



Environment Network

Trade and Environment in Latin America and the Caribbean Priorities and Challenges

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1. Introduction and executive summary

- The Regional Policy Dialogue (RPD) and the Environment Network

are an initiative of the Inter-American Development Bank aimed at generating an instance for senior policy makers from countries in the region to exchange insights, become acquainted with best practices implemented overseas and explore regional cooperation areas on critical issues. The Environment Network, one of the seven strategic topics of RPD, was implemented in 2001 and since then it has addressed various issues defined by the network members themselves: the environment vice-ministers of every country.

The third meeting of the Regional Policy Dialogue's Environment Network determined that trade and environment related matters would be the priority topic of the fourth meeting. In addition, a recommendation was made for the fourth meeting to be preceded by subregional meetings of: the Andean Countries, the Southern Cone (MERCOSUR and Chile), Central America and the Caribbean. These meetings were supplemented by interviews and studies on the background available on trade and environment in every subregion, as well as by preparation of a specific document that was submitted and discussed on the occasion of every meeting¹. Interviews were aimed at collecting experiences and opinions from environmental and trade (or economy or foreign affairs, as applicable to every country) decision makers, as well as from some representatives of the civil society and the private sector.

A summary of trade and environment priorities for every subregion was prepared based on these subregional meetings². Discussing these priorities places on evidence major opportunities and challenges for the region, so that it can be ensured that foreign trade will actually foster, rather than undermine, development sustainability.

- Purpose of this paper

This paper provides an overview, based on interviews, reviews of available documentation and the subregional meetings held in late 2004 and early 2005, of the trade and environment priorities for Latin America and the Caribbean. The purpose of this paper is building a platform for analysis and action on these issues in the region. Particularly, this paper is expected to foster certain concrete actions, both from the

¹ Meetings were held in Cartagena de Indias, for the Andean countries, (November 2004), Santiago de Chile, for the Southern Cone (November 2004), and San Salvador for Central America (January 2005). Budget reasons and time restrictions prevented a subregional meeting to be held in the Caribbean, as a result of which published information available and informal meetings with some key players in trade and environment was used for background purposes.

² The minutes of the subregional meetings are available at <http://www.iadb.org/int/drp/esp/Red7/medioambientesecure.htm>. These minutes include specific recommendations discussed by participants. In addition, a specific document with additional information to that summarized in this paper was prepared for every subregion (with the exception of the Caribbean).

countries of the region and from international agencies that can potentially contribute with technical and/or financial resources to programs and projects on trade and environment.

- The regional scenario

Consistent with the multilateral scene, Latin America and the Caribbean have experienced a dramatic change of attitude with regard to the trade and environment relationship. Initially rather reluctant to include this matter in trade negotiations as these topics were perceived as an unilateral imposition from protectionist developed countries, most of the countries in this region are now prepared to address the environmental issue and even to see it as an opportunity to profit from certain comparative advantages, like environmental goods and services.

The regional and bilateral agreements recently executed have incorporated environment-related cooperation chapters or covenants. This is particularly true for all trade agreements executed, or else, for negotiations between one or several countries in the region and a developed trade partner. Nevertheless, this is not the case of most agreements executed exclusively between countries in the region. With the exception of MERCOSUR –which is beyond a trade agreement- trade initiatives among Latin American countries do not or barely encompass environmental matters. This fact comes to ratify that environmental matters in trade negotiations are still a subject fostered by developed countries.

- Priorities in the region

For starters, we need to admit that acknowledging any efforts for identification of priority topics within the region is a sensitive matter. Each of the subregions, including countries themselves, shows distinct realities. On the other hand, every player –public, private or from the civil society- will assess trade and environment priorities from a different vantage point. Differences notwithstanding, based on interviews, reviews of available literature and the subregional meetings held during 2004 and 2005, this paper has identified topics recurrently raised at every subregion, which may subsequently be deemed as an approximation to a regional agenda on trade and environment.

Priority topics have been sorted in two categories: a) those directly related to foreign trade, and b) some tools (mostly inherent to environmental management) aimed at properly addressing the links between trade and environment. Some strengths, weaknesses, challenges and/or tasks yet to be completed have been identified for each of the particular topics.

The first set of topics encompasses: environmental goods and services, international standards and technical regulations, foreign investment and biodiversity-related matters. As to tools, this paper includes environmental or trade policy sustainability assessments and other tools specific to environmental management but not particularly related to foreign trade.

Concerning challenges or tasks yet to be completed, some elements in common include:

- lack of information, data and specific studies allowing more accurate and comprehensive knowledge on the regional situation;
- the need for more discussion and analysis on priority topics ensuring that progress is made towards informed and shared perspectives that can be translated into concrete action strategies;
- poor coordination among public agencies, particularly between environment and trade decision makers and between public and private entities;
- lacking ability (related to professionals, infrastructure, resources, etc.) to manage trade – environment bordering issues;
- low level of participation in foreign trade negotiations (except for some countries like Brazil and Mexico), supporting informed positions and aimed at furthering sustainability in the region;
- the still weak political will to make significant progress on matters specific to environmental management, which are key to addressing potential trade-related issues.

- Structure of this paper

Trade and environment issues cannot disregard the international scene and particularly multilateral negotiations at the World Trade Organization, WTO. This situation is briefly discussed in section 2. Then, section 3 analyzes regional developments in terms of trade agreements and treatment of environmental issues; annex 6.1 supplements this section with more detailed information. Section 4 introduces priority topics for the region in terms of trade and environment; and annex 6.2 displays relevant and supplementary information in the form of topic differentiated tables. Conclusions, placing special emphasis on the weaknesses and recommendations addressing every particular topic, are included in section 5. Finally, annex 6.3 encompasses information by country on the institutional situation of trade-environment issues; annex 6.4 shows a brief summary of Mexico's particular situation and annex 6.5 offers the Caribbean perspective. As to Mexico and the Caribbean, it should be noted that efforts have been made to integrate their particular realities to this analysis but, since work efforts in these countries were completed at a different level and given the different and particular nature of these cases, additional information was rather structured in the form of annexes.

2. Trade and environment in the international and regional context

2.1 *The environment has come to stay in the multilateral trade agenda*

Over the past decade, Latin American countries showed rather reluctant to consider environmental matters within trade negotiations. They had plenty of reasons for such reluctance: economic, political, technical and strategic. Moreover, these reasons were closely related to the seemingly protectionist use of this issue by developed countries. However, things are changing. Developing countries now see a series of trade opportunities –for example related to provision of environmental services- that need to be taken advantage of and where they can rely on comparative advantages.

The WTO multilateral trade negotiation rounds launched in Doha (November 2001) explicitly acknowledge various links between trade and environment. The same is true for trade, regional or bilateral, negotiations involving developed countries, that encompass environment cooperation chapters or covenants. In the first case, one should wonder which are the issues regarded as the main concern and, consequently, addressed as the core topics on trade and environment negotiations within the multilateral context. These topics may be summarized as follows:

- **The relationship between multilateral agreements on environment and the WTO trade regulations.** Negotiations under way are looking forward to establishing how WTO standards are to be applied to member countries who are part of multilateral environmental agreements.
- **Reduction or elimination of barriers to environmental goods and services trade.** The purpose is facilitating the trade of goods and services, the marketing of which results in benefits for the environment.
- Review of fishing subsidies in order to eliminate distortions. Balancing pressure over ocean resources is sought for by means of rationalization of existing subsidies, particularly in developed countries.
- **Other lines of action of the WTO Committee on Trade and Environment .** In addition, Ministers at Doha instructed the Committee to work on matters like: the effects of environmental measures on market access; the relationship between the Agreements on Trade-related Aspects of Intellectual Property Rights (TRIPS) and the Convention on Biological Diversity; the provisions and implications of eco-labeling. On the other hand, the Doha Mandate also recognizes the significance of technical assistance and capacity building programs, and encourages member countries to share their expertise on environmental assessment at local level.

Despite this comprehensive agenda, the truth is that progress has been so far scanty and focused on negotiations on fishing subsidies and some proposals on environmental goods and services. It is precisely regarding this last point that the largest expectations on achieving results are placed. Accordingly, countries in the region should be proactive in looking for favorable negotiation positions.

2.2 Trade and environment interaction is playing an increasingly important role in regional agendas

Briefly, it could be said that any trade agreement executed by countries in the region and involving developed countries will encompass some kind of environmental clause. In case of trade agreements by and between developing countries exclusively, the environmental factor is usually paid little attention. MERCOSUR, which more than a trade agreement is an economic (and even political) integration project among South American countries, could be an exception to this rule, as it encompasses a Working Subgroup (number 6) exclusively devoted to environmental matters.

As to implemented trade agreements, distinct forms in which environmental matters are included may be identified. The North American Free Trade Agreement (NAFTA; 1994) was a pioneer in terms of treatment of environmental matters, since it was the first free trade agreement ever to include a parallel environmental cooperation agreement. Similarly, a couple of years later, Chile executed free trade agreements by mid 1990s (for example the Chile-Canada FTA executed in 1997 and in effect as of 1997), which has also paved the way in the region as to how environmental matters are to be dealt with. Accordingly, various ways in which environmental matters are included in trade agreements may be identified, including:

- a) **Minimum or no reference to environmental matters.** This is the case of trade agreements solely executed by countries of the region. Some examples include the economic complementation agreements executed between Latin American countries, as well as the trade agreements signed by Mexico, Chile and Colombia with other Latin American countries. This latter case usually includes environment related aspects to the extent that each country is entitled to adopt measures ensuring that investments comply with the environmental legislation and discourage slackening of local rules applicable to health, safety and the environment.
- b) Minimum or no consideration in the text of the agreement, but execution of an environmental cooperation agreement. This case is very similar to the previous one, although environmental issues are explicitly included in the form of an environmental cooperation agreement. The pioneering, flagship agreement in this sense is the North American Free Trade Agreement (NAFTA). A very similar model –although it consists of much less institutional development- is the Chile-Canada free trade agreement. Another example of the same approach is the free trade agreement executed between Chile and the European Union.
- c) **Inclusion in the text of the agreement and environmental cooperation agreement.** The free trade agreement between Chile and the U.S. laid the foundation in terms of inclusion of environmental issues in the text of an agreement (chapter 19 of the Agreement). Strictly speaking, this chapter provides for each party's commitment to enforcing its environmental laws; the right of each party to establish and to modify its own levels of domestic environmental protection, and consistent adoption or modification of its environmental laws are ensured; each party's commitment to ensuring that its laws provide for high levels and continuous improvement of those laws is sought for; inappropriateness of encouragement of trade or investment by weakening or reducing protections

afforded in domestic environmental laws is placed on record; and a basic institutional framework was established to manage environmental issues within the context of the agreement. In addition, an annex on environmental cooperation is included (annex 19.3) and an environmental cooperation agreement consisting of a work program for the 2004-2006 period is executed. This modality established by the Chile -U.S. free trade agreement has served as major reference for recent agreement, CAFTA, for example, and other agreements currently under negotiation (for example, the US-Andean Countries free trade agreement).

In addition, annex 6.1 provides more specific information on major trade agreements currently in effect in Latin America.

3. Priorities in trade and environment in the region

Both trade negotiations at different levels –multilateral, regional and bilateral-, and domestic commercial and environmental concerns have resulted in creation of an agenda on trade and environment in the region. Although it is evident that agendas vary depending on the players involved –public, private or civil society- and on the countries or subregions affected, a series of recurrent issues may be identified. A series of matters briefly covered below have been identified based on i) interviews with some public, private and civil society players of the Central America, Andean Countries, Southern Cone (MERCOSUR and Chile) subregions; ii) workshops; and iii) a review of the studies available in these subregions and in the Caribbean. In addition, annex 6.2 provides detailed and supplementary information for each of the priority topics.

There is a number of relevant matters concerning the link between trade and environment. Following in this paper, the priorities directly related to foreign trade, and tools or instruments allowing this link to be addressed so that issues are prevented and opportunities are maximized, are specified.

3.1 *Priorities associated to foreign trade*

a) Environmental goods and services

This is a major issue in the multilateral foreign trade context, mostly since the Doha Mandate opened the possibility of environmental goods and services negotiations. Accordingly, it is critical for Latin American countries to deepen their knowledge and to clarify their interests and negotiation positions.

- Environmental goods and services: boosting comparative advantages for Latin America and the Caribbean?

Before attempting to answer this question, the first issue that arises is the definition of environmental goods and services (EGS). The WTO has not specifically defined environmental goods, and environmental services are ruled by the WTO General Agreement on Trade in Services (GATS). Regarding environmental services, the definition provided by the WTO largely focuses on waste management and pollution control³. The largest criticism to this definition points out that it is too restricted to the traditional EGS industry, and it therefore fails to represent the current, wider and integral condition of this sector (Borregaard et al, 2002).

As stated by Borregaard et al (2002), due to WTO definition limitations, various countries – particularly developed ones- have developed their own definition for EGS, widening its scope with regard to that of the GATS, and they have taken their own positions

³ Including: water treatment, solid waste disposal, sanitation and similar services and other environmental services.

concerning negotiations with the WTO about this matter. The Organization for Economic Cooperation and Development (OECD) has led the debate at the intergovernmental level and its proposal regarding EGS has been the one having the greatest acceptance.

The OECD proposal widens the definition of environmental services with regard to the GATS and defines environmental industry as “activities provided to measure, prevent, limit, minimize or correct environmental damage to water, air, soil, as well as problems related to waste, noise and eco-systems. Cleaner technologies, processes, products and services that reduce environmental risk and minimize pollution and resource use are also considered an integral part of environmental industry”. Concerning environmental goods, the OECD has also put together a list of related products according to the group of services defined in the manual⁴, including categories and subcategories, and matching them to the trade classification (WTO harmonized system).

In addition to the OECD, other international agencies like the United Nations Conference on Trade and Development (UNCTAD) and the Asia Pacific Economic Forum (APEC), and countries like the United States, the European Union, Canada, Switzerland, New Zealand, Australia and Colombia have developed their own definitions and proposals about EGS.

In short, there is great dynamism and deep thought and debates on EGS. Various interests are involved and specifically, the European Union has expressed its interest for this issue to be ultimately defined in this negotiation round. Existing definitions are closer to traditional goods and services for environmental sanitation. Under these definitions, developed countries are mostly EGS exporters and developing countries are importers.

A major negotiation goal for countries in the region is causing EGS definitions to move closer to goods and services bearing comparative advantages for export purposes. In the case of goods, for example, this could apply to organic produce and sustainable wood products⁵. In the case of services, current discussions have incorporated the ecological services (or eco-systemic), as services provided by eco-systems and that include, for instance, carbon absorption, conservation of biological heritage, and protection of river basins for water production.

Ecological services have been the subject of great attention lately in the region. Economic appreciation, but also cultural and political, of the services which are currently not being traded in the market has been boosted by various players due to different reasons: some are looking forward marketing of these services and others are after exempting the opportunity cost involved in major investment projects that destroy the relevant eco-systems.

- Toward domestic and regional EGS-related strategies

⁴ *Environmental goods and services industry manual for the collection and analysis of data*, Paris, OCDE/EUROSTAT, 1999.

⁵ The OECD only includes inputs for production of this type of goods but excludes goods themselves.

As mentioned before, there is work needed to be done at the base regarding EGS definitions. Within the region, and also at the international level, EGS, green markets, biotrade and environmentally preferable products are referred to without distinction. Making language more accurate will certainly result in progress in this matter. On the other hand, development of local and regional strategies on EGS should overcome issues and weaknesses such as: lack of experts in this area, lack of analysis at the local level and lack of capacity, not only in terms of professionals, but also regarding infrastructure and procedures. This situation undoubtedly varies from one country to the other; especially in countries like Colombia and Costa Rica, who have sound experience in this matter and can offer valuable expertise exchange with the other countries in the region.

- *Beyond international negotiations: knowing the market and facilitating trade*

There is clearly a task to be completed in terms of international negotiations. Aside from the aspects already mentioned, exercising some pressure for inclusion of goods and services like those specified below would be certainly significant: engineering consulting and services, eco-tourism, goods and services able to support energy efficiency and specific goods where some countries show comparative advantages. However, actions on this front should not neglect strategic activities like: i) knowing the operation of the local, regional and international EGS markets in greater detail, ii) arranging meetings for the exchange of information and expertise, iii) identifying major players, iv) assessing business opportunities and v) boosting all matters related to design and implementation of international standards for certification of EGS (standardization, certification, metrology and compliance evaluation processes, including processes like technical equivalences and mutual recognition).

b) International standards and technical regulations

These issues are neither known nor commanded by the various public, private and civil society players. This fact results from both technical and language factors. Regarding this last matter, international standards in Spanish-speaking countries of the region are usually referred to as “estándares”, which is nothing but a literal translation for the English term *standard*. This situation results in uneasiness for technical agencies and confusion for the public in general, since the official translation of *standard* by the International Organization for Standardization (ISO) is *norma* (norm)⁶. On the other hand, the notion of standard in Spanish implies a legal and mandatory nature, alien to the willingness implicit in norms. Technical regulations⁷ do bear a mandatory nature and they are designed and supervised

⁶ According to ISO, a standard is a document established by consensus and approved by a recognized body, that provides for common and repeated use, rules, guidelines and characteristics for products or processes and related production approaches, compliance with which is mandatory. It can also cover guidelines related to terminology, symbols, packaging, marking or labeling applicable to a product, process or production approach, or deal exclusively with them.

⁷ A technical regulation is a document that provides the characteristics of a product or the related production processes and approaches, including the applicable administrative guidelines, compliance with which is mandatory. It can also cover guidelines related to terminology, symbols,

by public agencies, unlike norms, which may be designed and certified by private organisms.

- International standards are increasingly important to facilitate sustainable foreign trade

Agreement is increasingly larger on that the current economic openness and export promotion strategies, from a sustainable development perspective, will not be able to succeed unless the standardization process implementation moves forward. A great many reasons support such statement.

First of all, while tariff barriers are increasingly lower, non-tariff barriers –that is to say, on products and services conditions and indirectly on production processes- are gaining relevance by the day. The latter may be addressed and largely avoided through the implementation of internationally comparable standardization processes.

Secondly, access to markets is directly proportional to the ability to excel in international markets by showing the quality of both products and services. In that respect, the most reliable way for producers to show the quality of the products and services they offer is to implement internationally accepted standardization processes.

Third, environmental, economic and social sustainability is turning, day by day, into the criterion leading countries' development. In this context, standardization accounts for the ideal tool to ensure and demonstrate the efforts being taken in terms of development sustainability of production processes. Although it could be said that this criterion is more evident in developed countries than in developing ones, the latter are also to undertake rather concrete commitments to ensure sustainable development, particularly but not exclusively, as a result of economic openness, globalization and trade exchange.

Ultimately, just as at its origins, standardization offers the chance to facilitate communication and interaction between producers and consumers from various countries and sectors, mainly in present times, due to the requirements placed by the sustainable development agenda.

- The region is lagging behind in terms of standardization and technical regulations

Importers in developed countries usually require compliance with international standards regulating the quality of products and production processes. In this context, environment-related standards are particularly critical. Standards may have a positive effect on the environment, supplementary to mandatory regulations. However, the countries of the region often lack the appropriate means and capabilities to fully implement standardization processes. On the other hand, the participation of developing countries in setting up international standards is rather limited and restricted by resource, capacity and language factors. Moreover, at times countries in the region mistrust international

packaging, marking or labeling applicable to a product, process or production approach, or deal exclusively with them.

standards, as they could be used by developed countries as barriers to trade, in order to restrict access of regional products to developed countries' markets.

Technical regulations (mandatory) and international standards are directly related through the WTO Agreement on Technical Barriers to Trade (TBT Agreement). This agreement requires member countries to structure their technical regulations based on the existing international standards. The issue related to technical regulations –concerning their design, implementation and supervision- is, in this sense, similar to that of international standards. The main difference is that while technical regulations stem from governmental departments, standards are usually the responsibility of private or non-governmental agencies.

- Pending tasks in the region

Based on a recent study covering the South American region (Blanco and Bustos, 2004), the major issues and challenges on this front are: the low level of participation of countries in designing international standards related to trade and environment; poor knowledge of and sensitivity of the various players (private and public) for standardization and technical regulations; the low level of environmental knowledge and sensitivity of regulatory agencies; limited ability and scanty resources to make progress in implementing standardization processes; the inability of SMEs to implement international standards; and the poor knowledge and scarce expertise on standardization in “new” or non-traditional sectors of foreign trade, such as environmental goods and services.

Every country counts on an agency in charge of standardization. Overall, environmental authorities play a minor role in this field, which accounts for a weakness when it comes to boosting countries' participation in designing and implementing international standards.

c) Foreign investments

When dealing with the link between trade and environment, the first issue that comes to mind –not only in the region, but also at the international level- is foreign investment and the environmental impact it generates. Foreign investment, despite being often directly regulated by investment agreements (mostly bilateral), usually increases as a result of free trade agreements. Since developing countries lack proper institutional framework – expressed as policies, institutions, professional capabilities, regulations and managerial practices- tend to be unable to manage the environmental aspects of large investment projects. Accordingly, foreign investment may result in worsening of environmental issues⁸. ECLAC studies have shown that foreign investment has mostly focused on natural-resource intensive sectors of the region (e.g., Shaper, 1999).

⁸ It should be noted that the expression “environmental issues” should be construed as covering more than pollution only; it may also be understood as excessive exploitation or unsustainable depletion of natural resources; or even social and economic impacts resulting in worsening of environmental issues.

- Beyond the environmental impact of foreign investment

Environmental impact is not the only concern associated to foreign investment. There are other issues that have been recurrently covered in international and regional discussions, which are expressed in the rules of the investments being negotiated. These are controversial matters, the polemical nature of which has been evidenced by the failed negotiations of multilateral agreements on investment in the framework of the WTO and the OECD. In Latin America, the North American Free Trade Agreement, and particularly chapter nineteen therein, has arisen great concern within the entire region. This concern lies in the possibility opened by chapter 19 –which in fact has become a reality in more than one occasion- for international companies to restrict the ability of a State to generate or modify regulations aimed at protecting the environment that might affect those investing companies, to the extent of filing million-dollar complaints against the investment host states. The underlying issue is national sovereignty: the States would be giving up their freedom to enforce environmental regulations in order to guarantee the stability of certain conditions that would foster foreign investments. In this respect, it should be noted that the commerce ministers of the three countries executing the NAFTA in 2002 made a great effort a few years ago to clarify the scope of Chapter 19 with regard to environmental challenges and issued a decision that was later added to the Free Trade Agreement of the Americas (FTAA) draft text. This text is very similar to the text later adopted in FTAs with Chile, and Central America and the Dominican Republic, particularly in terms that there is no indirect expropriation due to the negative effects of the regulation aimed at public interest objectives (such as environment protection).

On the other hand, there has been growing concern for rules similar to chapter 19 in a large number of the bilateral agreements executed by countries in the region. As stated by Cosbey et al. (2004): “Recent years have seen an explosion of investor-state arbitrations, in part due to the successful use of their provisions in novel ways arguably unintended by the drafters. It has been held, for example, that government regulation in the public interest, if its impacts on an investor are great enough, can constitute a compensable expropriation. It has also been held that even a good faith measure by a government might violate legal obligations for minimum standards of fair treatment, if proper but largely undefined procedural steps have not been followed –a much lower bar than has traditionally been set. And the definition of national treatment is such that it has spawned challenges to legitimate regulations that happen to have a greater impact on some foreign investors than on competing domestic investors.

Another potentially positive dimension of considerations and experiences on foreign investment and environment is related to how socially responsible entrepreneurship has been spurred in some sectors and countries in the region. ISO is currently working on a new standard –ISO 26000- on social responsibility (SR) and the OECD has established guidelines on the social and environmental responsibility of foreign investment projects. The free trade agreement executed by Chile and the U.S. was the first agreement encouraging the parties to foster socially responsible entrepreneurship among its companies (article 19.10 in the FTA; this article is not part of later agreements like CAFTA). Even though the effectiveness of these kinds of clauses has yet to be proven, it

would seem reasonable to see them as some kind of progress when compared to other agreements.

- *Towards sustainable foreign investment?*

There is a great deal of work involved in ensuring that foreign investment will actually support sustainable development of countries in the region. As to the environmental impact of foreign investment, with the exception of countries like Chile, Brazil, Peru, Ecuador, Colombia and Argentina, there are few empirical studies that evidence foreign investment environmental effects in an informed and systematic manner. Interinstitutional coordination is not smooth enough and, in general, environmental aspects, as well as the involvement of environmental authorities in this matter, are mostly restricted to environmental impact assessment systems.

Concerning investment rules, since this is a highly legal matter, they are usually the concern of the ministries of commerce or foreign affairs (depending on every country's structure). Since this is a matter that may affect environmental regulation, the environmental authorities should play a major role.

On the other hand, SR, as a practice that could add to the sustainability of investment projects in general, and foreign investment projects in particular, is subject to a series of challenges. Local initiatives mostly stem from the entrepreneurial sector (mainly exporters) and/or from non-governmental organizations (NGOs) close to the entrepreneurial sector. Such has been the origin of NGOs in most of the countries in the region that foster and promote this matter and undertake capacity building. In this context, the role played by the public sector as a catalyzer of the socially and environmentally responsible entrepreneurial practices' adoption has not been overtly clear. One of the tasks that could be undertaken by the public sector is, for example, supporting small and medium-size enterprises (SMEs) in their process of adopting socially and environmentally responsible practices. This is evidently a sector that shows major issues in adopting SR practices as a result of the fewer resources onto which it relies.

Overall, challenges imply deepening the region's countries' knowledge of this topic and carrying out more studies that show how foreign investment's positive effects can be ensured in the environmental and social fields. In this sense, capacity building concerning mechanisms and tools that adequately protect the environment in foreign investment host countries is needed. Regarding social responsibility of trade agreements, defining the role of the public sector is critical to prevent, for example, that foreign investment projects slacken their environmental performance guidelines for their subsidiaries in developing countries.

d) Biodiversity-related matters⁹

⁹ Most information has been compiled from Bifani (2003). Annex 6.2 offers a bibliography recommendation on this matter.

There are various trade issues related to biodiversity, the most relevant being: access to genetic resources, traditional knowledge and biopiracy; intellectual property rights (IPRs); biotechnology, genetically modified organisms (GMOs), biosafety and technology transfer. All the aforementioned subjects are closely related. The trade-environment relationship in each of those subjects appears in different ways; in many cases, there is a wide relationship particularly related to the threats to the biological diversity business initiatives may have; in other cases, this relationship extends to cover social, economic and institutional aspects, thus turning this subject into a sustainable development and trade issue. These are all issues that may be related to the development and marketing of environmental goods and services, although due to their specific nature, they are treated separately in this paper.

- Access to genetic resources, traditional knowledge and biopiracy

Here, the main concern deals with fair and equitable sharing of the profits related to tapping and use of genetic resources. Profit sharing involves different levels. For one thing, it refers to the communities directly related to genetic resources. In this respect, a particularly sensitive case is that of indigenous communities that have traditionally used genetic resources and/or developed traditional knowledge. On the other hand, and especially in biopiracy situations, local states are the ones entitled to require measures aimed at protecting their rights over their countries' assets. The relationship with the environment is expressed in the potential threats to the biological diversity that might imply unsustainable exploitation of genetic resources. In addition, the loss of traditional knowledge –that might occur as a consequence of inadequate business practices- could damage sustainable management of related resources.

- Intellectual Property Rights, IPRs

IPRs refer to creations of the human intellect and account for the legal expression of the reward granted by society to inventors by means of exclusive rights over the use of their creation – innovation. In the case of patents, this exclusive right granted for a certain period of time protects new, innovative and useful items. Property does not refer to tangible aspects of the newly-created item, but to the knowledge and information involved in or related to their productive process. Intellectual property systems imply that the new creation is to be disclosed so that it can be used by others.

Developing countries, owners of the largest portion of biological diversity and consequently of most of the genetic resources of the planet, feel uneasy as they see that the conventional inventions by developed countries are strongly protected and their dissemination is restricted by forms of intellectual property. In addition, due to joint initiatives relating biotechnology and new international modalities of intellectual property rights, genetic resources are being claimed by developed countries and particularly by large corporations and multinational companies. Conversely, they see that no property rights are granted to their genetic resources, including crops resulting from thousands of years of hybridization and improvements by indigenous peoples, native communities or farmers. This imbalance is one of the factors found at the base of the conflict concerning intellectual property protection for genetic material, which includes the traditional crops used in agriculture. In short, intellectual property systems are biased against traditional,

collective and incremental innovations that fail to be compensated by the conventional intellectual property systems in the same manner the industrial innovation resulting from leading edge scientific and technological research is compensated and acknowledged.

- Biological diversity and intellectual property: a complex relationship

The relationship between biological diversity and intellectual property is extremely complex, controversial and politically sensitive. Among the controversial factors are:

- The scope given by the Uruguay Round of Multilateral Trade Negotiations (of the World Trade Organization – WTO) to trade agreements, including the intellectual property issue. Intellectual property has been the subject matter of an agreement known as TRIPS (*Trade Related Aspects of Intellectual Property Rights Agreement*). Among its provisions, this agreement requires all signing countries to adopt an intellectual property system for plants and microorganisms.
- The conflict between Northern and Southern countries in the framework of the Convention on Biological Diversity (CBD) over property of genetic resources. Intellectual property rights play a key role in this matter.
- The extremely dynamic technological change, particularly in terms of the new technologies that have dramatically changed science and technology policy and management and has raised intellectual property as a core -although controversial- issue of technology transfer, science and technology policy.
- The growing privatization of science and technology innovation and its consolidation, mostly in multinational companies performing research and development, particularly in the chemical, pharmaceutical, agroindustrial and seed sectors, currently referred to as “*the genomic sector*”, for which access to genetic resources is critical.

The key question yet to be answered is to which extent do IPRs promote or hinder fair and equitable sharing of the profits stemming from the use of genetic resources and whether they foster or not conservation and sustainable use of biological diversity, major objectives of the CBD. These questions generate an intricate debate on the relationship among TRIPS, the CBD and the FAO International Treaty on Plant Genetic Resources for Food and Agriculture.

- Biotechnology

Biotechnology has been defined as “any technological application that uses biological systems, living organisms or derivatives thereof, to make or modify products or processes for a specific use” (Convention on Biological Diversity, 1992)¹⁰.

¹⁰ Traditional biotechnology (involving various techniques used along history that rely on breeding of similar organisms as part of rather lengthy processes that result in new genetic varieties) is distinguished from modern biotechnology (defined as “the application of: a) in vitro nucleic acid techniques, including recombinant deoxyribonucleic acid (DNA) and direct injection of nucleic acid into cells or organelles; b) fusion of cells beyond the taxonomic family that overcome natural physiological reproductive and recombination barriers and that are not techniques used in traditional breeding and selection” (Cartagena Protocol on Biosafety, 2000).

Overall, biotechnologies account for a scientific and technological activity with major applications in various sectors of the economy, in particular those based on natural resources, i.e., agriculture and livestock, forestry, aquaculture and mining. As such, biotechnological applications bear great potential in improving people's quality of life, mainly based on the outstanding biodiversity richness in the region.

Biotechnology holds an unremitting bond to trade and particularly to foreign trade. Accordingly, it has been said that the biotechnology industry is one of the most promising trade sectors, the highlights being development in business areas like the pharmaceutical and agricultural sectors, which have basically boosted the biotechnological industry in the U.S. and E.U.

Conversely, developing countries are often input suppliers and purchasers of licenses for use of technologies generated by industrialized countries (*Commission on Intellectual Property Rights*, 2002). The critical aspects for discussion, as well as the challenges faced by biotechnology, are divided in two general areas:

- i) Restrictions to exports and imports. The Cartagena Protocol on Biosafety provides EGS trade restrictions as a fundamental mechanism to protect biosafety. This situation generates likely sources of conflict between WTO Agreements and Protocol provisions, as well as the growing regulations enforced by industrialized countries with regard to areas like medicines, food and agriculture; and
- ii) The relationship among free trade agreements, intellectual property and biotechnology. Here, the resulting issue concerns the regulations enforced to protect intellectual property (which includes access to genetic resources) by means of free trade agreements, on the one hand, and access to intellectual property and technology transfer by developing countries, on the other hand.

Concerning this second area and based on the findings of a regional consultation carried out on occasion of the Global Biotechnology Forum held March 2nd – 5th, 2004 in Concepción, Chile, (aimed at identifying the main issues associated to technology generation and transfer and differences existing in the region), the conclusion drawn was that there is a need to improve the cooperation oriented to harmonizing regulatory frameworks to allow modern biotechnology to act as a viable tool for social and economic development of the countries in the region, and stressing the need to implement intellectual property and related tools so as to promote efficient technology transfer that supports local industrial capacity. In terms of intellectual property rights, this consultation evidenced the need to create technology and training dissemination networks and the need to reach adequate protection levels that encourage innovation and simultaneously protect the biodiversity involved.

- Biosafety

Biosafety is a branch of biotechnology that arises along with genetic modification for the purposes of ensuring that no process turns out to be harmful for health or the environment. Consequently, it is aimed at regulating technological applications to biodiversity, so that such technological applications do not account for any risk. Especially

significant for the region are matters related to biosafety in genetic manipulation of living organisms, particularly food, also known as Genetically Modified Organisms (GMOs). During the regional consultation carried out in the framework of the Global Biotechnology Forum it was agreed that modern biotechnology products face hurdles regarding their production and marketing, mostly due to differences among countries in terms of their political, scientific and legal frameworks, as well as to the unsuitable international laws inherent to these specific areas of negotiation. There is also a concern on adoption of marketing of *bio-products*¹¹ without the necessary international agreement, which explains the regional preoccupation regarding the lack of adequate regulatory frameworks associated to biosafety that in turn jeopardize biotechnological development in developing countries that rely on limited resources for certification, research and control purposes. Similarly, there are controversies related to the labeling of these kinds of products, which is stressed by the existing lack of standards at multilateral level. These factors prevent foreign trade of *bio-products* and raise access barriers to exports from the countries in the region. Consequently, the most critical requirement in this sense would be considering the creation of regional networks of laboratories devoted to identification and authentication, implementation of information and expertise exchange mechanisms, development of systems fostering cooperation among biosafety experts within the region and creation of regional networks on this matter.

3.2 Tools for environmental management

a) Environmental or Sustainability Assessments

Environmental or sustainability assessments are a tool to a) anticipate and prevent undesired effects from trade policy initiatives (particularly free trade agreements) and b) identify and take advantage of the opportunities these initiatives may generate.

- An increasingly popular practice

For some major business partners for the region –like the E.U., the U.S. and Canada– running environmental or sustainability assessments for their trade agreements or policies is already an official practice. In fact, they have completed assessments of this kind for the trade agreements they have recently executed. The assessments performed by the E.U. have included impact on the countries they are executing a free trade agreement with (this is the case of Chile). On the other hand, the WTO has recommended its member countries to implement the environmental assessment practice (paragraph 33 in the Doha Declaration).

Environmental assessments have been completed in over a dozen cases for countries (or about countries) in the region. However, most of them are not official, but have been developed by research centers or NGOs, independently from governments. The only exception is the environmental assessment performed by Chile in the framework of the agreement executed with the U.S. This assessment was, however, not publicly disclosed.

¹¹ Overall, this is applicable to products originating in living organisms.

There is a number of environmental assessment experiences carried out in Southern Cone countries. However, most of them are not official, but have been developed by research centers or NGOs, independently from governments. The only exception is the environmental assessment performed by Chile in the framework of the agreement executed with the U.S. This assessment was, however, not disclosed. International financing and plans are in place in Peru for completion of environmental assessments oriented to biotrade in the context of negotiations for a FTA with the U.S. In addition, environmental assessments are under way in Peru, Ecuador and Colombia as part of the agreement with the U.S. These assessments are part of a OAS project.

MERCOSUR has also involved a recent assessment by the OAS in Paraguay, Uruguay, Argentina and Brazil as a result of the FTAA. Brazil, in turn, has run some preliminary assessments that have allowed it to reinforce its proposals in the framework of multilateral negotiations.

In the Central American region, the environmental authorities show little involvement in decision-making processes related to trade policy design. The environmental factor is not a priority, hence the impact policies are likely to have on the environment is usually disregarded. This issue has been identified as part of the CAFTA Environmental Cooperation Agreement.

- Institutional tasks yet to be completed

Interinstitutional coordination has grown significantly within the Andean Countries as a consequence of the negotiations being held by Colombia, Ecuador and Peru for a FTA with the U.S. Nevertheless, the larger edge of ministries of commerce with regard to other governmental departments is admitted and the role of the environmental authorities has been barely non-existent.

In Chile, trade matters in general and trade-environmental issues are mostly dealt with by the Chilean Ministry of Foreign Affairs. CONAMA, the environmental agency, has failed to play an active role in the other trade-environmental issues and this agency has not undertaken any actions with regard to the trade agreement environmental assessments.

In MERCOSUR, the environmental authorities have been gaining ground, although they are far from being major players. For example, in Brazil there is interministerial and civil society institutions coordination that even involves entrepreneurial players concerning the environmental assessment of Amazonia.

In the Central American region, the American government has offered financial support for those countries wishing to develop an EIA for the CAFTA.

The need for authorities to implement sustainability assessment practices and make citizens part of these studies has been stressed in current initiatives and future projects. There is also the need to complete and enhance databases and to develop appropriate approaches and methodologies, particularly to cover social aspects.

- Some specific recommendations are:

- Creation of a working group at the subregional level.
- Development of guidelines suitable to the regional capacity, resources and contexts, including good practice recommendations on beneficial citizenship involvement.
- Widening of the implementation scope: sustainability assessments should not be restricted to environmental impact, but should extend to cover social, economic and institutional aspects.
- Performing subsequent assessments or undertaking impact follow-up or monitoring is as critical as completing assessments prior to or during trade negotiations.
- Seek greater commitments from governments to implement this practice.
- Progress should be made in building up common postures for negotiations at the WTO.
- Made advances on such issues as: civil society participation in the elaboration of these studies; complete and improve databases of information; and make advances on the understanding of “services” and their environmental impacts or about sustainability.

b) Environmental management systems

Environmental management systems offer distinct approaches and tools. In particular, these are command and control tools, incentive-based tools and voluntary tools. Among the examples of the control tools are regulations on pollutant emissions, environmental impact assessment systems and land use planning. Incentive-based tools are related with tax exemptions and financial facilities associated to the implementation of certain environmentally friendly solutions. Voluntary tools include, among others, certification under specific standards (local or international) and clean production agreements. Healthy environmental management is necessarily aimed at achieving balanced and adequate combination of these environmental management approaches. Certainly, different approaches or a combination of them will be required for different environmental issues. Moreover, determining the level of environmental performance shown by a particular sector or country will be necessary so that the most appropriate approach to address it may be defined.

For proper operation, the various environmental management approaches need certain basic and transversal conditions to be met. For example: the availability and quality of *environmental information*, the level of *access* thereto, the extent and quality of *citizenship involvement* in decision making and the level of development of basic tools such as *environmental indicators*.

At the same time, institutions, regulations, capacity, resources (both professional and related to infrastructure, equipment and financing), and political will are going to be required for environmental compliance. It is ultimately a rather demanding combination

of a series of conditions that, in general, are not readily available in the countries of the region. Although the matters covered so far in this paper do play a role in all countries of Latin America and the Caribbean, the need to move forward in these issues seems rather urgent in the Central American and the Caribbean subregions and, to a lesser extent, in the Andean countries and the Southern Cone (MERCOSUR and Chile).

One of the Latin American countries having greater experience in dealing with trade-environmental issues is Mexico. As a reference, the following box shows the institutional evolution observed in the context of the NAFTA¹².

Box 3.1 - NAFTA and Mexico's institutional environmental development

The debate over the environment and NAFTA had a positive effect on institutional development in Mexico for the environment. This was particularly the case because it was important to the Mexican government to show public opinion, overall in the U.S., its commitment towards environmental protection. This explains Mexico's decision to establish various environmental agencies in 1992, and the creation of the Ministry of Environment, Natural Resources and Fisheries (SEMARNAP) one month prior to the entry into force of NAFTA (which in 2000 became SEMARNAT).

The new institutional standard allowed for the creation of environmental programs in various areas and, the substantial reform, in 1996, of the General Law of Ecological Equilibrium and Environmental Protection. Such reforms also included greater public participation in decision making and the securing of citizen's rights to environmental information.

It should be highlighted that the negotiation process for NAFTA also helped create a foundation for a regime of transnational environmental administration by mobilizing environmental interests and fomenting the creation and development of environmental groups in Mexico and in the frontier zone with the United States.

However, no significant progress has been seen from an institutional perspective. The Ministry of Economy's position, before the Ministry of Trade and Industrial Development, presented in national and international forums continues to be reactive both within the context of NAFTA, as well as in other forums and multilateral negotiations (OECD, WTO, FTAA). There are few resources, moreover, that have been inverted, both at the level of state or federal governments to address the issue.

During Vicente Fox's administration, SEMARNAT has attempted to address the issue of trade and environment in a more systematic and proactive manner in the OECD and WTO fora. Relations with the Ministry of Economy have been strengthened, with the purpose of elaborating a negotiations proposal with the WTO and to secure positions regarding eco-labeling. However, even though efforts have been made to address the issue of trade and environment, SEMARNAT doesn't possess a research base that is broad or sufficient enough that could allow it to delineate the debate regarding trade and environment and its implications for Mexico. The issue, moreover, doesn't exist in the Congress or Senate, nor in the state governments or in the higher levels of political coordination of public policy.

¹² The data shown in this box was taken from Studer (2005). Annex 6.4 shows extensive background on this information, with emphasis on the situation of Central America.

4. Conclusions

Which are the main challenges in the relationship between trade and environment for the region? Which are some of the priority tasks? Following are answers to these questions concerning each of the particular matters covered in this paper.

- Taking advantage of environmental goods and services

- Taking advantage of the current economic trends in international negotiations in the framework of the Doha Round and how these matters are boosted particularly by the European Union is critical. A major negotiation goal for countries in the region is causing EGS definitions to move closer to goods and services bearing comparative advantages for export purposes.
- Progress should be made in developing local and regional strategies on EGS in order to help overcome issues and weaknesses such as those specified below: lack of experts in this area, lack of analysis at the local level and lack of capacity, not only in terms of professionals, but also regarding infrastructure and procedures. This situation undoubtedly varies from one country to the other; especially in countries like Colombia and Costa Rica, who have sound experience in this matter and can offer valuable expertise exchange with the other countries in the region.
- To support activities at the international level, efforts should be aimed at: i) knowing the operation of the local, regional and international EGS markets in greater detail, ii) arranging meetings for the exchange of information and expertise, iii) identifying major players, iv) assessing business opportunities and v) boosting all matters related to design and implementation of international standards for certification of EGS (standardization, certification, metrology and compliance evaluation processes, including processes like technical equivalences and mutual recognition).

- Moving forward in sustainable trade standardization

- The countries of the region often lack the appropriate means and capabilities to fully implement standardization processes. On the other hand, the participation of developing countries in setting up international standards is rather limited and restricted by resource, capacity and language factors.
- In this sense, the core issues and challenges are as follows: the low level of participation of countries in designing international standards related to trade and environment; poor knowledge of and sensitivity of the various players (private and public) for standardization and technical regulations; the low level of environmental knowledge and sensitivity of regulatory agencies; limited ability and scanty resources to make progress in implementing standardization processes; the inability of SMEs to implement international standards; and the poor knowledge and scarce expertise on standardization in “new” or non-traditional sectors of foreign trade, such as environmental goods and services.

- Towards sustainable foreign investment

- There is a great deal of work involved in ensuring that foreign investment will actually support sustainable development of countries in the region. As to foreign

investment's environmental impact, there are few empirical studies that evidence foreign investment environmental effects in an informed and systematic manner. Interinstitutional coordination is not smooth enough and, in general, environmental aspects, as well as the involvement of environmental authorities in this matter, are mostly restricted to environmental impact assessment systems.

- Concerning investment rules (e.g., like those provided under chapter 19 in NAFTA), this is a highly legal matter, which is usually the concern of the ministries of commerce or foreign affairs. Since this is a matter that may affect environmental regulation, the environmental authorities should play a major role.
- With regard to foreign investment social and environmental responsibility, one of the tasks that could be undertaken by the public sector is, for example, supporting small and medium-size enterprises (SMEs) in their process of adopting socially and environmentally responsible practices. This is evidently a sector that shows major issues in adopting SR practices as a result of the fewer resources it relies on.
- Overall, challenges imply deepening the region's countries' knowledge of this topic and carrying out more studies that show how foreign investment's positive effects can be ensured in the environmental and social fields. In this sense, capacity building concerning mechanisms and tools that adequately protect the environment in foreign investment host countries is needed.

- *A type of trade that does not harm the biodiversity heritage of the region*

- Intellectual property systems are biased against traditional, collective and incremental innovations that fail to be compensated by the conventional intellectual property systems in the same manner the industrial innovation resulting from leading edge scientific and technological research is compensated and acknowledged.
- Developing countries are customarily input suppliers and purchasers of licenses for use of technologies generated by industrialized countries. The critical aspects for discussion, as well as the challenges faced by biotechnology, are divided in two general areas:
 - ✓ Restrictions to exports and imports.
 - ✓ The relationship among free trade agreements, intellectual property and biotechnology.
- In relation to this second area, there is the need to improve the cooperation oriented to harmonizing regulatory frameworks to allow modern biotechnology to act as a viable tool for social and economic development of the countries in the region, and stressing the need to implement intellectual property and related tools so as to promote efficient technology transfer that supports local industrial capacity. In terms of intellectual property rights, the need to create technology and training dissemination networks and the need to reach adequate protection levels that encourage innovation and simultaneously protect the biodiversity involved have been identified.
- About biosafety, the most critical requirement in this sense would be considering the creation of regional networks of laboratories devoted to identification and authentication, implementation of information and expertise exchange mechanisms, development of systems fostering cooperation among biosafety experts within the region and creation of regional networks on this matter.

- *When prevention is better than cure: environmental or sustainability assessments*

- Creation of a work group at subregional level is needed.
- Likewise, development of guidelines suitable to the regional capacity, resources and contexts, including good practice recommendations on beneficial citizenship involvement, is required.
- Widening the scope of implementation is also needed: sustainability assessments should not be restricted to environmental impact, but should extend to cover social, economic and institutional aspects.
- Performing subsequent assessments or undertaking impact follow-up or monitoring is as critical as completing assessments prior to or during trade negotiations.
- Seek greater commitment from governments to implement this practice.
- Progress should be made in building up common postures for negotiations at the WTO.
- Make advances on such issues as: incorporate civil society participation in the elaboration of these studies; complete and improve databases of information; and make advances on the understanding of “services” and their environmental impact or about sustainability.

- *Enhancement of environmental management systems*

- For proper operation, the various environmental management approaches need certain basic and transversal conditions to be met. For example: the availability and quality of *environmental information*, the level of *access* thereto, the extent and quality of *citizenship involvement* in decision making and the level of development of basic tools such as *environmental indicators*.
- At the same time, institutions, regulations, capacity, resources (both professional and related to infrastructure, equipment and financing), and political will are going to be required for environmental compliance. It is ultimately a rather demanding combination of a series of conditions that, in general, are not readily available in the countries of the region. Although the matters covered so far in this paper do play a role in all countries of Latin America and the Caribbean, the need to move forward in these issues seems rather urgent in the Central American and the Caribbean subregions and, to a lesser extent, in the Andean countries and the Southern Cone (MERCOSUR and Chile).

- *Trends and other strategic matters*¹³

A more strategic look –regardless of current economic trends– reveals a group of weaknesses and needs the region should not disregard. For example:

- The effects of the growing role of China in foreign trade will have in the region and in the trade-environment relationship and the effects of the growing role of the APEC in the region and at the WTO are unknown.
- Neither has the effect of global value chains on trade and the environment been determined.

¹³ These are matters subject to discussion at subregional meetings that are not fully consistent with the scope of issues covered in this paper.

- There are no clear postures regarding special differential treatment or tariff escalation.
- As to green subsidies, there is an urgent need for discussion over postures of countries in the region.
- The role MERCOSUR, the Andean Countries or another subregional group of countries plays or could play is not clearly determined.

6.5 An overview of the Caribbean situation¹⁴

1. General background¹⁵

- Main social and economic aspects

In terms of economic performance, the 90s brought major changes for the countries in the region in the form of globalization and trade liberalization of local financial markets and capital flows. In addition, private companies grew into major players of production of goods and services and provision of public services and social benefits. Economic performance in the region over recent years has been marked by contrast and the impossibility of setting a permanent growth pattern.

Intra-regional trade dominated the scene over the 90s in the countries of the Caribbean Community due to the establishment of the Caribbean Community common market. International trade bloomed in the 90s, even though the regional performance was variable. Over the last decade, intra-hemisphere trade grew significantly vis-à-vis total trade in the hemisphere.

As to social development, the 90s brought ongoing demographic changes that affected sustainable development objectives in different ways. The size of the population, growth, age structure and education, health and socioeconomic characteristics have an impact on the use of natural resources, just as gender relations and migration patterns. Total impact of these trends over sustainable development has changed from one country to the other. More recently, the increasing mortality caused by AIDS has been a critical demographic factor that has limited development. There has been major progress in reducing poverty through the economic growth shown by these countries. Notwithstanding, the high levels of unemployment shown by the Caribbean Community countries still account for a predicament for governments in their quest for sustainable development.

There has also been progress in other aspects of poverty alleviation, including health services, child and maternal mortality, hunger reduction, access to education, and access to potable water and sewerage. However, many people still lack access to potable water and sewerage in different countries. AIDS has devastated the young adult population, which has dramatically hindered social and economic development. At the same time, some countries have experienced increased levels of diseases related to unhealthy diet, sedentary lifestyles and overweight.

- Main environmental aspects

¹⁴ This section has been prepared based on an analysis of economic, social and environmental background available for the Caribbean. It should be noted that matters have been treated from a trade-commercial border vantage point.

¹⁵ Data in this section has been mostly provided by Caribbean Community Secretariat and United Nations (2003), The CARICOM environment in figures 2002. Caribbean Community Secretariat: Georgetown.

One of the greatest disadvantages of the Caribbean islands is that they are highly vulnerable to natural disasters, particularly hurricanes, volcanic eruptions, extensive droughts and floods. Among the aforementioned natural disasters, hurricanes have been the main cause of human death, accounting for 1,745 human lives in the region between 1990 and 1998. These figures evidence the social vulnerability caused by poverty, environmental degradation and public policies flaws.

Waste management has remained one of the major environmental problems in the Caribbean Community region. There is currently better understanding of the waste generation process, waste performance under different climatic conditions and waste components. The increased urban population, industrial activity and tourism continue to overload waste management capacity. Interesting progress has been made in managing solid waste in the region. Some countries have made significant investments to improve management of liquid wastes, mainly in Bahamas, Barbados, Belize and Saint Lucia. Still, regional progress has been slow, mostly due to the high cost associated to sewerage and waste water treatment.

Coastal areas in the Caribbean Community region consist of various habitats, including coral reefs, sea-grass beds, mangrove forests, marshes and rocky coastal areas. Pursuant to the United Nations Convention on the Law of the Sea, Caribbean Community states hold rights over extensive areas that account for exclusive economic zones (EEZ). Nevertheless, the islands have lacked the necessary resources to reap greater benefits from these zones. Priority action zones include local policy-making on coastal management, along with the necessary laws and regulations; building and reinforcement of institutional, administrative, technical and scientific capacities to effectively manage and use EEZ resources; development of a comprehensive inventory of biotic and abiotic elements; and development of monitoring mechanisms for marine ecosystems and development of an integrated environmental database by using technologies like geographic information and remote observation systems.

The main source of fresh water in most states is rainwater. Antigua and Barbuda, Bahamas, Barbados, Saint Lucia, and Trinidad and Tobago rely on water desalination to increase their potable water supply. In the eastern Caribbean states, surface water is the main, although highly variable source of potable water. During the dry season, water supply drops considerably and the cattle and irrigation are the activities subject to greater stress due to this reason. Salt water intrusion is a major hurdle to water supply in Antigua and Barbuda, and Barbados. Underground water availability varies significantly from one country to the other. In some countries like Antigua and Barbuda, Grenada, Saint Lucia, St. Vincent and the Grenadines no underground water is used. Conversely, Bahamas and Barbados rely completely on underground water for their fresh water supply.

For most of the Caribbean Community member countries, the major source of energy is imported fossil fuel. The exceptions to this rule are Barbados and Trinidad and Tobago, who produce oil and gas; and Barbados, Dominican Republic, Jamaica, Saint Vincent and the Grenadines, that heavily rely on geothermal, solar and wind energy, as well as wood and forestry products. Fossil fuel dependence has not only increased vulnerability of the region to increased international fuel prices, but has also generated large demand on foreign exchange reserves. The current trends leave little hope for energy production costs to stabilize or drop in the short or medium term. In fact, there are signs that consumption will also soar as urbanization and industrial growth and healthcare services grow and continue to fuel demand for electric power at households, and in the tourism and transport sectors.

Tourism is one of the major economic activities in the region, accounting for 30-50% of the GDP in most of the member countries. Over the past 20 years, these countries –the population of which corresponds to less than 1% of the world’s population- have been the place of destination for over 6% of world tourists. There is great need to have a wider perspective of the environment tourism depends , which is also true for the threats this environment has to face. There have been, however, significant developments in this regard, both at national and at regional level. In general, there is growing awareness of the critical role played by the environment in supporting the social and economic benefits stemming from tourism.

All the Caribbean Community countries face enormous challenges to protect their biodiversity resources. Some countries (Barbados, Jamaica and Saint Lucia) have devised plans to protect marine and land parks and other fragile ecological areas. Jamaica has published a green paper on that matter. Trinidad and Tobago has been orienting its efforts to conservation of biodiversity at its national parks and watersheds. Nevertheless, implementation and particularly completion of these plans involve resources that these countries can hardly provide. Accordingly, destruction of biodiversity does not stop.

2. Priority topics on development, trade and environment¹⁶

Between 1960-1998, a trend towards greater agricultural production with a modest increase in the use of land but larger dependence on the use of fertilizers and irrigation is observed. This shows that the agricultural sector remained at the same level of development, but always wary of increased environmental stress. In non-agricultural sectors, the massive increase in demand for electric power shows major growth in the tourism and urban services sectors.

In summary, most of the countries bearing the highest GDP per capita indices by the late 20th century and those experiencing the largest GDP per capita growth after the 60s were those that did not depend on agriculture as their main economic activity, but relied on well-developed tourism and financial sectors.

¹⁶ This section has mostly been compiled from conclusions in Elyzabeth Thomas-Hope (2001), *The Role of the Environment in Caribbean Economic Development*. Integration and Trade Journal, Inter American Development Bank - INTAL: Buenos Aires, Argentina.

The countries showing the lowest GDP per capita -and the lowest GDP per capita in 1998- are those where the strongest correlation with environmental indicators is observed. Certainly, the success of tourism and financial and urban services -rather than the ongoing dependence on agriculture- explained economic growth. Moreover, these factors illustrate the differences among economies of the region by late last century. Yet, the high level of environmental stress associated to these highlights in the economic field should be pointed out.

The countries showing average GDP per capita growth combined great dependence on primary production (i.e., agricultural and/or industrial) and some manufacturing and tourism developments. Only Cuba and Belize appeared to show significantly positive correlation between a soaring GDP per capita and increased mulch, which suggested that all other countries had lost this mulch, because they had experienced growth in either agricultural or industrial activities.

Haiti, the Caribbean country showing the lowest GDP per capita during the entire period, not only experienced negative trends regarding the environment and the economy, but also concerning governance in generating and strengthening the relationship between the existing environmental resources base options economic decisions.

Economic inequalities within the Caribbean by the late 20th century do not evidence a simple correlation with the resource distribution pattern in the region, or with the size of the territory involved, let alone with the duration of dependence on sugar production. The external economic support of metropolis to their respective dependent departments or states fostered development during various stages of the 20th century, while economic sanctions, for example those imposed to Cuba and Haiti, accounted for major setbacks for said countries which, at all events, fail to explain income inequalities. All the Caribbean countries were affected by global market externalities and have reacted to them in various ways. Within the general context of the Caribbean experience, significant differences arose in the form of use and management of natural resources oriented to achieving an economic advantage. Evidence of increased levels of carbon dioxide, desertification, and various other forms of contamination shows that some development strategies adopted by the economically successful Caribbean countries could lead to detrimental environmental impacts if the environmental resources they currently rely on fail to be carefully managed, as they will certainly become unsustainable.

- *Priorities in trade and environment*¹⁷

Based on distinct background, in 2003 the UNCTAD and UNEP program on training on trade, environment and sustainable development in the Caribbean identified the following priority topics:

1. Integrated or sustainability assessments:

¹⁷ This section has been prepared based on trade and environment activities currently (or recently) developed by international agencies like UNCTAD, UNEP, ECLAC and the position of the very Caribbean states on occasion of multilateral and regional forums.

- a. Supporting local efforts to carry out integrated or sustainability assessments aimed at determining the economic, social and environmental effects of trade and trade liberalization.
 - b. Identifying and implementing appropriate tools and techniques for economic assessment of marketable environmental resources and services.
2. Environmental goods and services
 - a. Reviewing environmental services that are not defined by technology but determined by products, and which are potentially exportable.
 - b. Supporting national consultations and coordination among ministries, environmental goods and services vendors and other players to identify the implications of environmental services liberalization and to reinforce consistency between liberalization and local sustainable development objectives.
 - c. Identifying environmental goods and services, including preferable products likely to be exported.
3. Environmentally preferable products
 - a. Supporting organic crops and organic product exports, with special emphasis on small and medium-size producers.
 - b. Developing policy tools and recommendations to ensure that local and indigenous communities benefit from fair trade and eco-labeling programs currently in use, so as to boost non-industrial producers and traditional knowledge.
 - c. Developing regional businesses, so that the quality, volumes and production of regular products may be ensured to international market buyers.
4. Environmental requirements, access to markets and competitiveness
 - a. Increasing the local industry's capacity to provide goods and services meeting international environmental standards, particularly in agriculture, forestry, fisheries, tourism, low-scale manufactures (including information dissemination on international standards and requirements).
 - b. Improving research, training and academic formation capabilities for evaluation of compliance with and certification of international standards.
 - c. Supporting SMEs on market research, compliance with international standards, management systems and product development.
5. Interaction between MEAs and the WTO
 - a. Strengthening the ability at local and regional levels to respond to potential trade and environmental policy conflicts, both at domestic level and regarding MEAs and WTO agreements.
6. Tourism
 - a. Integrated assessments of the environmental and socioeconomic effects of greater trade liberalization at the tourism sector resulting from FTAA, WTO and other multilateral agreements.
 - b. Policy making for "green tourism" and eco-tourism.
7. Fisheries
 - a. Integrated assessments of the environmental and socioeconomic effects of greater trade liberalization at the tourism sector resulting from FTAA, WTO and other multilateral agreements.

8. General needs
 - a. Reinforcing cooperation at the local, subregional and regional level and among regional agencies.
 - b. Developing programs aimed at training trainers or local capacity building.
 - c. Identifying, designing and implementing economic tools suitable to sustainable development.
 - d. Supporting the creation or strengthening of regional mechanisms or networks to promote knowledge exchange and actions on integrated assessments and economic cooperation.
 - e. Improving the Caribbean countries' capacity to negotiate about trade and environment-related matters.
 - f. Improving the existing mechanisms to facilitate active participation of the civil society in policy-making and decision-making endeavors.