours to strengthen economic relations, both among countries in the region and with other nations in the world.

Forest Stewardship Council
http://www.fscoax.org/principal.htm

The Forest Stewardship Council (FSC) is an independent, non-profit, non-government organization that was founded in 1993 by a diverse group of representatives from environmental institutions, the timber trade, forestry professionals, indigenous peoples' organizations, community forest groups, and forest product certification organizations from 25 countries.

Friends of the Earth International Trade Site
http://www.foe.org/international/trade/

Friends of the Earth International's Trade, Environment and Sustainability Programme (TES) aims to look at ways in which international trade patterns and regulations impact on environmental protection and the development of sustainable societies. Their aim is to raise public awareness about TES-related issues and to encourage concerned organizations and individuals around the world to work together to campaign for a more sustainable global economic system.

Integracion, Comercio y Ambiente (INCA)
http://www.inca.or.cr/

This new web site provides information about the environment in integration processes, and links to various trade and official FTAA web sites.

International Development Research Centre (IDRC)
http://www.idrc.ca/
About the MERCOSUR: http://www.idrc.ca/lacro/investigacion/mercosur3.html

IDRC is a public corporation created by the Canadian government to help communities in the developing world find solutions to social, economic, and environmental problems through research.

International Centre for Canadian-American Trade
http://www.detnews.com/metro/icc/icc.htm

The International Centre for Canadian-American Trade is a non-partisan, 501 (c)3 non-profit organization focused on achieving seamless trade between two of the world's largest trading partners. It provides practical solutions, original research, policy development and trade services. Here labour, government and the academic world come together as a clearinghouse for cutting-edge research, information, education and trade services.

International Centre for Trade and Sustainable Development
http://www.ictsd.org/

The International Centre for Trade and Sustainable Development (ICTSD or the Centre) was established in Geneva in September 1996 to contribute to a better understanding of development and environment concerns in the context of international trade. The web site is among the best on these issues at a global level, and publications such as discussion papers and dialogue summaries can be found here. See also ICTSD. "BRIDGES/ PUENTES/ PASARELLES: Between Trade and Sustainable Development."

International Indian Treaty Council
http://www.treatycouncil.org/treatyinfopage.html

The International Indian Treaty Council (IITC) is an organization of Indigenous Peoples from North, Central, South America and the Pacific working for the Sovereignty and Self-Determination of Indigenous Peoples and the recognition and protection of Indigenous Rights, Traditional Cultures and Sacred Lands.

International Institute for Sustainable Development
http://www.iisd.org/

IISD's mission is to champion innovation, enabling societies to live sustainably. IISD promotes the transition toward a sustainable future. They seek to demonstrate how human ingenuity can be applied to improve the well-being of the environment, economy and society. They use policy research, information exchange, analysis and advocacy. IISD's Trade and Investment Program web site (http://www.iisd.org/trade) includes descriptions of current initiatives, links to many other useful resources and in-depth information on the Winnipeg Principles.

Inter-American Development Bank
http://www.iadb.org/

The Inter-American Development Bank, the oldest largest regional multilateral development institution, was established in December of 1959 to help accelerate economic and social development in Latin America and the Caribbean. The Bank was created in response to a long standing desire on the part of the Latin American nations for a development institution that would focus on the pressing problems of the region.

Free Trade Area of the Americas Tripartite Commission (FTAA)
http://www.ftaa-alca.org/

This site is maintained by the Tripartite Committee, which consists of the Inter-American Development Bank (IDB), the Organization of American

States (OAS) and the United Nations Economic Commission for Latin America and the Caribbean (ECLAC) on behalf of the member governments of the countries participating in the Free Trade Area of the Americas. This site follows the process initiated in the 1994 Summit of the Americas to integrate the economies of the Western Hemisphere into a single free trade arrangement.

National Wildlife Federation
http://www.nwf.org/

The National Wildlife Federation is the nation's largest member-supported conservation group, uniting individuals, organizations, businesses and government to protect wildlife, wild places, and the environment upon which we all depend. Through their grass-roots members, affiliates, and field offices nationwide, they educate, assist, and inspire people from all walks of life to conserve wildlife and other natural resources. Their common-sense approach to environmental protection balances the demands of a healthy economy with the need for a healthy environment, ensuring a brighter future for people and wildlife everywhere.

MERCOSUR
http://www.mercosur.org/

This site contains information on the process of integration between Uruguay, Argentina, Brazil and Paraguay, known as MERCOSUR.

Multilaterals Project
http://www.fletcher.tufts.edu/multilaterals.html

The Multilaterals Project begun in 1992, is an ongoing project at the Fletcher School of Law & Diplomacy, Tufts University, Medford, Massachusetts to make available the texts of international multilateral conventions and other instruments. Although the project was initiated to improve public access to environmental agreements, the collection today also includes treaties in the fields of human rights, commerce and trade, laws of war and arms control, and other areas.

Organization of American States (OAS)
http://www.oas.org/
Trade Unit: (http://www.oas.org/EN/PROG/frtrade.htm)

The basic purposes of the OAS are to strengthen the peace and security of the continent; to promote and consolidate representative democracy, with due respect for the principle of non-intervention; to prevent possible causes of difficulties and to ensure the pacific settlement of disputes that may arise among the Member States; to provide for common action on the part of those States in the event of aggression; to seek the solution of political, juridical and eco-

nomic problems that may arise among them; to promote, by co-operative action, their economic, social and cultural development, and to achieve an effective limitation of conventional weapons that will make it possible to devote the largest amount of resources to the economic and social development of the Member State.

Secretaria General de la Comunidad Andina
http://www.comunidadandina.org/

The Andina Community is integrated by Bolivia, Colombia, Ecuador, Perú and Venezuela; it's main objective is to promote a development in balance and harmony among it's members through the economic and social integration of their folks.

Sierra Club of Canada
http://www.sierraclub.ca/

The Sierra Club is a non-profit member-supported, public interest organization that promotes conservation of the natural environment by influencing public policy decisions-legislative, administrative, legal, and electoral. The Sierra Club has been active in Canada since 1969, working to influence public policy and environmental awareness. Their trade campaign is part of a coalition, the Common Front on the WTO and Free Trade.

United Nations Development Program (UNDP)
http://www.undp.org/

UNDP is part of the United Nations and upholds the vision of the United Nations Charter. UNDP's mission is to help countries in their efforts to achieve sustainable human development by assisting them to build their capacity to design and carry out development programmes in poverty eradication, employment creation and sustainable livelihoods, the empowerment of women and the protection and regeneration of the environment, giving first priority to poverty eradication.

United Nations Conference on Trade & Development (UNCTAD)
http://www.unctad.org/

Established in 1964 as a permanent intergovernmental body, UNCTAD is the principal organ of the United Nations General Assembly in the field of trade and development. Focal point within the United Nations for the integrated treatment of development and interrelated issues in the areas of trade, finance, technology, investment and sustainable development.

United Nations Environment Programme
UNEP Trade & Economics Unit: http://www.unep.ch/etu/

UNEP ETU's mission is to promote the further development and application of integrated environmental and economic analysis, policies and instruments for sound environmental management and sustainable development. They produce the Trade and Environment series, and other useful, impartial studies concerning economics, trade and environment.

United States Agency for International Development (USAID)
http://www.usaid.gov/

Environmental Law Centre. The United States Agency for International Development (USAID) is the independent government agency that provides economic development and humanitarian assistance to advance U.S. economic and political interests overseas. Established in 1961 by President John F. Kennedy.

United States Trade Representative
http://www.ustr.gov/

The Office of the U.S. Trade Representative (USTR) is responsible for developing and coordinating U.S. international trade, commodity, and direct investment policy, and leading or directing negotiations with other countries on such matters. The U.S. in Miami has also created a Summit of the Americas implementation page at http://americas.fiu.edu/state/.

World Trade Centre
http://www.wto.org/

ITC is a technical cooperation organization whose mission is to support developing and transition economies, and particularly their business sectors, in their efforts to realize their full potential for developing exports and improving import operations with the ultimate goal of achieving sustainable development. ITC deals specifically with the operational aspects of trade promotion and export development.

World Wide Fund for Nature (WWF)
http://www.panda.org/

World Wildlife Fund is dedicated to saving life on Earth, through the conservation of nature and ecological processes. Conserving biological diversity is essential for ensuring a liveable future for humans and all species. The global Trade and Investment Unit produces discussion papers with considerable analysis of trade and environment conflicts at the global level.

Appendix 2
The ERSA Research Partners and Institutions

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Appendix 3
Biographies of the Authors

Marie-Claire Cordonier Segger is an associate and project director with the IISD Trade and Investment Program, and director of the Centre for International Sustainable Development Law commission in Montreal, Canada. She was an associate fellow at the Royal Institute for International Affairs, a visiting scholar at the Lauterpacht Research Centre for International Law at Cambridge University, England and holds degrees in common and civil law (distinction, Wainwright Scholarship) from McGill University. She has an Interdisciplinary BA (highest honours), and speaks English, French, Spanish also basic German and Portuguese. She is executive director of Elements International, a small international sustainability services company, has directed various conferences, corporate citizenship events and a Hemispheric Trade and Sustainability Symposium in Quebec City, 2001. She was lead author of "Trade Rules and Sustainability in the Americas," (Winnipeg: IISD, 2000), and has founded and coordinated a hemispheric environmental network, as well as several national and international civil society organizations.

Mindahi Crescencio Bastida Muñoz works for the United Nations Environment Programme Regional Office for Latin America and the Caribbean. He has a Master of Arts in Political Science from Carleton University in Ottawa with a focus on NAFTA and indigenous peoples self governance initiatives, and an honours degree in Social Sciences at the Autonomous State University of Mexico. He holds Italian, French and English Diplomas with the UAEM Centre of Foreign Languages. He is Latin American representative for Pacific Cultural Conservancy International, and General Coordinator for the Otomi Regional Council of the Alto Lerma and represents 200 Otomi villages. He has coordinated community micro-enterprise and trade projects among indigenous peoples, Canada-Mexico, and has

initiated a Mexico-wide Indigenous People's Council for Sustainable Development, COMEDES, between 56 different peoples and is currently coordinating the Lerma River Basin Project at Mexico State.

Ana Karina González-Lützenkirchen coordinates the Trade and Environment Program at the Mexican Environmental Law Center and has collaborated in some publications with papers on trade and environment. She studied international relations at the Universidad Iberoamericana in Mexico City. She has a Diploma course on Environmental Risk Assessment by the same university and an M.Phil on Environment and Development from the University of Cambridge, U.K. At the Universidad Iberoamericana she teaches courses on International Policy and the environment and International Organizations. She has worked for Mexico's Foreign Ministry; and in the firm Galaz, Gómez Morfín, Chavero y Yamazaki, A.C., where she assessed an environmental self assessment program for industry. In addition, she has worked as part of a group, for private firms in consultancy projects on eco-efficiency in Mexico.

Nicolás Lucas is Director General of the Fundación Futuro Latinoamericano (FFLA), Quito, Ecuador. FFLA promotes sustainable development through conflict management and multisectoral policy dialogue. He holds an M.A. in Public Policy – Philosophy and Social Policy from the George Washington University, Washington, DC; and a law degree from Catholic University of Argentina, Buenos Aires, Argentina. He has also been Junior Partner, at Alchouron, Berisso, Brady Alet & Fernandez Pelayo Law Firm, Buenos Aires, Argentina; and he was Editor of the Environment section of the daily The Buenos Aires Herald, Buenos Aires, Argentina.

Jorje Zalles Taurel, based in Holistica, is an Ecuadorian consultant specializing in biological conservation and environmental management of natural resources. He holds a BS in Environmental Sciences from the Universidad San Francisco de Quito, Ecuador. He has published several books and articles on the conservation of birds of prey; recently co-authored "Raptor Watch: a global directory of raptor migration sites" (BirdLife International and Hawk Mountain Sanctuary). He is a frequent speaker at international meetings, and was a research coordinator for the IISD-ICTSD-UNEP project "Trade Rules and Sustainability in the Americas." His conservation and environmental analysis work includes experiences in Canada, the United States, Mexico, Costa Rica, Colombia, Ecuador, Chile, Brazil, Paraguay, and Uruguay.

Ecological rules and sustainability in the Americas

A Free Trade Area of the Americas (FTAA) is being negotiated, and aims to form a trading bloc stretching from Alaska to Tierra del Fuego by the year 2005 as part of a larger integration agenda. Parallel to this undertaking, environment ministers of the Americas met for the first time at Montreal in 2001 to discuss hemispheric cooperation on ecological issues. Countries of the Americas are parties to sub-regional environmental cooperation arrangements, members of the UNEP Forum of LAC Environment Ministers and parties to Multilateral Environmental Accords (MEAs) which use trade measures, successfully, to support environmental goals.

How can new trade policies support environmental protection in the Americas? Can the integration process lead to a new, strengthened ecological cooperation agenda? If so, what are the key problems that require solutions, which instruments already exist and what are the prospects for a new regime, or even a network of regimes?

Ecological Rules and Sustainability in the Americas is the second in a series meant to strengthen hemispheric information, capacity and analysis on trade and sustainability issues. The study examines existing and potential trade, environmental and social regimes in the Americas. This research summary, by applying IISD's Winnipeg Principles on trade and sustainable development to a network of over 272 relevant global, hemispheric, sub-regional and bilateral environmental instruments, provides recommendations for new ecological cooperation agendas in the Americas.