

Financing for Sustainable Development in Latin America and the Caribbean

**From Monterrey
to Johannesburg**

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Sustainable Development

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FOREWORD

The 1992 United Nations Conference on Environment and Development, also known as the Earth Summit, marked the beginning of the transition towards a new international environmental regime. Agenda 21, which was formulated at that event, established what additional financial and technical resources were required, particularly by developing countries, in order to achieve sustainable development.

At the Millennium Assembly in 2000, world leaders agreed on a far-sighted plan to support global development objectives at the start of this new century. The International Conference on Financing for Development, held in Monterrey, Mexico, in 2002, was an important turning point in the effort to attain these Millennium Development Goals (MDGs) and to reduce the vast implementation gap in Agenda 21. At Monterrey, the downward trend in official development assistance (ODA) was reversed, and a commitment was made to reduce the debt burden, particularly of the least developed countries.

The challenge to be met at the World Summit on Sustainable Development in Johannesburg is to adopt an implementation plan that will revitalize multilateral cooperation and enable developing countries to use the available financial resources effectively and to launch partnerships with the private sector, bilateral sources and NGOs. The MDGs and the Johannesburg Plan of Implementation will serve as a framework for the measurement of actual achievements, the delivery of financing and the fulfilment of other related commitments. It is understood that while domestic resources remain the most important source of financing for sustainable development, public and private international financial flows, including those provided by the financial mechanisms of the Rio conventions, are also crucial.

This publication, which is a work in progress, seeks to present an overall picture of financing for sustainable development in the light of the challenges addressed at the Monterrey and Johannesburg events and to provide relevant information to policy- and decision-makers of developing countries in their transition towards sustainable development. It is also aimed at sharing experiences drawn from the Latin American and Caribbean region and its operational vision for the future with the global community and with other regions. Moreover, it is intended to help strengthen the capacity of Latin America and the Caribbean for the effective implementation of the Initiative for Sustainable Development agreed upon by the Governments of the region in the context of the Rio de Janeiro Plan of Action and for the timely execution of the Johannesburg Plan of Implementation.

Building upon seven case studies of selected countries, the technical analysis contained in this monograph presents options for developing countries seeking to generate resources for sustainable development and suggests how the private sector, donors and multilateral financial institutions can contribute to the same objective. The analysis also highlights the need to strike a new balance between the market and the public interest through public-private initiatives that combine market innovation, social responsibility and enabling regulations. Financial trends and the flow of domestic resources, particularly as they relate to public expenditures for the environment, are also analysed.

The implementation of sustainable development programmes should ensure the integration of economic, social and environmental objectives, and these integrated aims should be reflected in the policies and decisions adopted at the national, regional and global levels.

The seven country case studies and the overall regional analysis suggest a number of specific measures:

- Putting in place an effective operational strategy to increase ODA beyond the commitments made in Monterrey for sustainable development and environmental protection;
- Designing new instruments to revitalize debt-for-nature swaps by converting them into debt-for-sustainable-development swaps;
- Assessing the feasibility of a payment system for environmental services;
- Identifying how foreign investment can make the most significant contribution to sustainable development, and determining which policies should be used to increase the compatibility of foreign investment with sustainable development;
- Improving transparency in the costs of subsidies, the incidence of environmental taxes and market barriers;
- Expanding capacity development and institution-building to optimize the mobilization of financial resources for sustainable development, particularly at the regional level, based on the existence of multilateral financial institutions in Latin America and the Caribbean;
- Supporting communities and Governments in their efforts to secure equitable access to the innovative financial mechanisms being established as part of the environmental regime.

ECLAC and UNDP will continue their partnership, while also involving other development actors, in an effort to support Governments in the adoption of measures and policies that will expand financing and investment for sustainable development. They will also promote partnerships between public and private sectors and the NGO community aimed at strengthening and re-designing public and private institutions and thus enabling them to respond to the operational requirements of fulfilling the MDGs and the Johannesburg Plan of Implementation.

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I. INTRODUCTION

The United Nations Conference on Environment and Development, also known as the Earth Summit, was a landmark event in the ongoing effort to secure economic, social and environmental well-being for present and future generations. At the time, the five accords of the Conference represented the most universal and coordinated policy response yet formulated by world leaders as they strove to fully incorporate the environmental dimension into development policies.¹

The Earth Summit marked the beginning of a new round of world conferences whose purpose was to draw up an agenda for development in the light of the new international context being shaped by the phenomenon of globalization. Taken as a whole, the development conferences held by the United Nations in the 1990s (on the environment, population, social development, women, housing and food) helped shift the definition of many of today's development objectives away from purely economic indicators of progress and towards a broader agenda encompassing standards of poverty reduction, social development and environmental sustainability.

This social cycle of international development conferences culminated with the Millennium Summit held by the United Nations General Assembly in September 2000, at which 191 nations adopted the Millennium Declaration. The Declaration sets out specific goals for human development and poverty eradication to be met by 2015. These Millennium Development Goals include: halving extreme poverty and hunger; achieving universal primary education and gender equity; reducing the mortality of children under five by two thirds and maternal mortality by three-quarters; reversing the spread of HIV/AIDS; halving the proportion of people without access to safe drinking water; and ensuring environmental sustainability. The Millennium Summit thus formulated new imperatives for international cooperation in addressing the urgent need to achieve a balance between growth, equity and environmental sustainability.

Since the Millennium Summit, three events have begun to provide a blueprint for a world development agenda through a new round of international conferences that focuses more on quantitative targets and means of implementation: the International Conference on Financing for Development, the Fourth WTO Ministerial Conference held at Doha and the World Summit on Sustainable Development. In this regard, the World Summit on Sustainable Development faces the immense challenge of addressing means of implementation that will fulfil the goals set at these international conferences within the context of sustainable development.

The clarity of purpose generated by these recent United Nations processes are bringing the need for financing development into sharper focus.

This analysis looks into the possible links among the objectives, development goals and implementation strategies agreed upon at the Earth Summit in 1992, the Millennium Assembly of the United Nations in 2000 and the International Conference on Financing for Development in 2002 within the context of the forthcoming World Summit on Sustainable Development. This document does not

¹ The five resolutions of the Rio Conference are as follows: the Rio Declaration on Environment and Development, Agenda 21, the Forest Principles, the United Nations Framework Convention on Climate Change and the Convention on Biological Diversity. Other significant multilateral instruments were agreed on following the Summit, such as the United Nations Convention to Combat Desertification in those Countries Experiencing Serious Drought and/or Desertification, the Kyoto Protocol, the Cartagena Protocol and the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities.

pretend to provide a comprehensive analysis of the complex questions emerging from these three processes. Instead, it focuses on outlining recent trends in financing for sustainable development in Latin America and the Caribbean, with special reference to the environment, and on setting forth recommendations to further advance the development agenda from a regional perspective.

Earth Summit

One of the most controversial issues addressed at the Earth Summit and in the course of the follow-up to the Summit by the United Nations Commission on Sustainable Development (CSD) concerned possible mechanisms for financing sustainable development in keeping with the mandate issued by the General Assembly in its resolution 44/228 of 22 December 1989.²

Chapter 33 of Agenda 21 highlights the need for major efforts on the part of both individual countries and the international community in this respect. Agenda 21 provides an indicative assessment of the implementation costs for developing countries and of the grants or other concessional financing required from the international community. The average annual cost of meeting the Agenda 21 targets—both for environmental programmes and for sustainable development in a broader sense—have been estimated at around US\$ 600 billion. This sum includes around US\$ 125 billion to be furnished on concessional terms by the international community (equivalent, in essence, to official development assistance (ODA) amounting to 0.7% of the developed countries' GDP); the remaining US\$ 475 billion is to come from domestic public and private resources in the countries.

Agenda 21 recognizes that special efforts will be required to make the transition to a sustainable development process. Accordingly it calls for the creation of international and domestic economic conditions that will encourage synergies between free trade and market access, on the one hand, and sustainable development, on the other, in order to help make economic growth and environmental protection mutually supportive. It also draws attention to the importance of strengthening international cooperation in order to supplement the efforts of developing countries, and particularly of the least developed nations. In addition, Agenda 21 explicitly acknowledges the need for enhanced and predictable levels of funding for the achievement of medium- and long-term objectives and for the provision of new and additional financial resources to developing countries.³

The signatories of Agenda 21 also agreed to encourage durable solutions to the external debt problems of low- and middle-income developing countries. One of the proposals is to explore new ways

² Resolution 44/228 established that UNCED should make a particular effort to “(j) identify ways and means of providing new and additional financial resources, particularly to developing countries, for environmentally sound development programmes and projects in accordance with national development objectives, priorities and plans and consider ways of effectively monitoring the provision of such new and additional financial resources, particularly to developing countries, so as to enable the international community to take further appropriate action on the basis of accurate and reliable data; (k) to identify ways and means of providing additional financial resources for measures directed towards solving major environmental problems of global concern and especially of supporting those countries, in particular developing countries, for which the implementation of such measures would entail a special or abnormal burden, owing, in particular, to their lack of financial resources, expertise or technical capacity; (l) to consider various funding mechanisms, including voluntary ones, and examine the possibility of a special international fund and other innovative approaches, with a view to ensuring, on a favourable basis, the most effective and expeditious transfer of environmentally sound technologies to developing countries; ... (v) to quantify the financial requirements for the successful implementation of Conference decisions and recommendations and identify possible sources, including innovative ones, of additional resources.”

³ Agenda 21, chapter 33, paragraphs 33.6 and 33.7.

of generating public and private financial resources through a greater use of debt swaps. With regard to private funding, Agenda 21 raises the possibility of increasing voluntary contributions through non-governmental channels and encouraging the mobilization of higher levels of foreign direct investment (FDI) and technology transfer.

Within this context, the World Bank and regional and subregional banks have made a commitment to play a broader and more effective role in providing funds on favourable terms. Agenda 21 also sets out the need to restructure and strengthen the Global Environment Facility, which is administered jointly by the World Bank, United Nations Development Programme and United Nations Environment Programme, so that it can contribute additional concessional funding for environmental protection. Other mechanisms to be explored include the feasibility of tradable permits and the reallocation of resources at present committed to military purposes. In addition, it calls upon developing countries to draw up national plans for sustainable development to give effect to the decisions of the United Nations Conference on Environment and Development.

Today, 10 years after the Summit, financing for sustainable development continues to be a fundamental issue in the ongoing international debate. On the one hand, given the existing challenges and trends in financing and investment for sustainable development, it is clear that insufficient progress has been made towards achieving the financial goals established by the international community in Agenda 21. On the other hand, negotiations have become more difficult since the re-opening of the debate on the principle of “common but differentiated” responsibilities in the course of the preparatory process for the World Summit on Sustainable Development.

Financing for development (FfD)

Financial issues have been at the centre of the North-South debate since the 1960s. During the intergovernmental negotiations pursued in the course of the past decade (and particularly at the Earth Summit in 1992), the most heated controversy between North and South has revolved around mechanisms for financing sustainable development within the framework of the principle of “common but differentiated” responsibilities. The conferences of the 1990s failed to accomplish their goals largely because Governments of developed countries were unwilling to raise their levels of ODA to 0.7% of GNP.

Thirty years after the Pearson Commission published “Partners in Development”, the global framework for development has changed dramatically, but the proposals basically remain the same.⁴ Developing countries consider financing to be the key development issue and have consistently called for a United Nations conference on the issue, while industrialized donor countries, have preferred to focus on such issues as FDI, domestic resource mobilization and good governance. Finally, at its fifty-second session, in 1997, by its resolution A/52/179 the General Assembly called for a high-level international intergovernmental forum on financing for development to be held no later than the year 2001.

The preparatory process was based on a broad-ranging initial consultation conducted by the Secretariat. Governments, intergovernmental bodies, public financial institutions, private-sector financial institutions, business and industry, research institutes and policy advocacy organizations participated in

⁴ Financing for development is in a long-standing crisis. As early as 1969, the Pearson report noted an “atmosphere of decreasing interest for development assistance” in the industrialized countries and “signs of dejection and growing impatience” in developing countries. The expert commission headed by Lester Pearson concluded that development assistance was in an “acute crisis” and made three recommendations: the use of trade measures favouring developing countries; the promotion of FDI in developing countries; and an increase in ODA to 0.7% of donor-country GNP.

these consultations, which proved to be one of the most innovative features of the preparatory phase of the FfD process.

The United Nations Conference on Financing for Development was held in Monterrey, Mexico, on 18-22 March 2002. This event represented a milestone in bringing economic issues back into the United Nations forum of debate at the highest possible level. More than 50 heads of State or Government, along with representatives of the World Bank, the International Monetary Fund (IMF), the World Trade Organization (WTO), civil society, the business community and senior government officials from ministries of finance, trade and foreign affairs took an active part in the Conference.

The range of topics that were discussed fall under two main headings: the new comprehensive development agenda and the role of multilateral organizations and institutions. The participants analysed how global changes demand a more comprehensive approach to development, and agreement was reached at the Conference as to the need to define a new development agenda on this basis. This new agenda will need to differ substantially from the agenda that has been in place for the past half century, and international institutions and mechanisms will therefore have to be brought up to date.

The Conference in Monterrey generated a great deal of momentum for the effort to place development issues at the centre of the global agenda and reinvigorated the international partnership for development. The comprehensiveness of the FfD agenda (including domestic resource mobilization, FDI and other private flows, trade, ODA, debt relief and systemic issues) provided the Conference with a basis for analysing means of reducing poverty and the associated constraints and for highlighting the role of the internationally agreed Millennium Development Goals as a tool for measuring progress towards these objectives.

Several broad themes were reflected in the outcome document adopted at Monterrey and in the follow-up discussions:

(a) Policies. Developing countries' commitments to move forward with policy reforms must be matched with the necessary assistance resources. The Monterrey Consensus reinforces the commitments made regarding the types of policies required within developing countries to mobilize domestic resources, attract private investment and use aid effectively. It reaffirms the importance of sound policies and effective governance. The international community, in turn, committed to scaling up and intensifying its efforts to help developing countries meet internationally agreed development goals.

(b) Opportunities. Not only must industrialized economies commit to tearing down trade barriers that harm the poorest nations, but they must also support developing countries in addressing constraints that prevent them from fully benefiting from trade and investment flows. For all countries, trade is a key source of growth opportunities. Enhanced market access and effective participation by developing countries in the development agenda drawn up at Doha is essential to ensure that the benefits of globalization reach all countries.

(c) Resources. Steps must be taken to ensure that the agreed levels of ODA are forthcoming. The Monterrey Consensus recognizes that substantial increases in ODA, both bilaterally and multilaterally, will be required if the poorest countries are to succeed in halving their poverty rates and achieving other internationally agreed development goals. The announcements made by the European Union and the United States prior to the Conference hold out the hope that the existing downward trend or stagnation of aid levels can be reversed. Specifically, the European Union's decision to boost its ODA to 0.39% of GNP by 2006 and the announcement by the United States of a US\$ 5 billion increase in development assistance within three years are significant steps in this direction. This should be complemented by extending the implementation of

the Heavily Indebted Poor Countries (HIPC) Initiative with a view to arriving at an enduring solution to the problem posed by the debt burdens of low-income countries and by enhancing opportunities to attract FDI.

(d) Institutions. Capacity-building is a key element in strengthening institutional performance in each of the areas covered by the FfD agenda (e.g., mobilizing and using domestic resources more effectively, creating a favourable investment climate, giving developing countries access to trade opportunities and managing external debt).

(e) Systemic issues and participation by developing countries. Although several references to new institutional initiatives or arrangements were made at the Conference, the most widely recognized point was the close collaboration taking place between the United Nations and the Bretton Woods institutions in the FfD process over the past two years, which should facilitate further collaboration at the global and country levels in implementing various aspects of the Monterrey Consensus. A strong desire was also expressed, however, to enhance the participation of developing countries and to ensure that those taking part in international discussions and decision-making are fully cognizant of the perspective of developing countries. Calls were also made for better global economic governance (i.e., greater coherence and consistency in the international monetary, financial and trading systems) through enhanced collaboration among existing institutions. These systemic reforms of the international financial system are seen as another element that can help guarantee adequate and stable financing for developing countries.

(f) Monitoring and strengthening effectiveness. All the participants agreed that improved development effectiveness entails focusing on results and a systematic approach to the monitoring of the actions of all parties.

Leaders present in Monterrey committed to keeping fully engaged at the national, regional and international levels, to ensuring proper follow-up to the implementation of agreements and commitments reached at the Conference and to continuing to build bridges between development, finance and trade organizations and initiatives. They also recognized that existing institutions need to coordinate their efforts more closely while at the same time respecting each organization's individual mandate and governance structure. To this end, mechanisms are envisaged to ensure that representatives of the United Nations Economic and Social Council and the directors of the executive boards of the World Bank and the International Monetary Fund will interact periodically to discuss the follow-up to the International Conference on Financing for Development. The participants also requested the Secretary-General of the United Nations to submit an annual report on follow-up efforts and called for a follow-up international conference to review the implementation of the Monterrey Consensus, the modalities of which are to be determined no later than 2005.

Finally, although the International Conference on Financing for Development held by the United Nations in Monterrey provided a comprehensive assessment of the broad array of issues relating to the provision of financing for development, the environmental dimension received very little attention in the official debates and reports. However, the importance of the World Summit on Sustainable Development was addressed in the interventions of some countries and UN officials.⁵

⁵ ECLAC and UNDP organized a side event on Financing for Sustainable Development to explore and reinforce partnerships for investment opportunities between the public and the private sectors in Latin America and the Caribbean, with special attention to environmental areas.

Box I.1
COMMITMENTS MADE AT MONTERREY

The most significant commitments made at Monterrey were the significant increases in ODA levels announced by the United States and the European Union, which will generate an additional US\$ 12 billion per year by 2006.

- The United States will increase its ODA by US\$ 10 billion over the next four years (US\$ 1.3 billion in 2004, US\$ 3.7 billion in 2005 and US\$ 5 billion in 2006) and will then maintain the 2006 level in subsequent years. This amounts to a 50% increase over its current ODA levels.
- The European Union will increase its average ODA/GNI ratio from its current level of 0.33% to 0.39% by 2006. This will translate into an additional US\$ 7 billion in aid annually by that year. This figure will continue to rise in line with inflation and economic growth.

The European Union also announced a package of further commitments:

- to take concrete steps to harmonize donor procedures by 2004;
- to increase aid for trade-related capacity-building;
- to press for a stronger developing-country voice in international economic decision-making;
- to hold discussions on the scope for a further untying of aid;
- to promote a process for identifying global public goods;
- to consider the case for innovative sources of financing; and
- to give priority to ensuring debt sustainability.

Overall perspective

Integration of the environment into economic policies, priorities and activities has been recognized as a crucial step along the road towards sustainable development. This interface is also critical to the successful integration of environmental issues into the business and financial sectors and to steer investment towards environmentally sound development activities.

An analysis of the linkages existing within the sphere of environmentally sustainable development in the context of financing for development is therefore both urgent and necessary. An overview of the following six trends will shed light on the main elements that have characterized financing for sustainable development since 1992.

1. Achieving a favourable environment for sustainable development requires the resolution of the problems posed by unsustainable levels of **external debt**. The growing and unsustainable volumes of external debt borne by developing countries, especially the poorest ones, prevent them from devising sustainable development strategies and allocating resources for environmental protection. The international community has appraised the status of 42 heavily indebted poor countries with a view to mitigating the negative impact of external debt on their development; in 2002, 27 countries were benefiting from debt relief strategies under the Heavily Indebted Poor Countries (HIPC) Initiative.⁶ While the HIPC Initiative of the World Bank and

⁶ The Initiative was adopted in September 1996 by the World Bank and the International Monetary Fund to reduce the debt burden of heavily indebted poor countries within a six-year period. See IMF and World Bank (2001).

IMF has begun assisting some countries in addressing the problem, further efforts are needed to eliminate the unsustainable debt of these and other countries. The Latin American and Caribbean region is no better off in this respect than other developing regions; in fact, its debt balance expanded steadily throughout the 1990s, from less than US\$ 500 billion to over US\$ 800 billion by the end of the decade.

2. Flows of **official development assistance (ODA)** have, overall, been trending downward, and present levels represent less than one third of the amount for which commitments were made at the Summit in Rio de Janeiro. Bilateral and multilateral ODA declined from 0.35% of donor countries' GDP in 1992 to 0.22% in 1997. This was followed by a slight increase in the immediately following years which brought the figure up to 0.23% in 1998 and 0.24% in 1999, only to drop once again to 0.22% in 2000 and 2001.⁷ In addition to the quantitative variations, there has also been a change in the allocation of ODA among sectors. In the 1990s, aid shifted from commercial sectors, such as manufacturing and telecommunications, to health, education, other social services and the environment. This change in ODA allocations reflects a stronger orientation on the part of donors towards poverty eradication, as well as the wave of liberalization programmes and privatizations that characterized the 1990s. Members of the OECD Development Assistance Committee (DAC) has also adopted a recommendation on untying ODA to the least developed countries with a view to increasing the effectiveness of aid. ODA allocations for the conservation and sustainable management of natural resources have been distributed quite unevenly in the last decade. While commitments for the protection of freshwater and land resources have increased, ODA for the sustainable development of oceans and seas, protection of the atmosphere, sustainable agriculture and combating deforestation have declined. The share of ODA received by these areas fell to 17% in 1999, down from 25% in 1996. The distribution of ODA among regions and countries is also uneven. Between 1998 and 2000, no Latin American or Caribbean country figured among the 10 principal recipients. In those years, the ODA received by the region dropped from a little over US\$ 5.2 billion in 1998/1999 to around US\$ 5.0 billion in 1999-2000. This is equivalent to 12% of gross bilateral assistance, which amounted to over US\$ 43 billion.

3. **Private international financial flows**, by contrast, have seen a notable increase. This trend exhibits two troubling features, however. The first is the volatility of these flows. The second is that they are heavily concentrated in developed countries and a very limited number of emerging economies, which means that they bypass the poorer countries.⁸ International trade has also become an essential component of economic growth and sustainable development, and export strategies have therefore come to be pivotal in development strategies. This has heightened the importance of international trade agreements, in particular those concluded under the aegis of the World Trade Organization (WTO). Priorities in this connection therefore include the transfer of cleaner, more efficient technologies and market access for the products of developing countries.⁹

⁷ See <http://www.oecd.org/dac>. Only five countries (Denmark, Luxembourg, the Netherlands, Norway and Sweden) met or exceeded the 0.7% aid target in 2000.

⁸ As indicated in "International cooperation for an enabling environment for sustainable development. Report of the Secretary-General" (E/CN.17/2001/5) of 12 December 2000, submitted to the Commission on Sustainable Development at its ninth session, although flows increased considerably between 1990 and 1999 (from US\$ 126 billion to US\$ 147 billion), just 10 developing countries received almost 80% of total FDI flows to the developing world. In addition, capital flows have generally proven to be highly volatile. See also ECLAC (2001e).

⁹ During the last two decades, scientific proof has been advanced regarding the presence of a series of unprecedented global phenomena. These phenomena, which stem from the increasing scale of human activity, include the thinning of the stratospheric ozone layer (the "hole" in the ozone layer), loss of biological diversity, cross-border movements of hazardous waste, desertification and drought. The acceleration of economic globalization and the deterioration of the global environment

In addition to the high volatility of foreign portfolio investment and international bank loans, the 1990s witnessed rapid increases in FDI, and this upward trend continued into 2000. Net FDI flows to developing countries grew steadily throughout the 1990s, soaring from US\$ 30 billion in 1992 to US\$ 240 billion by 2000. They remained highly concentrated, however. Net portfolio investment in developing countries peaked at US\$ 91 billion in 1994 and then fell to US\$ 25 billion in 1998 before recovering somewhat in 1999 and 2000. This global phenomenon is also quite marked in Latin America and the Caribbean. Net FDI inflows increased from an annual average of US\$ 18.2 billion in 1990-1994 to US\$ 69.5 billion in 1995-1999, climbing to a peak of US\$ 105.2 billion in 1999 before entering into a downward trend that left the total at US\$ 88.5 billion in 2000 and at an estimated US\$ 79.7 billion in 2001. This trend appears to have carried over into 2002 as well. Differences across countries are also evident: Argentina and Bolivia are currently registering sharp reductions, while Mexico and Ecuador are seeing a positive trend. Moreover, although a net total inward transfer of resources was recorded during most of the 1990s, net flows have been moving in the opposite direction since 1999. Thus, the positive but decreasing net transfer of resources to Latin America and the Caribbean occasioned by FDI flows has been more than offset by the growing negative net resource transfer generated by financial flows. Volatility in financial flows is clearly an obstacle to sustainable development in developing countries. The increasing importance and further potential of external private capital flows as a source of investment, together with pressure from international financial institutions, have led Governments to take steps to achieve greater macroeconomic stability, liberalize their financial and trade markets and create a national policy environment that is conducive to foreign investment. In a number of countries, however, the liberalization of trade and financial markets has undermined the competitiveness of domestic producers and increased financial volatility without substantially increasing investment inflows, exports or economic growth.

4. **Financial contributions from international agencies** in the form of loans and donations to support environmental measures have increased substantially. Such agencies are also making greater use of environmental criteria in the appraisal of all their projects. Latin America and the Caribbean enjoy the most comprehensive network of regional multilateral banks in the developing world: the Inter-American Development Bank (IDB), the Andean Development Corporation (ADC), the Central American Bank for Economic Integration (CABEI), the Caribbean Development Bank (CDB), and the Latin American Reserve Fund, a regional mechanism for providing balance-of-payments support to developing countries. All these institutions work for the promotion of economic growth that is environmentally sustainable and helps to alleviate poverty. They play a fundamental role as a catalyst for world financing to the region and serve as a powerful countercyclical source of funds.
5. Concessional **international multilateral funds**, such as the Global Environment Facility (GEF) and the Montreal Protocol Multilateral Fund, are now coming on stream, but these funds' resources are quite limited relative to the scale of international commitments and global problems. The trend in GEF allocations in Latin America and the Caribbean (23% of the total) has been similar to the trend in the Facility's overall allocations during the past decade, with the sharp increases posted between 1994 and 2000 being followed by steep decreases in 2001 and 2002. The international community has therefore begun to analyse new modalities of financing

have increased the interdependence between the economy and ecology. The international community has responded to this unique moment in our history by adopting multilateral environmental agreements on the environment. It remains, however, to ensure that multilateral environmental and trade agreements complement each other and work jointly to support sustainable development.

and investment for sustainable development based on the valuation of global environmental services, which could possibly be traded internationally. Work in this field of inquiry is still in its early stages, however. The Clean Development Mechanism (CDM) of the Kyoto Protocol has the potential to act as an effective market instrument. Discussions are currently under way in various forums in an effort to explore ways of further strengthening such financial mechanisms and mobilizing additional resources for sustainable development in developing countries.

6. The policy framework for the mobilization of domestic resources is of particular importance. Policies to promote **domestic financing** for sustainable development —translated into public and private environmental spending— have been very slow to develop, however, owing to the persistently weak position of the relevant institutions within the State apparatus, especially in developing countries. The main options include efforts to strengthen domestic financial markets, public expenditure reforms, the implementation of environmental taxes and political commitments to redirect financial resources through macroeconomic and structural reforms. One of the most important issues in designing the policy framework for the mobilization of domestic financial resources for sustainable development is the integration of environmental finance into mainstream public financing. In order to achieve this, cooperation among different ministries, particularly those concerned with finance and the environment, is an essential prerequisite. These two ministries should jointly design and implement mechanisms for mainstreaming the financing of the various components of sustainable development; this will involve determining specific public environmental allocations, creating the enabling fiscal mechanisms to reduce environmentally harmful subsidies and applying environmental charges and user fees, and administering emissions-trading programmes. On the other hand, while many developing countries have liberalized their trade regimes in recent years in order to promote development, these reforms have not always resulted in improved access to developed-country markets. Furthermore, economic reform in developing countries and improved access to developed-country markets do not, by themselves, ensure greater export earnings or a larger share in international trade. The development of export industries also requires an enabling framework, which includes transport infrastructure, efficient administrative procedures and structures, and trade-related financial services.

This publication represents a first attempt to take a broad view of sustainable development finance which will encompass international and domestic trends in the last decade, with special reference to Latin America and the Caribbean. The document includes an overview of the region's performance in respect of external debt, ODA, multilateral financial cooperation, concessional funding, FDI and domestic financing.

A meaningful analysis of financing for sustainable development is needed in order to broaden the focus to include not only the amount of financing, but also the goal of that financing. This debate did not reach its conclusion at the Monterrey Conference, and it will be taken up again by the Heads of State attending the World Summit on Sustainable Development. A subsequent, more comprehensive analysis will also address the outcomes of the Doha Conference, but the scope of the present study will be confined to the linkages between the Monterrey and Johannesburg summits.

This document explores the international dimensions of financing, with particular reference to its impact on Latin America and the Caribbean, and then goes on to examine the importance of domestic policies on financing for sustainable development and reviews the public and private initiatives undertaken during the past decade. This review draws upon seven case studies conducted in Argentina, Brazil, Chile, Colombia, Costa Rica, Mexico and Trinidad and Tobago. The preliminary findings of these

studies serve as the basis for recommendations regarding institution-building as a means of improving the results of public and private environmental management and mainstreaming the environmental dimension in sectoral public policies, particularly in crucial areas such as water, energy, mining, infrastructure works, transport and the management of renewable natural resources (including forests, fisheries and agriculture).

During the past decade, the Latin American and Caribbean countries have focused their efforts on establishing sound macroeconomic policies as a basis for sustained growth. It has now become clear, however, that macroeconomic stability alone is not enough. Furthermore, it is interconnected with other dimensions of development that go beyond growth, such as the distribution of opportunities, environmental sustainability, the management of global risks and governance. In this context, both bilateral and multilateral public development funds will continue to be a major source of financing for the effort to combat poverty and environmental degradation and to compensate for the negative effects of globalization. For sustainable development to succeed, public finance is necessary in order to provide funding for social security, public health care, education, environmental protection, infrastructure, cultural diversity, economic stability and employment. National budgets have significant potential for realizing savings and reallocating resources. Governments can make additional resources available for sustainable development by reforming their tax systems, as well as by eliminating harmful subsidies and unproductive expenditures. In this connection, the discussion turns to the potential of using economic instruments to strengthen environmental management.

Private investment, which has grown so dramatically in recent years, can play a crucial role in the development process, and Governments can use policies to promote such investments. However, private investment can play a positive role only if it contributes to environmentally sound, socially just development.

Therefore, one major challenge is to determine the levels of public and private expenditure that are to be devoted to sustainable development both at the international and national levels. A systematic analysis of the links between the state of the environment and economic growth has been hampered by the lack of reliable data and comparable methodologies for measuring public expenditures at the national and local levels.

The overall analysis raises four core questions regarding the future of financing for sustainable development in the region:

1. How can the different political, economic and social obstacles to alternative forms of international financing for development be overcome?
2. What kinds of multilateral frameworks and goals, both quantitative and qualitative, are necessary in order to open up environmental market opportunities and ensure that private investment is conducive to the goals of sustainable development?
3. What measures are needed at the global level to mobilize the necessary amounts of public resources to fund national development programmes in developing countries and international programmes?
4. What is the potential of fiscal policy in mobilizing or redistributing domestic resources for sustainable development?

II. TRENDS IN INTERNATIONAL FINANCING FOR ENVIRONMENTALLY SUSTAINABLE DEVELOPMENT

International funds devoted to the achievement of environmental objectives are gaining in importance as recipients of financing due both to changes in international financial flows from traditional sources and to the creation of new international sources of environmentally targeted financing. This chapter analyses recent trends in international financial flows, both worldwide and at a regional level, and their contribution to the objectives of environmentally sustainable development.

In general, it is difficult to arrive at estimates of the financial flows for the environment coming from traditional sources. On the one hand, loans and official assistance funds earmarked for non-environmental sectoral activities may include major environmental components; on the other, there is a lack of information on environmentally-related investments/expenditures made by the international private sector. The second section of this chapter examines how ODA flows have changed over the last decade, their distribution among world regions and what share of such assistance is related to environmental objectives. The third section deals with private international financial flows. It discusses the concentration of such flows in a few countries and production sectors within the region and looks at the different strategies used by transnational corporations for investment decision-making. Environmentally improved technology transfers and the investment-related environmental performance of foreign firms and sectors are the main issues linking private international flows and the environment. The financing provided by the multilateral Bretton Woods institutions and by regional (IDB) and subregional financial institutions (ADC, CABEI and CDB) are the focus of the fourth section. In addition to the environmental loans and grants they provide and the sectoral operations with environmental components that they fund, international financial agencies have developed sustainability screening mechanisms for every project they finance.

The new financial mechanisms that have been devised for the implementation of international environmental agreements such as the Montreal and Kyoto Protocols, the Convention on Biological Diversity, the Convention to Combat Desertification and other such instruments have given rise to new sources of environmental financing that target global environmental problems (loss of biodiversity, climate change, ozone layer depletion). Section five analyses these financial mechanisms, with special attention being devoted to the Global Environment Facility (GEF) and the prospects for the future implementation of the Clean Development Mechanism (CDM) provided for in the Kyoto Protocol.

These financial flows cannot be analysed without considering regional financial outflows, which are primarily related to the countries' external debts, since the allocation of resources for environmentally sustainable development is constrained by debt service obligations. The first section of this chapter therefore focuses on trends in the regional external debt burden, which acts as a major obstacle to the provision of financing for sustainable development. This section also reviews the experience of the region in the use of debt conversion programmes for environmental protection purposes (debt-for-nature swaps).

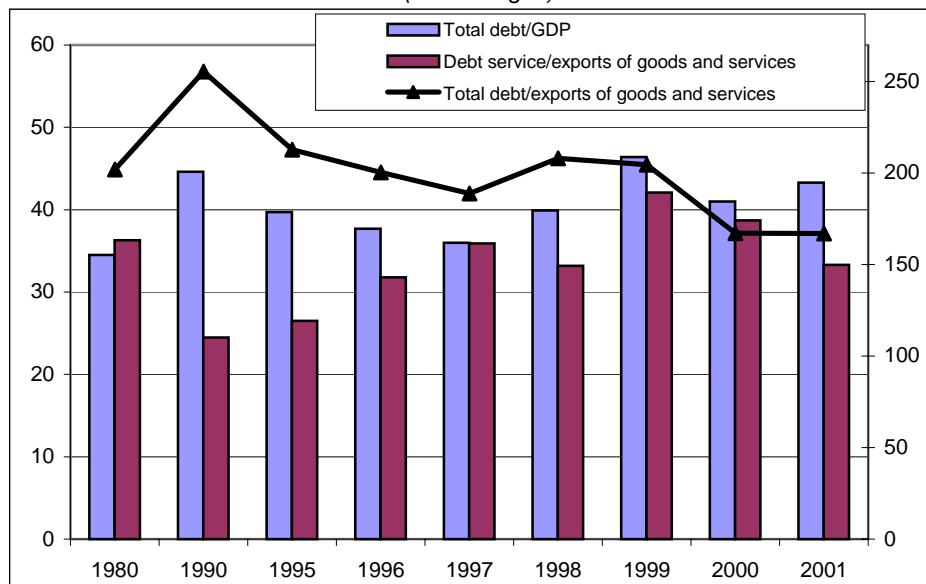
1. External debt and the environment

Unsustainable levels of external debt continue to be a major obstacle to development in many countries. Since, unfortunately, the process of environmental institution-building in the public sector coincided with the world debt crisis that began in the 1980s, the countries' heavy debt burdens undermined political support for the allocation of additional public resources to address emerging priorities. As a result, public

expenditure for the achievement of social and environmental objectives has been extremely limited in developing countries. The situation is particularly critical for countries with high external debt/export capacity ratios, since many of them lack efficient formal-sector private enterprises and have a limited ability to attract new financing, which, in turn, has a negative impact on domestic investment.

The Latin American and Caribbean region's debt balance expanded steadily throughout the 1990s, rising from less than US\$ 500 billion to over US\$ 800 billion by the end of the decade (World Bank, 2002). However, when measured as a percentage of the region's exports of goods and services, the total debt decreased from 255% in 1990 to 167% in 2001, mainly due to the region's strong export performance. Unfortunately, the debt/output ratio has seen no parallel improvement since, despite a slight increase in the region's real GDP,¹ the reduction in debt as a percentage of GDP has actually been quite small: from 45% 1990 to 43% in 2001. Moreover, the debt service increased substantially over the same period, peaking at 42% of exports in 1999 before receding to 33% in 2001.

Figure II.1
LATIN AMERICA AND THE CARIBBEAN: DEBT INDICATORS, 1980-2001
(Percentages)



Source: On the basis of World Bank, *Global Development Finance. Financing the Poorest Countries*, Washington, D.C., March 2002.

In some countries of the region, the situation has been considerably worse. In 2000 Argentina, Bolivia and Brazil recorded total debt/export ratios of more than double the regional average, while Nicaragua's was three times higher. Debt as a percentage of GDP ranged from 24% in Guatemala and the Dominican Republic and 42% in Brazil to highs of 221% and 333% in Guyana and Nicaragua, respectively.

In 1996 the World Bank and the International Monetary Fund (IMF) launched an initiative for highly indebted poor countries (HIPC) in an effort to mitigate the impact of external debt on these countries' development. This initiative was enhanced in 1999 and envisages the cancellation of at least 90% of eligible countries' debt. Some countries have begun to receive assistance under the HIPC

¹ ECLAC (2001a).

initiative, but further efforts are needed. As of July 2002, 27 countries were benefiting from HIPC relief, a total of 42 have qualified for the initiative. The requirement that HIPC beneficiaries must prepare poverty reduction strategy papers should help to integrate poverty reduction policies into national sustainable development strategies. In the Latin American and Caribbean region, Bolivia, Guyana, Honduras and Nicaragua have been declared eligible for the initiative and are to receive estimated total nominal debt service relief equivalent to US\$ 2.06 billion, US\$ 1.03 billion, US\$ 900 million and US\$ 4.5 billion, respectively.²

Another approach to the external debt problem is to make use of outstanding liabilities for environmental purposes. Debt-for-nature swaps, which are a fairly long-standing mechanism, are one example of such an initiative. In 1987, the Government of Bolivia and Conservation International conducted the first operation in which debt was exchanged for the protection of natural resources. Later that year, similar initiatives were undertaken in Costa Rica and Ecuador. This mechanism was used intensively until the early 1990s and facilitated debt cancellation in Latin American countries amounting to a nominal figure of US\$ 90 million, which at the time accounted for 93% of total debt-for-nature swap operations in developing countries (WRI, 1992). These transactions have continued to be conducted and are estimated to have involved a total sum of over US\$ 1.5 billion to date. More than 20 countries throughout the world have been involved, and their number continues to grow (Deacon and Murphy, 1997).³

A debt swap is defined as the cancellation of external debt in exchange for a government's commitment to mobilize domestic resources (local currency or another asset) for an agreed purpose. The principal objectives of debt-for-nature swaps are to reduce countries' debt and to increase the amount of resources available for conservation. One of the most common mechanisms is a bilateral swap, in which a creditor government cancels debt owed by a debtor government in exchange for the debtor setting aside an agreed amount—usually less than the nominal value of the debt—of counterpart funds in the local currency for environmental conservation. These funds may be channeled through public or private institutions.⁴ A second mechanism is known as the “three-party model” or commercial swap.⁵ In this model, a conservation organization, usually located in the debtor country, approaches representatives of international conservation institutions that are willing to provide financial support for an environmental activity which is also of interest to the debtor country. The international conservation organization then contributes the funds to purchase part of the country's debt on the secondary market at a discount. The local conservation organization then negotiates the cancellation of that debt independently with the debtor country's highest financial authority in exchange for financing for nature conservation projects.⁶

Another wave of debt-for-nature swaps in the region was prompted by the Enterprise for the Americas Initiative, which was launched by the United States in 1990 and still operates today. Under this scheme, debt owed to the United States by countries of the region can be reduced when those countries qualify for the Brady Plan and sign an agreement with the United States Government. A percentage of the debt principal is cancelled and the interest payments, which are made in the local currency, are allocated to a trust for environmental protection and sustainable development in the relevant country. Most national environmental funds in Latin America owe their creation to this proposal. The Enterprise for the

² IMF/World Bank (2001, 2002) (<http://www.worldbank.org/hipc/progress-to-date/>).

³ UNICEF has been using the same mechanism to finance childhood programmes.

⁴ Principal and service are cancelled following the same schedule.

⁵ This mechanism was mainly used in the first swaps, during late 1980s and early 1990s.

⁶ See Mercado (2002) and Deacon and Murphy (1997) for a description of the structure of debt-for-nature swaps. See also (<http://www.undp.org/seed/unso/pub-htm/swap-eng1.htm>).

Americas Initiative has provided US\$ 876 million in debt relief, in addition to US\$ 154 million in local donations, and has cost the United States US\$ 90 million. The Initiative operates in seven countries in Latin America and the Caribbean: Argentina, Bolivia, Chile, Colombia, El Salvador, Jamaica and Uruguay.⁷ Canada also joined the Initiative and has offered debt reductions to Colombia, El Salvador, Nicaragua, Honduras and Peru.

The 1998 United States Tropical Forest Conservation Act (TFCA) extended the scope of the debt-for-nature swaps conducted under the Enterprise for the Americas Initiative to include the protection of highly significant tropical forests located in developing countries throughout the world, in addition to Latin America and the Caribbean. This legislation was due to expire in 2002, but a proposal to extend the programme until 2004 was approved in 2001, and budgets of US\$ 50 million, US\$ 75 million and US\$ 100 million were authorized for 2002, 2003 and 2004, respectively.⁸ The Government of Belize and The Nature Conservancy (TNC) recently completed a debt swap under the TFCA involving debts having a face value of US\$ 9 million which resulted in the creation of a US\$ 7.2 million fund. The Enterprise for the Americas Initiative was one of the most dynamic debt-for-nature swap mechanisms in the 1990s and served as a powerful driving force behind operations of this kind.

Overall, however, debt-for-nature swaps have made a limited contribution to debt relief in developing countries, as the total amount of the obligations converted using this mechanism equals less than 1% of these countries' external debt. In Costa Rica—the country that has conducted the most swaps of this sort—the reduction is equivalent to just 5% of the total debt. Between 1987 and 2001, around 40 swaps were conducted in Latin America and the Caribbean; the most active countries have been Costa Rica, Ecuador, Mexico and Peru, with debt swaps being concentrated in countries having tropical rainforests and a high level of biodiversity. The three main international environmental non-governmental organizations involved in these operations were Conservation International, the World Wide Fund for Nature and The Nature Conservancy, but some European agencies and local non-governmental organizations have also participated.

The use of debt conversion programmes to implement environmental protection measures in the region has raised some controversy. In some cases, the involvement of international non-governmental organizations in the conservation policies of debtor countries has been viewed as entering into conflict with their sovereignty, particularly with regard to land use in protected natural areas and the involvement of local populations who are affected or who participate in the conservation programme. Another problem is that the conversion of external debt into local currency increases fiscal spending within an economic context of structural adjustment and severe fiscal constraints. The difficulties this creates are especially serious when countries are unable to service their external debt on schedule. In addition, the debtor countries will need to strengthen their mechanisms for monitoring and following up on these programmes in order to ensure compliance with the environmental protection objectives of the debt swap. Yet another issue is the necessity of reinforcing the countries' capacity for using this mechanism. These factors partly explain why the total sums converted only amount to around 1% of developing countries' total external debt.

⁷ The amounts shown in table II.1 for the Enterprise for the Americas Initiative refer to the point in time when the corresponding swap agreement was concluded, but disbursements and associated projects took place throughout the 1990s.

⁸ United States Mission to the European Union (<http://www.useu.be/>).

Table II.1
LATIN AMERICA AND THE CARIBBEAN: DEBT-FOR-NATURE SWAPS, 1987-1997
(Millions of United States dollars)

Year	Country	Purchaser or donor	Face value	Cost	Conservation funds
2002	Belize	USA – TFCA and TNC	9.00	7.20	7.20
1997	Mexico	CI	0.31	0.24	0.30
1997	Mexico	CI	0.27	0.19	0.24
1996	Mexico	CI	0.67	0.44	0.56
1996	Mexico	CI	0.50	0.33	0.44
1996	Mexico	CI	0.39	0.19	0.25
1995	Mexico	CI	0.49	0.25	0.34
1994	Ecuador	Switzerland	40.0	10.00	10.00
1994	Mexico	CI	0.29	0.25	0.29
1994	Mexico	CI	0.48	0.40	0.48
1994	Mexico	CI	0.28	0.24	0.28
1993	Mexico	CI	0.25	0.28	0.25
1992	Ecuador	Belgium	6.50	6.50	6.50
1992	Ecuador	Japan	n.a.	n.a.	1.00
1992	Brazil	TNC	2.20	0.75	2.20
1992	Chile	EAI	15.90	n.a.	1.40
1992	Bolivia a/	NC/WWF	11.50	0.00	2.80
1992	Guatemala	CI/USAID	1.30	1.20	1.30
1992	Panama	TNC	30.00	7.50	30.00
1992	Ecuador	WWF	1.00	n.a.	n.a.
1992	Mexico	CI/USAID	0.44	0.36	0.44
1991	Jamaica	TNC/USAID	0.44	0.30	0.44
1991	Guatemala d/	TNC	0.10	0.08	0.09
1991	Mexico c/	CI	0.25	0.00	0.25
1991	Mexico c/,d/	CI	0.25	0.18	0.25
1991	Costa Rica b/,e/	Rainforest Alliance	0.60	0.36	0.54
1991	Bolivia	EAI	38.40	n.a.	1.80
1991	Jamaica	EAI	271.00	n.a.	9.20
1990	Costa Rica	WWF/NC/Sweden	10.80	1.90	9.60
1990	Dominican Republic	TNC/PRCT	0.58	0.12	0.58
1989	Ecuador	WWF/TNC/MBG	9.00	1.10	9.00
1989	Costa Rica	Sweden	24.50	3.50	17.10
1989	Costa Rica	TNC	5.60	0.78	1.70
1988	Costa Rica f/	Netherlands	33.00	5.00	9.90
1988	Costa Rica	NPF	5.40	0.92	5.40
1987	Ecuador	WWF	1.00	0.35	1.00
1987	Bolivia	CI	0.65	0.10	0.25
Total			523.34	51.01	133.37

Source: Brijest Thapa, *The Relationship between Debt for Nature Swaps and Protected Area Tourism: A Plausible Strategy for Developing Countries* (RMRS-P-O), USDA Forest Service Proceedings, 2000, on the basis of Robert Deacon and P. Murphy, "The Structure of an environmental transaction: the debt for nature swaps", *Land Economics*, vol. 73, No. 1, 1997; World Bank, *Global Development Finance*, Washington, D.C., 1998; and *World Debt Tables 1996*, Washington, D.C., 1996. Belize: The Nature Conservancy, 2001; Belize Maya Mountain Marine Corridor, Debt-for-Nature Swap, TNC, Belize Programme Office. Ecuador: Minister of Economic Affairs and Finance of Ecuador, 2002, "Experiencias en Conversion y Canje de Deuda Externa," presented at the Workshop on Debt for Nature and Social Investment Swaps, Ecuador, May 2002, sponsored by UNDP and the Ministry of the Environment of Ecuador.

n.a. = not applicable; **CI** = Conservation International; **DDC** = Debt for Development Coalition; **EAI** = Enterprise for the Americas Initiative; **NPF** = National Parks Foundation of Costa Rica; **PRCT** = Puerto Rico Conservation Trust; **SI** = Smithsonian Institute; **UNDP** = United Nations Development Programme; **USAID** = United States Agency for International Aid Development; **WWF** = World Wide Fund for Nature; **MGB** = Missouri Botanical Gardens; **TNC** = The Nature Conservancy.

a/ Debt donated by JP Morgan.

b/ Purchase of Central American Bank for Economic Integration debt.

c/ The total programme amounts to US\$ 4 million.

d/ Debt donated by Bank of America.

e/ WWF contributed US\$ 1 million in addition to the swap.

f/ Includes US\$ 250,000 donated by Fleet National Bank of Rhode Island.

In view of the increasing scarcity of public resources to invest in social and environmental programmes, imaginative mechanisms are called for in order to reorient debt conversion strategies within a broader approach to development. Some mechanisms of this sort are already being used in the region. One example is provided by Peru, where resources from debt swaps have been used to create trust funds such as FONCODES, which is a social investment mechanism, and PROFONANPE, which is designed to support the management of publicly-owned natural areas. Other alternatives include South-South cooperation, as in the case of Argentina and Senegal, where UNICEF bought debt owed by Senegal to Argentina in order to finance a national fund for desertification-related projects (UNDP-UNSO, 1998). There has also been a proposal for an initiative involving Costa Rica and Nicaragua (Espinach and Esquivel, 1995), in which an OECD country would buy Nicaraguan debt and use the principal and future service payments to replenish two trust funds to finance social and environmental projects, one in Costa Rica and the other in Nicaragua. The Global Mechanism of the Convention to Combat Desertification has recently been employed in an innovative initiative in which the Government of Italy figures as the first creditor country to use debt relief as a means of linking the prevention of land degradation activities with poverty reduction strategies. In 2000, the Global Mechanism was used to pave the way for the signature of a Memorandum of Intent between the Government of Ecuador and the three United Nations bodies based in Rome (International Fund for Agriculture Development, Food and Agriculture Organization and World Food Programme) within the framework of the Government of Italy's Rome Millennium Initiative. This initiative involves an estimated total debt stock of over US\$ 500 million. Along similar lines, UNDP is currently working on a new initiative to employ debt swaps as a means of promoting human development in the region, with special emphasis on the environment and poverty alleviation. Thus far, the Dominican Republic, Ecuador, El Salvador, Honduras, Nicaragua and Paraguay have expressed interest in this project (Umaña, 2002).

The issues reviewed in this section give rise to a number of considerations and conclusions:

- Recent developments in the global economy have changed the nature of the debt debate and have created new imperatives for international financial cooperation. As proposed by ECLAC at the International Conference on Financing for Development held in Monterrey, Mexico, a concerted effort by institutional networks that include global, regional and subregional multilateral financial agencies could be put in place to strengthen the provision of external financing to countries which lack access to private capital markets and widen the framework within which such financing is provided. This would entail a policy shift that would serve to promote the attainment of development goals and provide a broader scope for action by developing countries.⁹
- It is essential to strike a balance between macroeconomic reform programmes (and particularly the associated structural adjustment strategies) and the countries' environmental and social agendas. Within this context, an effort should be made to explicitly address the debt burden in its role as a fundamental obstacle to financing sustainable development with a view to creating conditions under which political priority can be assigned to the provision of adequate and stable public resources for environmental protection.

⁹ This proposal was made by the Executive Secretary of ECLAC, José Antonio Ocampo, at the International Conference on Financing for Development.

Box II.1

NATURAL DISASTERS IN LATIN AMERICA AND THE CARIBBEAN: A DRAIN ON FINANCING

The Latin American and Caribbean region is highly exposed to potentially destructive natural (meteorological, seismic, vulcanological, etc.) phenomena. Because of this high degree of exposure, in combination with the region's marked social, economic, physical, environmental, political and institutional vulnerability, it is affected by a high and growing number of natural disasters. In the last 30 years almost all the countries in the region have suffered at least one large-scale natural disaster (ECLAC/IDB, 2000).

The effects of several of the most damaging disasters that have occurred in the region in the last five years are shown in the following table. "Direct damage" refers to effects on physical and natural assets (infrastructure, housing, land, forests, etc.); "indirect damage" measures the effects on goods and services production flows.

EFFECTS OF SELECTED RECENT DISASTERS IN LATIN AMERICA AND THE CARIBBEAN

Country/year	Type of event	Population affected		Millions of 1998 US dollars		
		Dead	Directly	Direct	Indirect	Total
Andean Community 1997-1998	El Niño	600	125,000	2,784	4,910	7,694
Dominican Republic 1998	Hurricane Georges	235	296,637	1,337	856	2,193
Central America 1998	Hurricane Mitch	9,214	1,191,908	3,078	2,930	6,008
Colombia 1999	Earthquake	1,185	559,401	1,391	188	1,580
Venezuela 1999	Torrential rains	...	68,503	1,961	1,264	3,237
El Salvador 2001	Earthquakes	1,159	1,412,938	888	630	1,518

Source: On the basis of ECLAC damage assesment reports.

Depending on the size of the economy affected by the natural disaster, the economic and social impact of the damage can be of great magnitude. For example, in 1997 Hurricane David resulted in a drop of 20.6% in Dominica's GDP. The damage caused by Hurricane Luis in Anguilla (1995) was equivalent to 147% of GDP and led to a decrease of 14% in its GDP; and in Honduras, Hurricane Fifi (1974) drove down GDP by 15%, while the damage caused by Hurricane Mitch was assessed at 80% of GDP.

Disasters may seriously affect key macroeconomic variables such as fiscal and external balances. Short-term fiscal disequilibria may arise as a result of the need to make emergency budget allocations and immediate repairs in the wake of such disasters. These shortfalls may carry over into the medium-term due to a decline in tax revenue resulting from the damage sustained by the production system. External imbalances may also arise as a result of a drop in exports and increased indebtedness as an additional service burden builds up. The investment required for repair and reconstruction work may displace other priorities, and the extraordinary allocations may lead to the postponement of improvements in economic and social infrastructure. In some cases, the pressing need to begin reconstruction may conflict with the fulfilment of other social or economic commitments. As time passes, a government's capacity to maintain or improve certain public services may gradually be affected. This type of situation has been observed in the case of social programmes in education and health sectors, for example. The fiscal and external imbalances produced by such events may also curtail the manoeuvring room of the affected countries if those disequilibria have to be covered with international finance (ECLAC/IDB, 2000). For example, in El Salvador, US\$ 33 million in education loans from the World Bank were reprogrammed to finance the reconstruction of schools damaged in the two earthquakes that hit the country in January and February 2001 (World Bank, 2001). In the case of the Colombian earthquake (1999), IDB reallocated US\$ 133.7 million to an emergency reconstruction and development programme designed to support the recovery of the affected region (IDB, 2000).

In general, competition with other urgent needs (infrastructure and housing reconstruction, emergency expenditures, etc.) and increased fiscal constraints usually displace the allocation of public funds for the environment, at least in the short term. However, recent disasters in Latin America and the Caribbean have served to illustrate the close relationship existing between previous environmental degradation and the damage caused by natural disasters. It is generally acknowledged that deforestation, land degradation and mismanagement of the urban environment have exacerbated the damage caused by natural phenomena. The countries affected by such disasters are becoming increasingly aware of the role played by ecosystems in mitigating the impacts of extreme events. Consequently, government plans for reducing countries' vulnerability to natural disasters now devote a great deal of attention to environmental restoration and natural resources management.

- The further implementation of HIPC and a broadening of this initiative would represent a major step towards more stable financial governance and the development of national sustainable development strategies by the least developed countries.
- The debt-for-nature mechanism needs to be expanded and reformulated in order to reflect the dual identity of many environmental issues as both a development problem and a global responsibility. In addition to relieving part of the debt burden of developing countries, this mechanism can serve as a powerful instrument for the conservation, restoration and expansion of natural capital through the promotion of biodiversity protection, reforestation and ecotourism.

2. Official development assistance and the environment

Ever since its inception, international assistance has reflected continuously evolving ideas and theories about development. Two predominant themes have shaped the approaches taken to the provision of aid over time: ideas about what makes economies grow, and views regarding poverty alleviation. In the 1950s, economic thinking emphasized the accumulation of capital as the basic engine of growth. In the 1960s and first half of the 1970s, more proactive approaches began to be taken to the use of aid to combat poverty through the satisfaction of basic human needs. In the past decade, new concerns about environmental sustainability, gender balance and good governance have emerged as additional dimensions of development.

Developed countries' long-standing commitment to an ODA target level of 0.7% of GDP dates back to the late 1960s. However, as stated above, priority-setting for its allocation has changed each decade in step with the most pressing priorities of development. At the Earth Summit in 1992, the developed countries reaffirmed their commitment to reaching this target and acknowledged that ODA was the largest source of external financing for the achievement of internationally agreed sustainable development goals, particularly for low-income countries.

The Agenda 21 signatories recognized that the implementation of the Agenda's programmes called for a substantially increased effort, both by the countries themselves and by the international community, and would require new and additional resources. Clearly, the basic responsibility for financing sustainable development lies with the countries concerned and must be borne by both the public and private sectors. It is also important, however, to acknowledge that the global dimensions of sustainable development require coordinated and concerted action, and that such action must translate into technology and financial transfers from developed to developing countries based on the principle of "common but differentiated" responsibilities.

However, the financial resources required for implementing Agenda 21 have not been forthcoming. Since 1992, ODA has declined steadily. Data from the OECD Development Assistance Committee (DAC) show that total ODA decreased from 0.33% of the donor countries' GDP in 1992 to 0.22% in 1997. This was followed by a slight increase in the immediately following years and the figure thus rose to 0.24% in 1999, only to drop once again to 0.22% in 2000 and 2001, which was well below the established target (United Nations, 2001b).¹⁰ It should be noted, however, that there are marked differences among donor countries in this respect: in 2001, ODA ranged from the 1.01% of GDP allocated by Denmark, and over 0.8% by the Netherlands, Sweden and Norway, to allocations of less than 0.2% by Greece and Italy and just 0.1% by the United States.

¹⁰ See OECD (http://www.oecd.org/media/release/ODA_april01.pdf).

Table II.2
**TOTAL FLOWS OF NET RESOURCES FROM OECD DEVELOPMENT ASSISTANCE COMMITTEE
 MEMBER COUNTRIES AND MULTILATERAL AGENCIES**

	1991	1994	1998	1999	2000a/	1991	1994	1998	1999	2000a/
	Billions of dollars, at current values					Percentage of total				
A. Official development finance (ODF)	84.5	84.5	88.8	85.9	65.5	61.2	37.5	38.8	34.2	34.4
1. Official development assistance b/	57.1	59.6	50.1	52.1	49.5	41.4	26.4	21.9	20.8	26.0
Bilateral	41.4	41.3	35.2	37.9	36.0	30.0	18.3	15.4	15.1	18.9
Multilateral	15.8	18.3	14.9	14.2	7.8	11.4	8.1	6.5	5.7	7.1
2. Official assistance	6.6	6.9	7.0	7.8	7.8	4.8	3.0	3.1	3.1	4.1
Bilateral	5.0	5.5	4.5	4.9	4.9	3.6	2.5	2.0	1.9	2.6
Multilateral	1.6	1.3	2.5	2.9	2.9	1.1	0.6	1.1	1.2	1.5
3. Other ODF	20.8	18.1	31.7	26.1	8.2	15.1	8.0	13.8	10.4	4.3
Bilateral	13.1	12.2	12.8	10.4	-1.4	9.5	5.4	5.6	4.1	-0.7
Multilateral	7.7	5.8	18.9	15.6	9.7	5.6	2.6	8.2	6.2	5.1
B. Total export credit	0.6	6.3	8.3	4.0	7.7	0.4	2.8	3.6	1.6	4.0
Short-term	-0.8	0.2	0.0	0.0	0.0	-0.6	0.1	0.0	0.0	0.0
C. Private flows	53.0	134.7	131.8	161.1	117.0	38.4	59.7	57.6	64.2	61.5
1. Direct investment (DAC)	24.8	52.1	119.8	145.6	119.5	18.0	23.1	52.3	58.0	62.8
To offshore centres	6.5	10.8	20.3	37.9	29.8	4.7	4.8	8.9	15.1	15.7
2. International bank lending c/	10.7	32.1	-76.3	-79.6	-36.0	7.7	14.2	-33.3	-31.7	-18.9
Short-term	12.0	44.0	-74.3	-38.3	0.4	8.7	19.5	-32.4	-15.3	0.2
3. Total bond lending	4.9	32.0	34.2	28.8	18.9	3.5	14.2	14.9	11.5	9.9
4. Other (including equity) d/	7.1	12.5	48.4	59.5	7.8	5.2	5.5	21.2	23.7	4.1
5. Subsidies from non-governmental organizations	5.4	6.0	5.6	6.7	6.9	3.9	2.7	2.4	2.7	3.6
Total net resource flows (A+B+C)	138.1	225.5	229.0	251.0	190.3	100	100	100	100	100

Source: Organization for Economic Co-operation and Development (OECD), *Development Cooperation Report, 1999 and 2001*, Paris.

a/ Provisional figures.

b/ Does not include non-official debt cancellations for 1991.

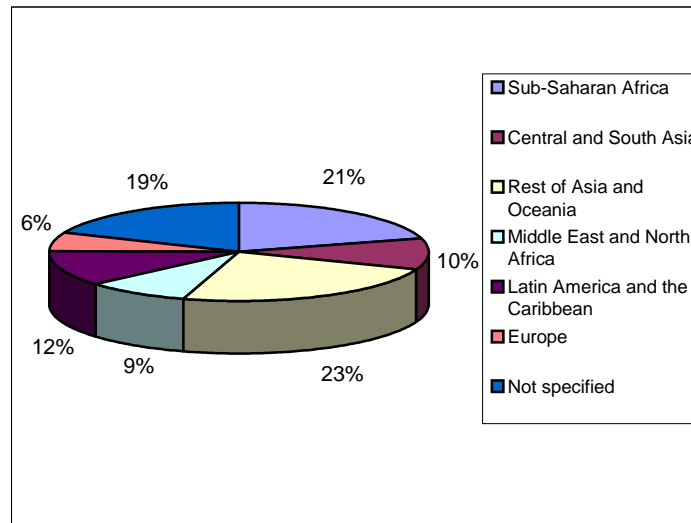
c/ Does not include bond lending by banks (which is included in section C.3) or guaranteed financial credits (included in section B).

d/ Incomplete reporting from several DAC countries; includes Japan from 1996 on.

The distribution of ODA across regions and countries is also uneven (see figure II.2). Between 1998 and 2000, no Latin American and Caribbean country figured among the 10 principal recipients. In those years, the ODA received by the region dropped from a little over US\$ 5.2 billion in 1998-1999 to around US\$ 5.0 billion in 1999-2000. This is equivalent to 12% of gross bilateral assistance, which amounted to over US\$ 43 billion.¹¹

¹¹ Data refers to ODA from DAC countries.

Figure II.2
OFFICIAL DEVELOPMENT ASSISTANCE, BY REGION
(Averages for 1999-2000)



Source: Organization for Economic Co-operation and Development (OECD), Development Assistance Committee (DAC) statistics.

There has also been a change in the allocation of ODA among sectors. In the 1990s, aid shifted from commercial sectors, such as manufacturing and telecommunications, to health, education and other social services.¹² This change in ODA allocations reflects a stronger orientation on the part of donors towards poverty eradication, as well as the wave of liberalization programmes and privatizations that characterized the 1990s. ODA allocations for the conservation and sustainable management of natural resources have also been marked by uneven progress in the last decade. While commitments to the protection of freshwater and land resources have increased, ODA for the sustainable development of oceans and seas, protection of the atmosphere, sustainable agriculture and combating deforestation have declined. The share of ODA received by these areas fell to 17% in 1999, down from 25% in 1996.¹³

In 2000 Latin America and the Caribbean received assistance equivalent to 0.34% of the region's GDP, which was substantially less than the developing-country average of 1.04%. These data contrast with the 1992 figures of 0.43% for Latin America and the Caribbean and 1.13% for developing countries. The picture was slightly more positive in terms of per capita assistance, which, at US\$ 12.5, was higher in Latin America and the Caribbean than the average of US\$ 10.7 recorded for developing countries.

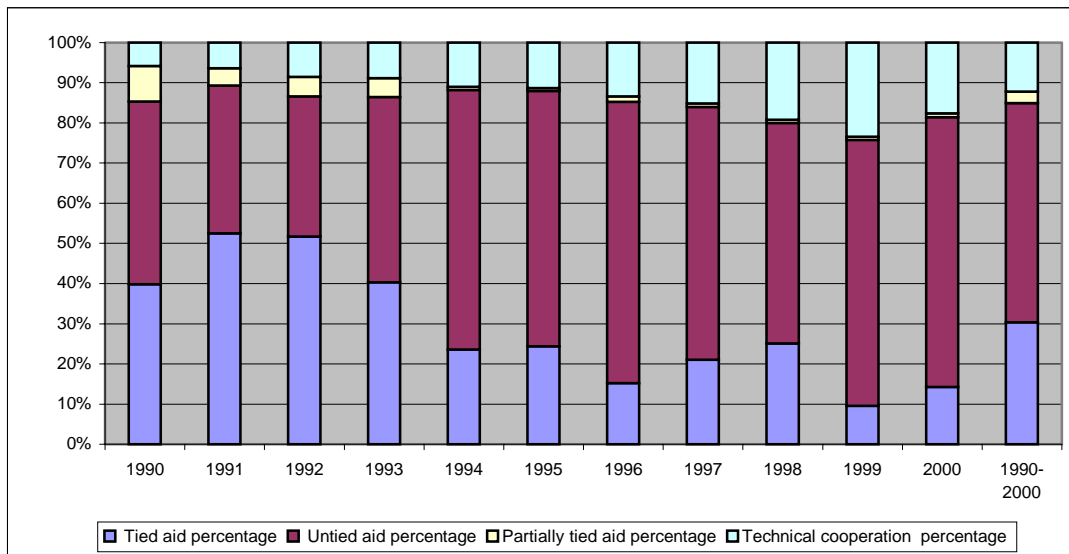
Nicaragua, Bolivia, Honduras, and Peru were the main recipients of net assistance in 2000, with sums of US\$ 562, US\$ 477, US\$ 449 and US\$ 401 million, respectively. Measured as a percentage of the recipients' gross national income, net ODA represents a fundamental source of support for several countries of the region; in 1999, the main such recipients were Nicaragua (34%), Honduras (16%) and Guyana (13%).

¹² See United Nations, 2001c.

¹³ See United Nations, 2002.

In 2000, around 72% of the ODA directed to Latin America and the Caribbean took the form of grants, which is considerably higher than the 1990s average of 55%. This is a reflection of a general trend, which took shape in the mid-1990s, towards a reduction in the share of ODA represented by loans. The percentages of tied and partially tied aid also declined during the last decade while those of untied aid and technical cooperation increased. These trends are particularly marked in the distribution of grants.

Figure II.3
**LATIN AMERICA AND THE CARIBBEAN: OFFICIAL DEVELOPMENT ASSISTANCE,
 BY CONDITIONALITY**
(Percentages)

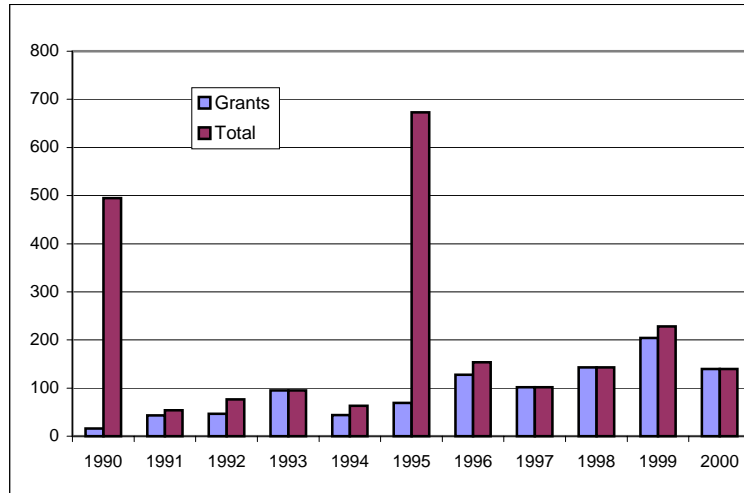


Source: Prepared on the basis of the OECD Development Assistance Committee Creditor Reporting System (ODA/OA Commitments Forms). Includes ODA grants, grant-like flows and loans. Does not include equity investments or other official flows (OOF).

The OECD Creditor Reporting System indicates that general environmental protection¹⁴ assistance from donor countries to Latin America and the Caribbean grew steadily throughout the decade (see figure II.4). This category of assistance increased from around 1% of total assistance to the region in 1990 to 5% in 1996. It then leveled off until 1998, when a downward trend emerged that brought environmental protection assistance down to 3% by 2000. During the 1990s, each year the region received an average of 20% of the worldwide total of committed assistance for environmental protection; in 2000, however, the Latin American and Caribbean region's share shrank to 12% while the share received by Asia expanded. In per capita terms, the region is relatively well off, with its average for the decade of US\$ 0.43 per person comparing favourably with the developing-country average of US\$ 0.24. In 2000, the region received only US\$ 0.27 per person for general environmental protection, which was equivalent to less than 0.01% of its GDP.

¹⁴ General environmental protection is classified under the "multi-sector/cross-cutting" category of the Development Assistance Committee's Creditor Reporting System database.

Figure II.4
**LATIN AMERICA AND THE CARIBBEAN: OFFICIAL DEVELOPMENT ASSISTANCE ALLOCATED FOR
 GENERAL ENVIRONMENTAL PROTECTION BY ALL DONORS**
(Millions of United States dollars)



Source: Prepared on the basis of the OECD Development Assistance Committee Creditor Reporting System. Includes assistance reported to the system in the form of both credits and donations. In 1990 and 1995, Japanese loans to Mexico and Brazil, respectively, raised the level of total commitments.

It is very difficult to gauge the total amount of assistance for the environment that is received, however, as such a calculation would have to include financing for sectoral activities that also have a major environmental component, which is not accounted for in the specific category of general environmental protection.¹⁵

With regard to assistance received by developing countries for climate-change related activities,¹⁶ OECD (2000) reported 313 assistance operations in 1998, representing a total value of US 1.8 billion.¹⁷ Two thirds of these transactions corresponded to the transport and energy sectors and only US\$ 203 million to the category of general environmental protection. While three quarters of this type of assistance went to Asia and 18% to Africa, Latin America and the Caribbean received five percentage points less for climate-change projects than for assistance in general.

In 1998 developing countries received US\$ 562 million¹⁸ in assistance —spanning 294 activities— within the framework of the objectives of the United Nations Convention to Combat Desertification. Almost half of this assistance went to sectoral agricultural projects and over one third to water-supply activities.

¹⁵ An attempt was made to include the environmental component of sectoral assistance in the analysis of total assistance conducted for the Rio conventions of 1998.

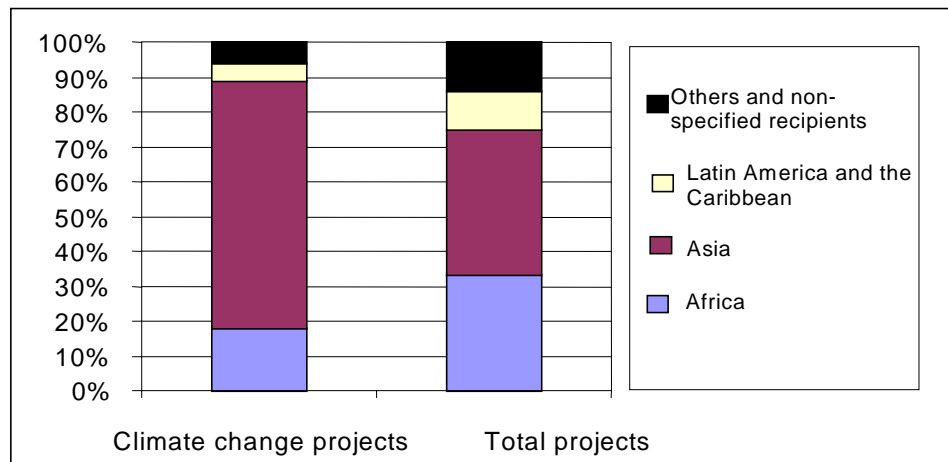
¹⁶ Information on catalogued activities conducted in pursuance of the objectives of the Framework Convention on Climate Change, whether as a main or significant objective of the activity. Data provided by 15 donor countries (Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Japan, Netherlands, Spain, Sweden, Switzerland, United Kingdom and United States).

¹⁷ The OECD study (2000) reviewed 96% of all bilateral ODA agreements for donors who were members of DAC.

¹⁸ Data reported by 14 donor countries.

This type of ODA was concentrated in Africa (50%) and far exceeded that region's share of total assistance for projects in all categories (34%). Latin America and the Caribbean received an average of 20% of the total ODA allocated for activities to combat desertification through water-supply, agricultural, forestry and general environmental protection projects, with a fairly similar percentage going to each of these activities. By contrast, the Latin American and Caribbean region's share of total assistance exhibited a great deal of sectoral variation, ranging from just over 5% for water-supply projects to over 35% for forestry projects.

Figure II.5
CLIMATE CHANGE-RELATED PROJECTS AND TOTAL OFFICIAL DEVELOPMENT ASSISTANCE PROJECTS, 1998



Source: Organisation for Economic Co-operation and Development (OECD), *Aid Targeting the Rio Conventions. Draft Report on the Pilot Study (D/DAC/STAT/(2002)8)*, Paris, May 2000.

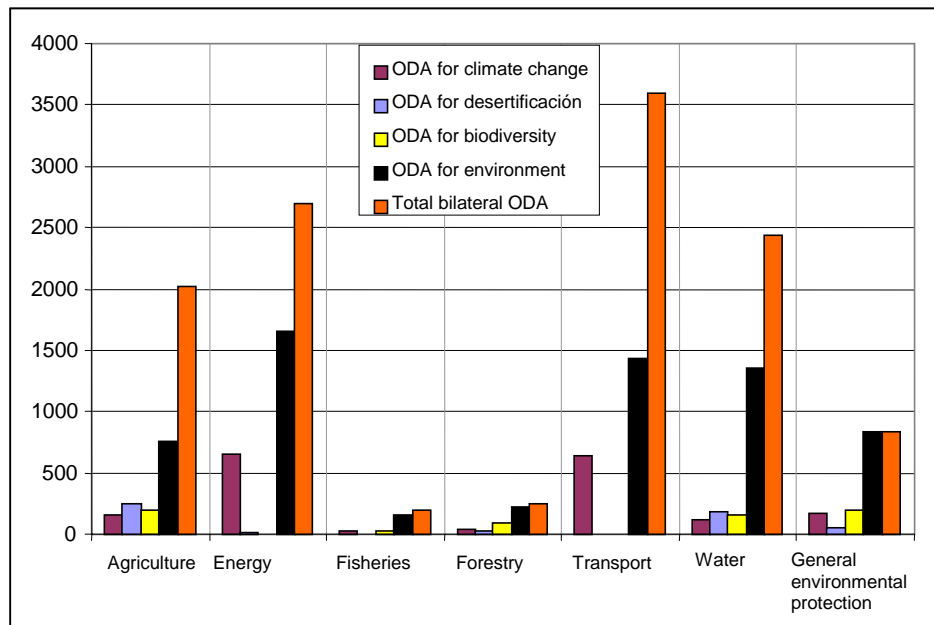
Global assistance for biodiversity-related projects amounted to US\$ 778 million in 1998, with this total being distributed among 555 activities.¹⁹ The sectoral distribution of this assistance was more uneven than it was in the case of aid for climate-change and desertification activities, although general environmental protection was the most substantial. Asia was the main recipient (50%), while Latin America and the Caribbean received around 12% of the total sum provided for biodiversity projects. This percentage masks sharp variations across sectors, however. Latin America and the Caribbean accounted for 5% of all biodiversity-related water-supply activities, whereas in the case of forestry projects—for which the region was the main recipient—it claimed almost 40%.

Aid for forestry is indirectly linked to environmental activities, as it covers afforestation, institutional capacity-building, forest surveys, erosion and desertification control, integrated forestry projects, genetic improvements, harvesting, fertilization and production methods, etc, which may enhance the environment if certain variables are taken into consideration. According to OECD (2000b), during the 1990s forestry-related aid has been decreasing in line with the overall downtrend in ODA and accounts for around 1% of total ODA. Two thirds of the total was allocated to afforestation projects. Asia is receiving an increasing share of the aid provided for forestry, as reflected by the fact that in 1994-1998 its share amounted to around 70% of the total. During this period, some of the funds that had formerly gone to Africa were redirected to Asia and to Central and South America; even so, the Americas received less than 20% of the total aid supplied for forestry.

¹⁹ Data reported by 14 donor countries.

In 1994-1998, the top 10 recipients of aid for forestry included Brazil (5), Chile (8) and Nicaragua (9), which received an annual average of US\$ 12.3, US\$ 10.5 and US\$ 9.9 million, respectively. When forestry-related aid is measured as percentage of a country's total receipts, then Chile (20.5%), Costa Rica (4.7%), Brazil and Colombia (3.6%) and Ecuador (2.5%) ranked as the first, third, sixth, seventh and tenth largest recipients.

Figure II.6
**TOTAL OFFICIAL DEVELOPMENT ASSISTANCE FOR PROJECTS
 WITHIN THE FRAMEWORK OF THE RIO CONVENTIONS, 1998**
 (Millions of United States dollars)



Source: Organization for Economic Co-operation and Development (OECD), *Aid Targeting the Rio Conventions. Draft Report on the Pilot Study (D/DAC/STAT/(2002)8)*, Paris, May 2000.

The following conclusions can be drawn from the region's experience with regard to ODA:

- As demonstrated recently in the International Conference on Financing for Development in Monterrey, in the absence of norms, rules and procedures, ODA levels as well as allocation criteria and priorities continue to be the object of ongoing negotiation. Although there have been considerable changes in the approaches taken to aid over the past decade, some issues remain unresolved, such as: resource allocation criteria (ranging from promised performance to demonstrated actions, which calls for increased transparency and an improved system to ensure accountability); the role of recipients vis-à-vis donors; and the significance of ODA in leveraging additional financing for development through FDI, trade and domestic resources.
- An examination of trends in ODA since 1992 points up three major challenges: to enhance its effectiveness; to achieve complementarity between ODA funding and private investment for technological innovation, especially for the transfer of clean technologies; and to allocate additional funds (complementary to ODA) to address concerns relating to global public goods.²⁰

²⁰ See United Nations, 2001b.

- As indicated by the Secretary-General of the United Nations,²¹ donor countries should develop effective ways of increasing allocations for the achievement of national environmental priorities that provide global public benefits. In general, assistance targeting the objectives of the conventions emanating from the Earth Summit accounts for a very small share of bilateral assistance. These conventions do attract, however, a significant portion of the assistance channeled to environmentally-related sectoral activities (other than assistance for general environmental protection). In Latin America and the Caribbean, ODA for the implementation of the Summit agreements amounted to around US\$ 314 million in 1998.
- It is necessary to refine the definition of environmentally targeted aid to ensure that all activities that are highly relevant to the Earth Summit conventions can be reported more accurately. In addition to the funds reported by the Development Assistance Committee, related aid provided by multilateral agencies and assistance financed by ministries other than the main aid agency must be assessed. Finally, together with the reinforcement of the essentiality of the statistical data, it is important to supplement the quantitative analyses with more qualitative assessments of implementation.
- Ever since the Earth Summit in 1992, and even more clearly since the Monterrey Conference, a major trend is evolving whereby the provision of assistance is shifting away from country-based aid and towards a problem-focused international public goods approach. The public goods debate remains open, however. The main issues on which agreement will have to be reached have to do with the need to devise a universal, fully participatory intergovernmental process to define exactly what are to be regarded as global public goods and, most importantly, to design mechanisms to ensure that financing for those goods is additional to other forms of assistance and aid. In this regard, the Secretary-General of the United Nations has proposed that a separate identification should be maintained within reporting systems to distinguish these additional funds from resources for ongoing development assistance programmes in order to differentiate between contributions to economic growth and financing for global public goods. In addition, the European Union has proposed that a task force open to all actors be set up on a temporary basis to work on the identification of global public goods and to further explore innovative sources of financing.
- Although the ODA pledges made in Monterrey did fall short of the 0.7% of GDP target, the International Conference on Financing for Development marked a definite turning point in the effort to reverse the downward trend in ODA. The roundtables held in Monterrey also addressed a number of important concepts regarding ways of furthering the development process through improved coordination between bilateral donors and multilateral organizations. In addition, progress was made in exploring regional approaches to assistance in which multilateral, regional and subregional institutions would play a greater role in close collaboration with United Nations organizations.

²¹ See United Nations (2001b).

- The allocation of traditional ODA resources for sustainable development programmes should remain a priority, particularly in the case of general environmental protection activities. Unfortunately, this type of aid continues to account for a very small proportion of the total (3%-5%). A better distribution of official development assistance is needed in sectors that are of strategic importance for sustainable development, such as water, energy, mining, infrastructure works, transport and, of course, poverty alleviation.

3. Private international financial flows

International flows of financing, especially FDI, are the main channel through which globalization may influence environmental management. In fact, as shown in table II.2, private financial flows far exceed official assistance.

In the 1990s FDI expanded significantly at the world level. Global FDI flows increased from an annual average of US\$ 245 billion in 1991-1996 to over US\$ 1 trillion in 1999 and US\$ 1.27 trillion in 2000; nevertheless, estimates for 2001 reflect a considerable decrease, to US\$ 760 billion (ECLAC, 2002a). Transnational corporations (TNCs) continued to grow in importance in most developed and developing economies. In 1999 the output of transnational subsidiaries accounted for 10% of world GDP and 14% of global gross fixed capital formation.²²

This global phenomenon is also very marked in Latin America and the Caribbean. Net FDI inflows increased from an annual average of US\$ 18.2 billion in 1990-1994 to US\$ 69.5 billion in 1995-1999, reaching a peak of US\$ 105.2 billion in 1999. A declining trend ensued, as inflows dropped to US\$ 88.5 billion in 2000 and an estimated US\$ 79.7 billion in 2001; this negative trend seems to be continuing in 2002. Nevertheless, this 10% reduction in FDI inflows between 2000 and 2001 reflects wide disparities between countries. Thus, while Argentina and Bolivia witnessed annual average FDI reductions of more than 60% and 25%, respectively, in 1999-2001, Mexico and Ecuador exhibited a positive trend, showing annual average increases of nearly 50% and 45%, respectively.²³ In addition, although the countries of the region are not major sources of FDI, their investments increased from just over US\$ 6 billion in 1994 to more than US\$ 27 billion in 1999, though this positive trend was also reversed thereafter.

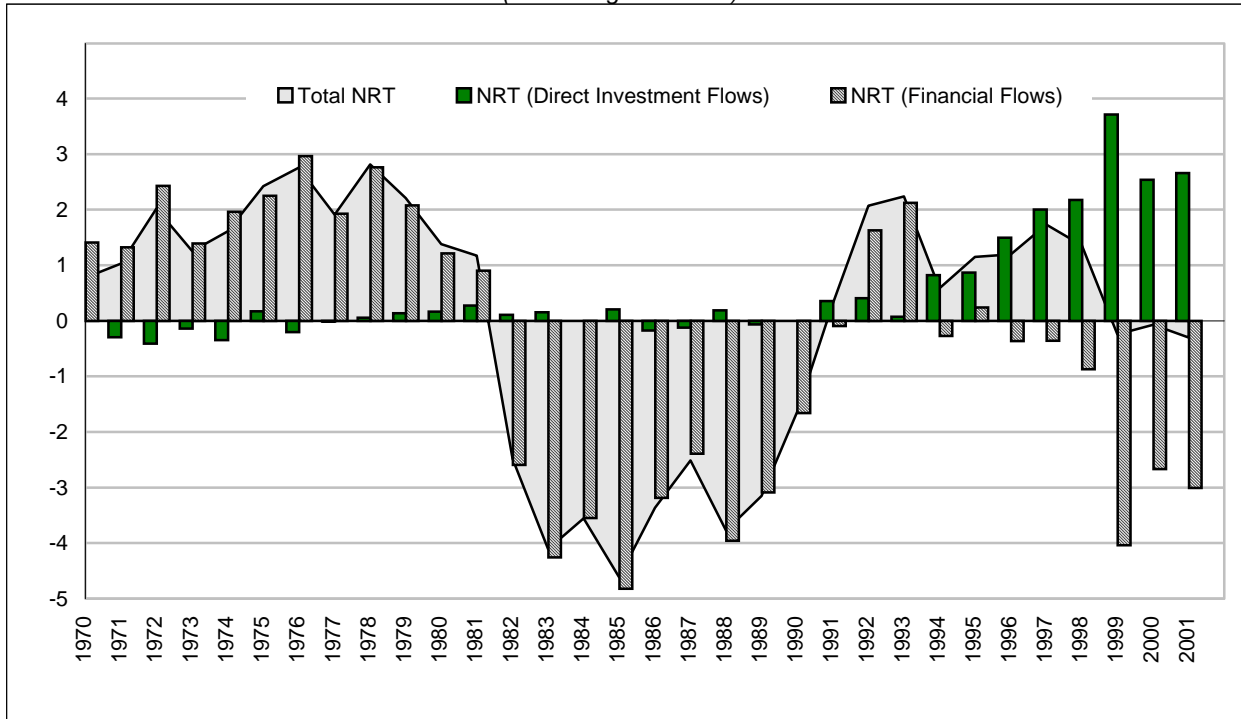
Although resources were drained out of the region by debt servicing and the repatriation of TNC earnings, among other things, a net inward transfer of resources was recorded for most of the 1990s. The net figure was over US\$ 25 billion in 1992, 1993, 1997 and 1998. Nevertheless, from 1999 onward, these positive net inflows turned into net outflows (totalling US\$ 11.2 billion between 1999 and 2001). The positive but decreasing net resource transfers (NRT) to Latin America and the Caribbean in the form of FDI were more than offset by the growing negative NRT from the region in the form of financial flows. This situation paints a very dark picture of the region's future prospects (see figure II.7).

The bulk of private financing goes to just a few countries, however. Moreover, just a quarter of the world's FDI and portfolio flows go to developing countries, and then only a handful of countries receive most of the flows. Of the 20 main FDI-receiving economies, only six are developing countries (China, Mexico, Singapore, Malaysia, Argentina and Brazil). FDI is therefore no substitute for official development assistance, as the countries with the most pressing need for financing tend to be the least attractive to investors.

²² See ECLAC (2001f, p. 58).

²³ See ECLAC (2002a, 2001b, 2000b).

Figure II.7
NET RESOURCE TRANSFER TO LATIN AMERICA AND THE CARIBBEAN
(Percentages of GDP)



Source: ECLAC, *Economic Survey of Latin America and the Caribbean, 2001-2002* (LC/G.2179-P), Santiago, Chile, 2002. United Nations publication, on the basis of figures provided by IMF and national agencies (19 countries). The IMF definition of net resource transfer (NRT) was used.

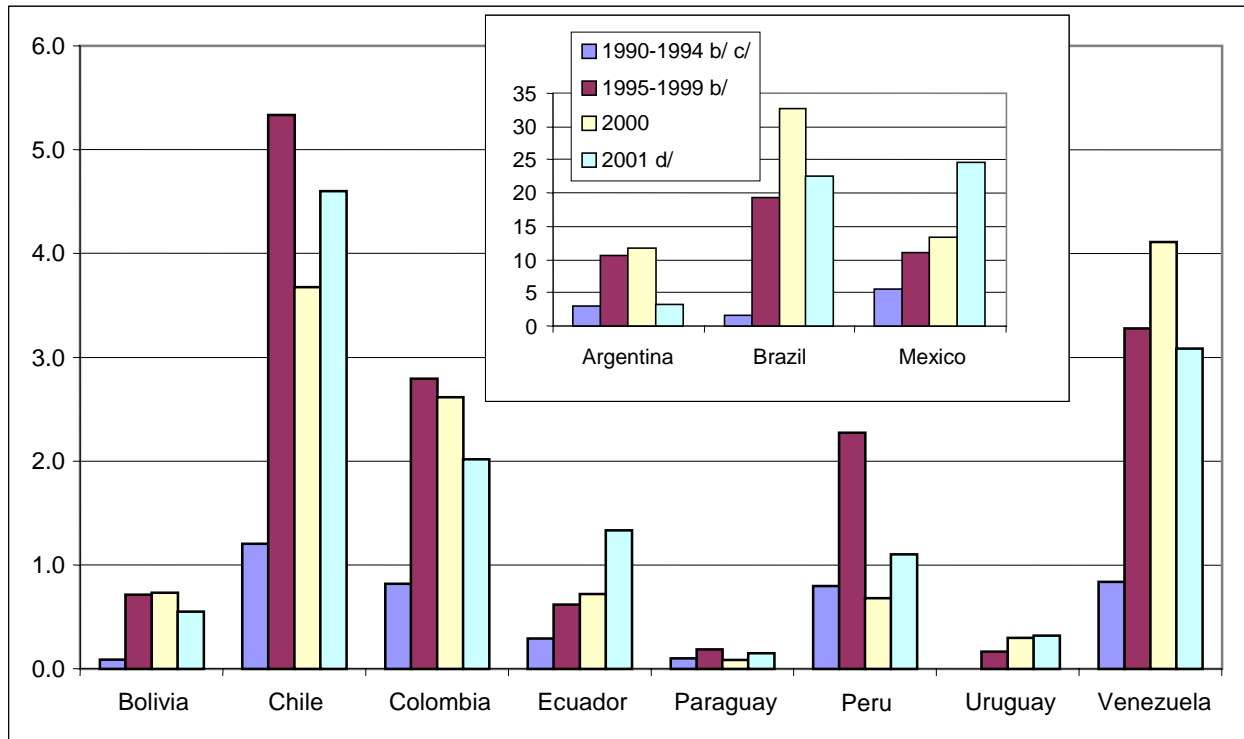
In the region, the leading FDI recipients since 1995 have been Brazil (35%), Mexico (21%) and Argentina (15%), while Brazil, Bolivia and Chile recorded the highest rates of proportional growth in their net FDI income during the 1990s. After the year-2000 turning point, Argentina’s share of regional FDI inflows dropped to only 5%, while Mexico’s share jumped to 36% (see figures II.8 and II.9). In Central America and the Caribbean, the main recipients have been the Dominican Republic, Panama and Trinidad and Tobago (see figure II.10). Net FDI inflows increased substantially in both subregions in the second half of the 1990s.

Figure II.8
LATIN AMERICA AND THE CARIBBEAN: DISTRIBUTION OF FOREIGN DIRECT INVESTMENT FLOWS, 2001 and 1995-2001



Source: ECLAC, *Foreign Investment in Latin America and the Caribbean. 2001 Report* (LC/G.2178-P), Santiago, Chile, 2002. United Nations publication, Sales No. E.02.II.G.47.

Figure II.9
SOUTH AMERICA: NET FOREIGN DIRECT INVESTMENT INFLOWS^{a/}
(Billions of dollars)



Source: ECLAC, *Foreign Investment in Latin America and the Caribbean. 2001 Report* (LC/G.2178-P), Santiago, Chile, 2002. United Nations publication, Sales No. E.02.II.G.47.

a/ Reflects FDI inflows to the declaring economy, net of capital outflows attributable to the same foreign investor enterprises.

b/ Annual average.

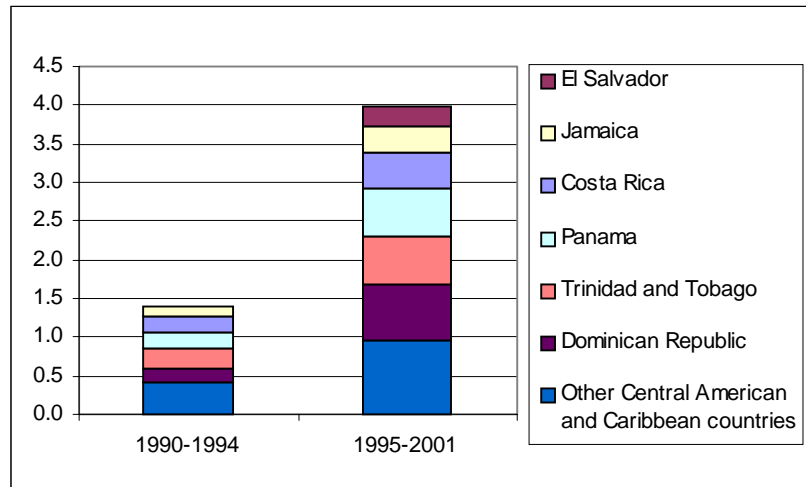
c/ ECLAC, *Foreign Investment in Latin America and the Caribbean. 2000 Report* (LC/G.2125-P), Santiago, Chile, 2001. United Nations publication, Sales No. E.01.II.G.12.

d/ Estimates.

The expansion of FDI in the Latin American and Caribbean region in the 1990s reflected the strategies of TNCs in response to globalization and the new system of macroeconomic incentives. Some TNCs sought to enhance efficiency by integrating their subsidiaries located in the region into globalized programmes and making new investments in line with the changing domestic, subregional and world context (opening to third markets). Other firms, keen to maintain or increase their market share, streamlined or expanded their operations in domestic or subregional markets (defence of markets).²⁴ Along with these two major strategies, new investment opportunities arose in sectors that had previously been closed to private investment in general, and foreign firms in particular, as many public utilities and mining markets were deregulated. Foreign investment flowed into resource extraction activities (mining and hydrocarbons) and services (especially finance, energy and telecommunications). A third and a fourth strategy can therefore be distinguished in connection with the extraction of raw materials and access to local services markets, respectively.

²⁴ The first of these two strategies was most common in Mexico and the Caribbean Basin, primarily in the automotive, informatics, electronics and clothing segments. The second strategy was most frequently used in Argentina and Brazil, primarily in the automotive sector (see ECLAC, 2001f, p. 61).

Figure II.10
CENTRAL AMERICA AND THE CARIBBEAN: NET FOREIGN DIRECT INVESTMENT INCOME
(Billions of United States dollars)



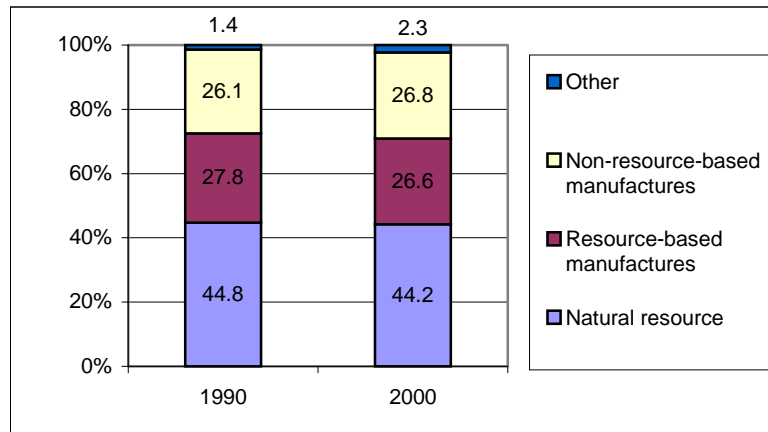
Source: ECLAC, *Foreign Investment in Latin America and the Caribbean. 2001 Report* (LC/G.2178-P), Santiago, Chile, 2002. United Nations publication, Sales No. E.02.II.G.47; and ECLAC, *Foreign Investment in Latin America and the Caribbean. 2000 Report* (LC/G.2125-P), Santiago, Chile, 2001. United Nations publication, Sales No. E.01.II.G.12.

The first and second strategies are of interest from an environmental standpoint. The firms involved are in a position to transfer innovative technology, which should have a highly positive impact on the environment, particularly with regard to atmospheric pollution in the region's cities. The third strategy emerged when natural resources exploration, extraction and processing activities were opened up to foreign capital and the oil and gas subsector—which had been State-controlled until a few years earlier—was gradually liberalized. With the privatization of State enterprises, a new wave of foreign investors moved into the Latin American energy sector, especially in connection with petroleum, natural gas and by-products exploration, extraction, processing, distribution and marketing, all of which are very environmentally sensitive sectors.²⁵ This new injection of resources boosted the region's traditional raw materials activities (fisheries, forestry and mining), especially in South America.

These strategies are closely associated with the export structures of the different subregions of Latin America and the Caribbean. South America's export structure varied little in the 1990s: raw materials exports continued to account for 44% of total exports, and external sales of resource-intensive manufactures, for a further 26% (see figure II.11). By contrast, exports from Mexico, Central America and the Caribbean Basin were heavily concentrated in non-resource-based manufactures. These did not derive exclusively from the maquila industry, and high-technology manufactures were the most dynamic (see figure II.12).

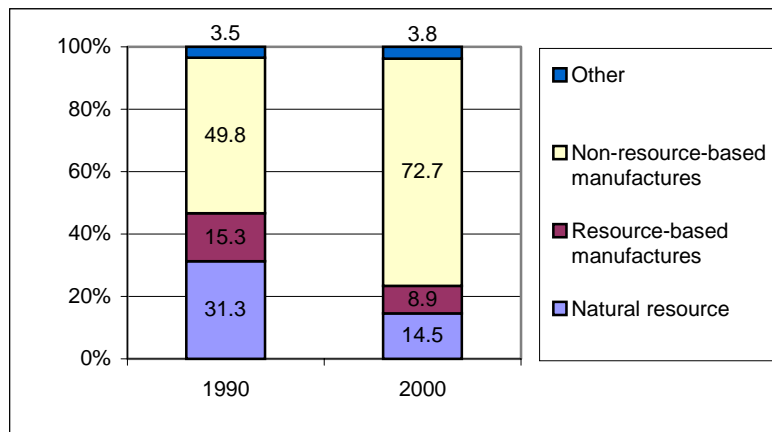
²⁵ See ECLAC (2001f, p. 64).

Figure II.11
SOUTH AMERICA: EXPORT STRUCTURE
 (Percentages)



Source: ECLAC, *Foreign Investment in Latin America and the Caribbean. 2001 Report* (LC/G.2178-P), Santiago, Chile, 2002. United Nations publication, Sales No. E.02.II.G.47.

Figure II.12
MEXICO, CENTRAL AMERICA AND THE CARIBBEAN BASIN: EXPORT STRUCTURE
 (Percentages)



Source: ECLAC, *Foreign Investment in Latin America and the Caribbean. 2001 Report* (LC/G.2178-P), Santiago, Chile, 2002. United Nations publication, Sales No. E.02.II.G.47.

In general, in the 1990s FDI developed a clear tendency to shift towards services, often environmental services (including sanitation, waste treatment and water supply), which tend to be more environmentally sound. Privatizations were one of the main forces behind this shift.

The environmental impact of foreign investment depends on many factors, including the strategy of the investing firm, its line of business, relative efficiency and environmental policy, the technologies it uses and the receiving country's regulatory features and institutional structure in environmental affairs. Clearly, FDI, like any other type of financial flow, is motivated by market opportunities (which do not necessarily respond to the needs of the respective country), and little reliable information is available on its social and environmental impacts. FDI is nevertheless the principal vehicle of economic integration, trade expansion and technology transfer and, as such, has the potential to facilitate access to more environmentally friendly markets and cleaner technologies.

The argument that FDI flows go to countries that have more lax regulatory regimes and that it therefore creates “pollution havens” does not appear to be borne out by the —albeit partial— evidence that is available. This evidence suggests that decisions on how much and where to invest are swayed instead by variables such as the terms of repatriation of earnings, the legal security of contracts, market size and growth potential, output, workers’ skills and commercial taxes, although environmental regulation may have an influence on the selection of a specific location for an investment project within the chosen country. In fact, some evidence suggests that this has given rise to competition between states, in the case of Brazil, and between provinces, in the case of Argentina. In fact, in 1995 only 5% of the investment received by developing countries went to environmentally sensitive industries, compared to 24% of that received by developed countries; the United States is a net recipient of this type of investment (Repetto, 1995; Panayotou, 2000).

There is mounting evidence that foreign firms actually tend to pollute less, since, as they are generally based in developed countries, their technology and processes comply with higher environmental standards and it would not be cost-effective to adapt them to less strict regulatory regimes. In many cases, these firms also export to markets that are more sensitive to environmental issues and certification; ISO 14000 certification, though voluntary, is increasingly becoming a commercial necessity. In fact, there is evidence in Argentina, Brazil (see table II.3) and Chile that the operations of foreign-owned firms in those countries and the large proportion of exports in their total sales significantly increase the probability that firms will make environmental investments.²⁶

Lastly, good environmental management is coming to be synonymous with good economic management, better credit access, cheaper insurance and better brand image, among other factors. This often means that parent firms or subsidiaries based in developed countries monitor the environmental conduct of their counterparts located in developing countries.

International investors usually prefer predictable and stable environmental policies with clear, transparent and consistent regulations that are enforced and that are comparable with international standards. Moreover, as they are likely to have already invested in less polluting technologies in developed countries, they have a strong incentive to lobby for stricter local standards that would raise costs for rival firms.

Table II.3
BRAZIL: FIRMS WITH ENVIRONMENTALLY MOTIVATED INVESTMENTS

Does the firm invest for environmental reasons? a/	Ownership (at 31 December 1996)			
	Domestic	Foreign	Mixed	Total
Yes (A)	7,294	251	92	7,636
A/C (%)	18.2%	43.1%	35.5%	18.7%
Exports/Income (%)	1.54%	12.91%	8.83%	2.00%
No (B)	32,674	331	167	33,173
B/C (%)	81.8%	56.9%	64.5%	81.3%
Exports/Income (%)	0.60%	6.14%	5.53%	0.68%
Number of firms (C)	39,968	582	259	40,809
Exports/Income (%)	0.77%	9.06%	6.69%	0.93%

Source: C.E. Young and C.A. Roncisvalle, “Gasto, inversión y financiamiento ambiental en Brasil”, document prepared for the ECLAC/UNDP project “Financing for environmentally sustainable development”, Santiago, Chile, September 2001, unpublished.

a/ Results based on a survey of economic activities conducted in the State of São Paulo (PAEP) by the SEADE Foundation, using data for 1996. The questionnaire was distributed to 43,900 firms across all sectors.

²⁶ Chapter III.5 presents an overview of national private-sector environmental financing and investment.

A number of considerations arise from the foregoing:

- Recipient countries need to strengthen their environmental management systems in order to formulate clear and predictable rules. The environmental dimension must be central to the criteria that countries use to define the type of investment they seek to attract. This means that long-term environmental policies must be integrated into and be consistent with the economic policy criteria (targets for job creation, economic growth and raising of external resources) that encourage foreign investment.
- Taking this into consideration, it is essential to develop and implement consistent and stable environmental regulatory systems so that the costs and benefits are predictable for investors. In addition, the costs must be the same for all investors.
- The countries of the region face the dual challenge of competing with each other and with other regions for new foreign investment in an environmentally sound manner and applying sustainability criteria to FDI. They must therefore coordinate environmental policy more closely among themselves and with the developed countries in order to avoid unfair and illegitimate competition, which could lead to environmental degradation and, in any event, would not enable them to attract more FDI than they would have obtained otherwise.
- It is necessary to establish clear criteria for assessing the impact of FDI and other private investment on sustainable development and the environment. The countries should encourage research on these effects, including the compilation of disaggregated and comparative data.
- It is important to shift FDI towards clean production technologies and to avoid, as far as possible, the concentration of investment in resource-intensive sectors, as has been the norm in the developing world.
- Developing countries tend to view with misgiving and anxiety the emergence of markets that differentiate products on the basis of environmental performance and that have stricter requirements as to the quality and management of processes and products. This anxiety is based on the fear that environmental protection will be invoked to justify the application of protectionist measures by more sophisticated markets. While such tactics must be prevented, it is also necessary for developing countries to adopt a proactive —instead of reactive— approach to this issue so that the developing world can make firm commitments to contribute to global environmental sustainability.

4. International financial agencies' contributions to the environment

The Monterrey Consensus further enhances the essential role of multilateral development banks. It encourages them to furnish support to developing countries whose access to international capital markets is limited, as well as recommending that they take action to reduce the effects of excessive instability in financial markets. These institutions also provide specialized information and knowledge regarding development.

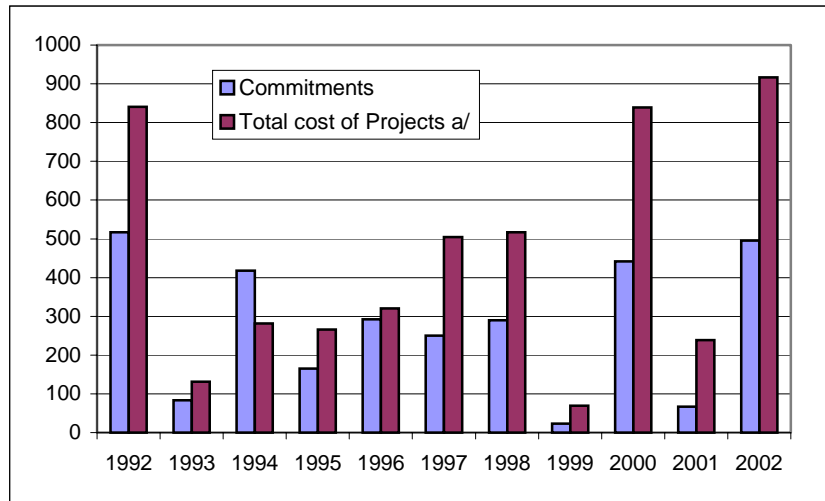
In addition to the Bretton Woods institutions, the Latin American and Caribbean region has the most comprehensive network of regional multilateral banks in the developing world. This network is composed of the Inter-American Development Bank (IDB) and a number of subregional institutions, such as the Andean Development Corporation (ADC), the Central American Bank for Economic Integration (CABEI) and the Caribbean Development Bank (CDB). In addition, it boasts one of the few regional mechanisms for providing balance-of-payments support to developing countries: the Latin American Reserve Fund. All of these institutions work to promote environmentally sustainable growth in conjunction with the alleviation of poverty.

As part of their efforts to foster environmental sustainability, these banks have provided resources for environmental projects in the form of loans and donations and are requiring environmental impact assessments for the projects they finance.

During the 1990s, the World Bank allocated US\$ 18 billion to countries around the world for projects having explicitly environmental objectives. For the most part, these funds were used to facilitate long-term environmental sustainability, strengthen environmental management capacity and improve environmental conditions in developing countries. In Latin America and the Caribbean, the World Bank has also backed initiatives to protect specific ecological systems (the Meso-American Biological Corridor and the Amazon, for example) and improve the urban environment. At present, 73 environmental projects with some US\$ 2.9 billion in funding are under way in the region, and another 14 projects involving US\$ 400 million are in the pipeline.

The World Bank provides financing for environmental protection activities through a number of different channels, including fairly new environmental financing mechanisms such as the Global Environment Facility (GEF) and the Montreal Protocol Multilateral Fund. The Bank also extends project grants through the Institutional Development Fund and has earmarked allocations for projects dealing with the global environment and tropical forests, in addition to the resources it makes available through its traditional channels. In Latin America and the Caribbean, World Bank commitments for environmental projects have been maintained at the average level registered for the 1990s, although they have fluctuated sharply during the last five years. The share of the total regional portfolio represented by environmental loans increased considerably in 2002, jumping to 8.5% as compared to the 1992-2001 average of 4.5 %. In contrast, the share of the total worldwide portfolio accounted for by environmental loans is only 2.8% for the same period. World Bank loans for water supply and sanitation projects, which also have an indirect environmental component, accounted for another 4.2% of the region's total average portfolio, although in 1998-2001 this share shrank to 1.9%.

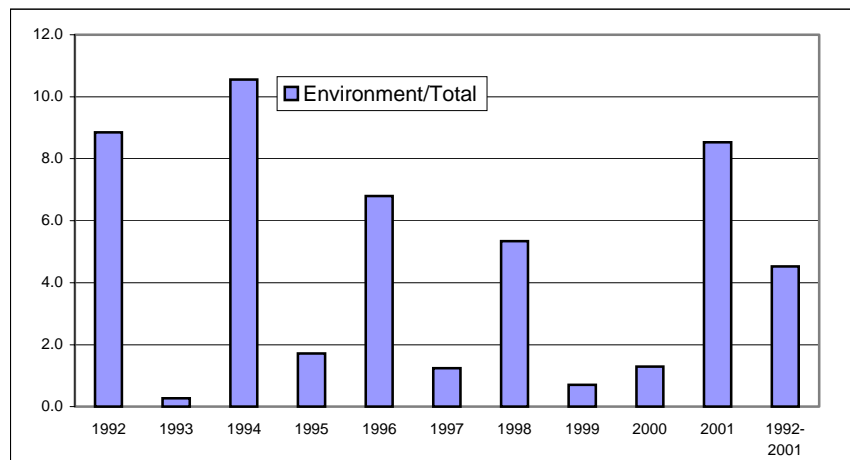
Figure II.13
LATIN AMERICA AND THE CARIBBEAN: INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT (IBRD) AND INTERNATIONAL DEVELOPMENT ASSOCIATION (IDA) COMMITMENTS FOR ENVIRONMENTAL PROJECTS a/
(Millions of United States dollars)



Source: On the basis of World Bank, “World Bank Project Database”, Washington, D.C. (<http://www.worldbank.org/projects>).

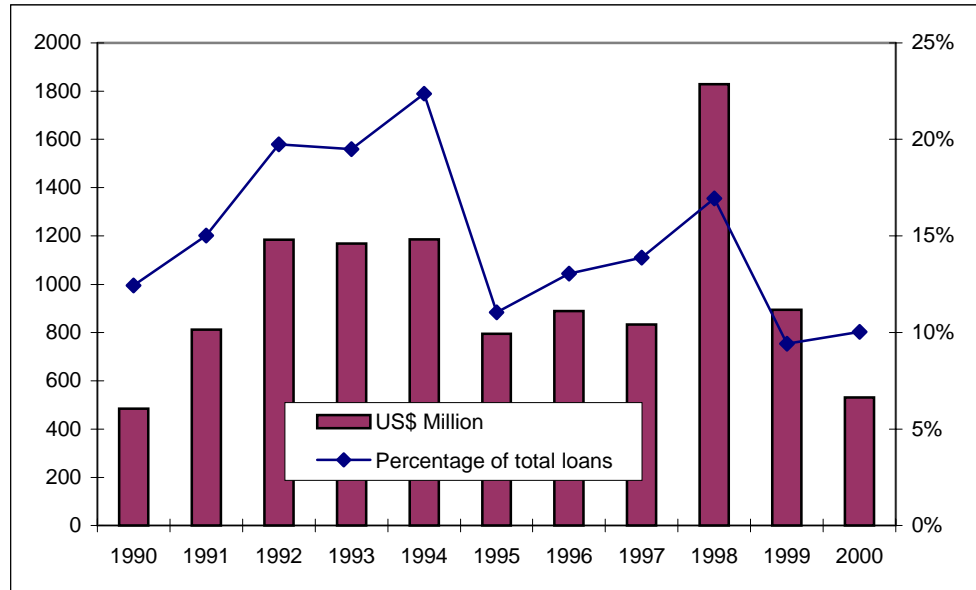
a/ Does not reflect cancellations. Total project costs include financing from other agencies. World Bank and IDA commitments do not include allocations through GEF, the Montreal Protocol Multilateral Fund or other specific funds.

Figure II.14
LATIN AMERICA AND THE CARIBBEAN: SHARE OF WORLD BANK LOANS FOR ENVIRONMENTAL PROJECTS
(Percentage of total loans)



Source: On the basis of the World Bank, *Annual Reports*, Washington, D.C., various years.

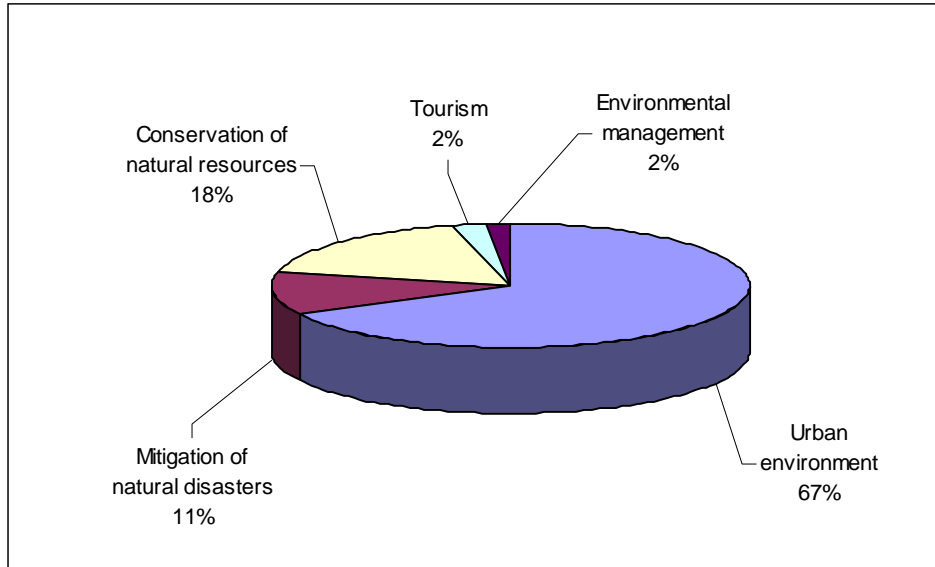
Figure II.15
**LATIN AMERICA AND THE CARIBBEAN: IDB LOANS
 FOR ENVIRONMENTAL AND NATURAL RESOURCE PROJECTS**
 (Values and percentages of total loans)



Source: On the basis of the Inter-American Development Bank (IDB), presented at the *Panel on Financing for Sustainable Development*, Regional Preparatory Conference of Latin America and the Caribbean for the World Summit on Sustainable Development (Rio de Janeiro, 23-24 October 2001).

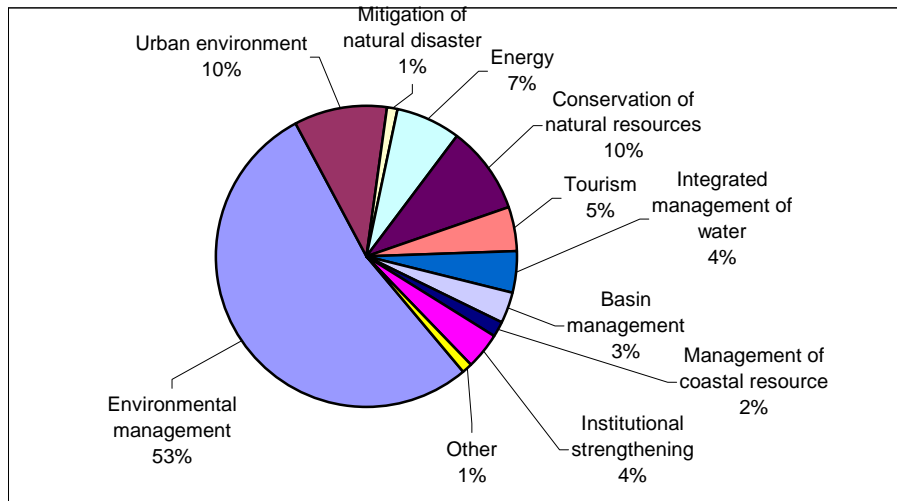
The institutional strategy of the **Inter-American Development Bank (IDB)** is based on two pillars: the promotion of environmentally sustainable growth and the reduction of poverty. For the last eight years, IDB has been the region's largest source of multilateral credits, approving US\$ 7.9 billion in loans in 2001 alone. The environmental strategy of the Bank, which guides all of its financing programmes and operations, focuses on four priorities: competitiveness based on clean technologies and environmental products and services; improved quality of life, which links environmental policy with health, education, etc; institutional and legal environmental frameworks; and regional integration for the solution of environmental problems. Between 1990 and 2000, IDB allocated US\$ 10.6 billion to environmental and natural resource protection and conservation, or nearly US\$ 1 billion per year. In 2000, IDB lent US\$ 531 million for initiatives in these areas, which, even though it represented a reduction from preceding years' levels, still amounted to 10% of the total portfolio. Projects dealing with the urban environment (including urban water supply and sanitation) represented 67% (see figure II.16). An additional US\$ 30 million in technical cooperation went mainly to environmental management initiatives (see figure II.17).

Figure II.16
LATIN AMERICA AND THE CARIBBEAN: DISTRIBUTION OF IDB LOANS FOR ENVIRONMENTAL AND NATURAL RESOURCES PROJECTS, 2000
(Values and percentages of total loans)



Source: On the basis of the Inter-American Development Bank (IDB), presented at the *Panel on Financing for Sustainable Development*, Regional Preparatory Conference of Latin America and the Caribbean for the World Summit on Sustainable Development (Rio de Janeiro, 23-24 October 2001).

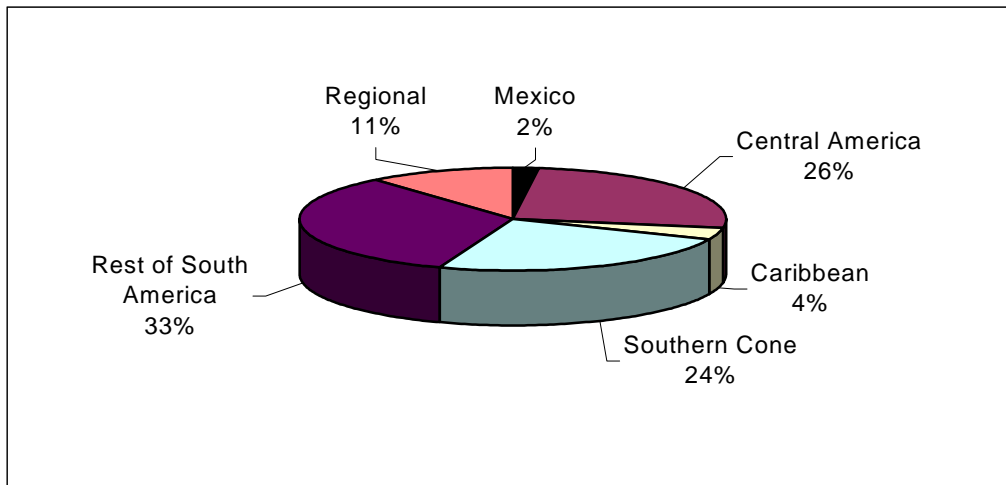
Figure II.17
LATIN AMERICA AND THE CARIBBEAN: DISTRIBUTION OF IDB TECHNICAL COOPERATION FOR ENVIRONMENTAL AND NATURAL RESOURCE PROJECTS
(Percentages)



Source: On the basis of the Inter-American Development Bank (IDB), presented at the *Panel on Financing for Sustainable Development*, Regional Preparatory Conference of Latin America and the Caribbean for the World Summit on Sustainable Development (Rio de Janeiro, 23-24 October 2001).

According to the Bank's annual reports, IDB allocated 2.7% (US\$ 142 million) and 1.0% (US\$ 79.5 million) of its total loans to explicitly environmental activities in 2000 and 2001, respectively. Between 1994 and 2000 an annual average of around US\$ 115 million was channelled to environmental loans. However, if other environmentally-related activities such as water supply and sanitation are included, the figure is much higher, as shown above.

Figure II.18
LATIN AMERICA AND THE CARIBBEAN: DISTRIBUTION OF IDB-FINANCED ENVIRONMENTAL PROJECTS
 (Percentages)



Source: Prepared on the basis of information provided by IDB on projects with explicitly environmental objectives (54 projects between 1993 and 2000). Refers to the number of projects, not the sums involved.

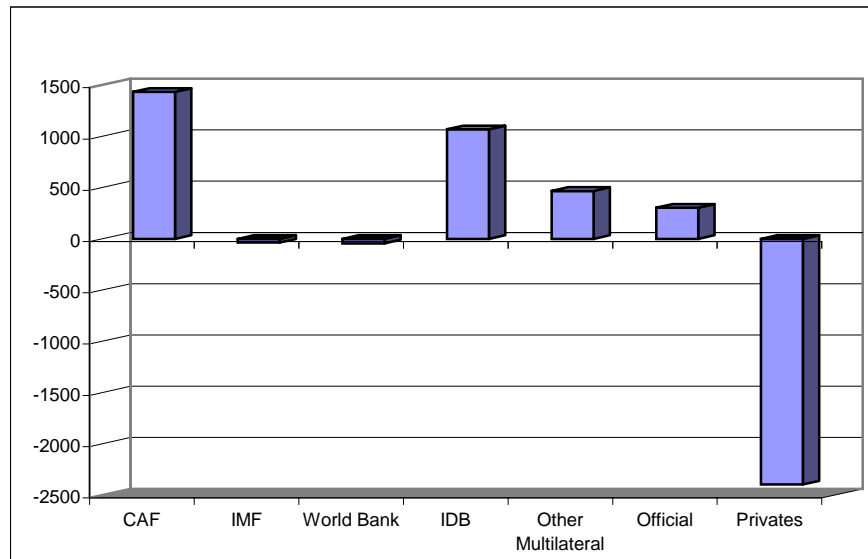
Currently, IDB is also focusing its attention on raising domestic financing for environmental projects and thus reducing external dependency; increasing private-sector and social participation in activities relating to environmental services; strengthening local environmental management; enhancing environmental management within a sectoral policy framework; and improving environmental education, information and awareness.

Subregional banks play a fundamental role as a catalyst for financing and serve as an important countercyclical source of funds. These institutions apply sustainability criteria to the projects they finance and, although they account for a smaller share of environmental project financing, their use of environmental impact assessment criteria is essential if environmental sustainability is to be achieved.

The **Andean Development Corporation (ADC)** focuses on sustainable development and regional integration, primarily in the Andean countries.²⁷ Last year, US\$ 3.1 billion was approved for the Andean subregion, which represents 54% of the total multilateral financing furnished to this area (29% of the total gross disbursement). Net disbursements amounted to nearly US\$ 1.5 billion. Although these resources are not directly allocated to the environment, their countercyclical role can help to prevent reductions in environmental project financing from other sources.

²⁷ ADC stakeholders include Bolivia, Colombia, Ecuador, Peru and Venezuela, as well as Argentina, Brazil, Chile, Costa Rica, Jamaica, Mexico, Panama, Paraguay, Spain, Trinidad and Tobago, Uruguay and 18 regional banks.

Figure II.19
ANDEAN COUNTRIES: NET DISBURSEMENTS, BY SOURCE, IN 2001
(Millions of United States dollars)



Source: Prepared on the basis of information from the Andean Development Corporation (ADC), presented at the *Side Event on Financing for Sustainable Development: Partnerships for Investment Opportunities between the Public and the Private Sectors in Latin America and the Caribbean*, International Conference on Financing for Development (Monterrey, Mexico, 19 March 2002), 2002.

In 2000, ADC approved US\$ 357,000 in non-reimbursable technical cooperation funding for environmentally-related projects and a further US\$ 84,000 for natural resource projects. Taken together, these operations account for 3.4% of the total assistance provided by the institution.

Three ADC programmes are directly related to sustainable development: the Latin America Carbon Programme (PLAC), the Biodiversity Programme (BIO-CAF) and the Industry, Financial Institutions and Sustainable Development Programme (PDSIIF). ADC also administers the Andean Competitiveness Programme, which seeks to increase regional competitiveness without undermining environmental sustainability. Between 1999 and 2002, the Carbon Programme invested US\$ 2.1 million in activities relating to institution-building, promotion, training and carbon market consolidation (demand and supply). Thus far, four carbon emissions reduction operations representing a total of US\$ 17 million have been approved; these initiatives are expected to yield an estimated reduction of 5.8 million CO₂ tons by 2012, which, in monetary terms, represents US\$ 17.4 million.²⁸ Recently, ADC and the Netherlands signed an agreement to establish a joint Clean Development Mechanism Facility to improve the market for greenhouse gas emissions reductions. In the next three years, the Facility is expected to facilitate trades involving 10 million tons of these gases.

Between 2000 and 2002, US\$ 0.4 million were allocated to start up the Biodiversity Programme. Through an ADC/Andean Community/UNCTAD initiative to develop regional biotrade, US\$ 0.75 million was leveraged for the period 2001-2006 and US\$ 5 million in contributions are expected between 2003 and 2006. In addition, the ADC Human Development Fund (FONDESHU) approved US\$ 0.5 million to acquire shares in the EcoEnterprises Fund, which invests venture capital and provides technical support for biodiversity-related businesses. Between 2000 and 2002, the Sustainable

²⁸ Calculations based on an estimate of US\$ 3 per CO₂ ton.

Development Programme allocated US\$ 0.18 million for regional leadership in the promotion of clean technologies and products and in the use of environmental and social corporate good practices. It also contributed to the Clean Tech Fund, administered by A2R *Fundos ambientais*. ADC was the first multilateral bank to sign the UNEP Financial Initiative.

The **Central American Bank for Economic Integration (CABEI)** is a financial development organization devoted to the promotion of sustainable development and economic integration of Central America.²⁹ As part of its work in the area of environmental sustainability, CABEI participates in the market for carbon certificates, collaborates in projects aimed at mitigating climate change and promoting clean production, and contributes to energy savings. During the 1990s, CABEI financed water supply and sanitation initiatives which represented 3.2% of its total number of projects and 2.4% of its total project portfolio of around US\$ 3 billion. CABEI projects protect approximately 300,000 hectares, or 6.5% of the total protected areas in the subregion. Reforestation accounts for 0.1% of Central America's forests. CABEI, together with UNDP and GEF, is also enhancing investments in renewable energy. As part of this effort, it is working on a project portfolio valued at US\$ 110 million to provide renewable energy to 100,000 families, thus reducing poverty as well as fossil fuel consumption and, consequently, CO₂ emissions. Within the framework of this alliance, CABEI has recently begun to administer the Central American Fund for Environment and Development (FOCADES) with the support of GEF-UNDP and the Alliance for the Sustainable Development of Central America (ALIDES). The Fund's objective is to employ an integrated regional focus in order to ensure that global environmental benefits accrue to Central America.

The **Caribbean Development Bank (CDB)** seeks to contribute to the harmonious economic growth and development of its member countries in the Caribbean and to promote economic cooperation and integration among them. Caribbean Community countries are mainly small, low-lying island States whose pivotal economic sectors are directly dependent on their natural resource base (energy, mineral extraction, agriculture and tourism). They are also vulnerable to natural disasters and environmental hazards. These characteristics account for their Governments' sensitivity to environmental risks and the desirability of initiatives for promoting sustainable development. Since the adoption of its Strategic Plan for 2000-2004, CDB has focused on poverty reduction activities which include environmental protection components. CDB loan data are not structured in a way that facilitates the identification of allocations for environmental projects. Most of these types of projects are included under the headings of water supply, sanitation and health, sea defense, and disaster recovery and rehabilitation. For the Organization of Eastern Caribbean States (OECS), CDB allocations that were either authorized in 2000 or under consideration in 2001 included the provision of 44.4% of the financing needed for a US\$ 36.2 million solid waste project in Dominica, Saint Kitts and Nevis, and Saint Vincent and the Grenadines; financing for a US\$ 11.7 million water and sewerage project in Grenada, a US\$ 5 million solid waste management project in the Turks and Caicos Islands and a US\$ 5 million small-farmers watershed management project in Jamaica. CDB is also providing around US\$ 0.6 million in financing for the establishment of environmental management systems and the reinforcement of planning capacity in the Organization of Eastern Caribbean States and Guyana, along with US\$ 0.1 million for research on soil pollution in Jamaica. Taken together, these projects amount to a total of US\$ 38.5 million.³⁰ In 2001, the sectoral breakdown of technical assistance operations, most of which are implemented on a non-reimbursable basis, showed allocations of US\$ 0.34 million for the environmental sector (7.4% of total technical assistance).

²⁹ CABEI operates in Guatemala, El Salvador, Honduras, Nicaragua and Costa Rica.

³⁰ Total CDB loan approvals for capital projects amounted to US\$ 182.5 million and US\$ 106 million in 2000 and 2001, respectively.

Box II.2
**THE CATALYTIC ROLE OF UNDP IN
 FINANCING SUSTAINABLE DEVELOPMENT**

The United Nations Development Programme (UNDP) is another source of financing for technical cooperation and pre-investment activities, including capacity- and institution-building. The UNDP portfolio of environmental and sustainable development projects in the Latin American and Caribbean region for the period from the 1992 Earth Summit to the present totals approximately US\$ 1.4 billion in grant financing. More than US\$ 200 million has been allocated to the energy sector for the development of new and renewable energy, the promotion of rural energy services to support growth, equity and poverty eradication, and the achievement of increased energy efficiency.

Projects dealing with vulnerability, risk management and adaptation to climate change, with special attention to island States, are included in the UNDP portfolio.

Many of the projects involve partnerships with local communities, sectoral ministries, NGOs, the private sector, and multilateral and bilateral donors and financial institutions.

The funding provided by these agencies usually takes the form of project cofinancing, which means that considerable resources are also required from domestic sources: an average of 45% of the environmental projects assessed by IDB were financed by the countries, while contributions from the Global Environment Facility that were co-developed by the Bank financed an average of just 30% of the cost of projects in Latin America and the Caribbean.

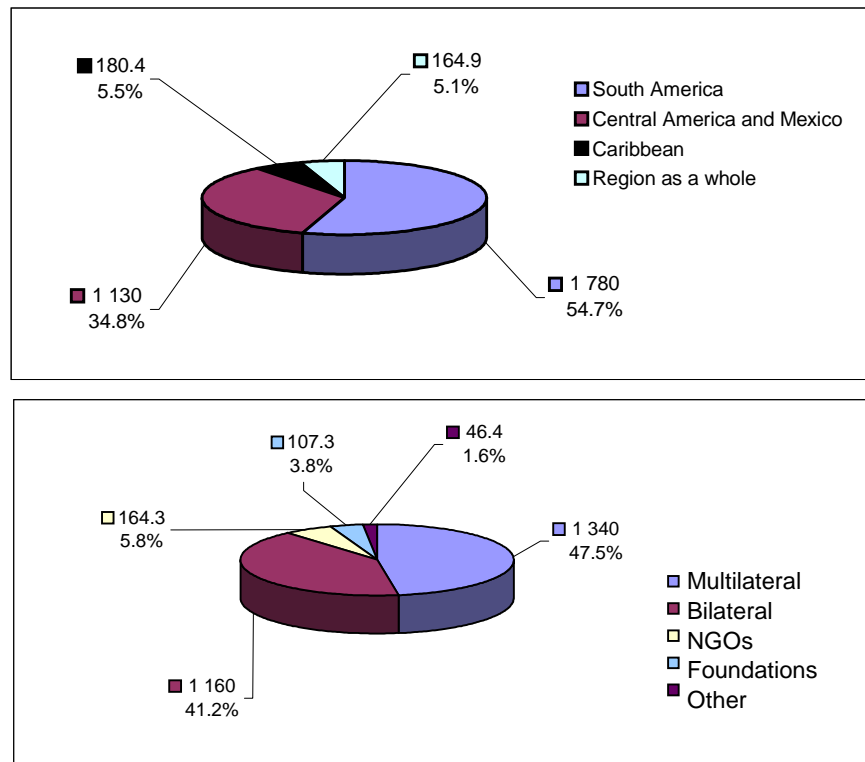
The foregoing points give rise to a number of considerations:

- International financial institutions have made significant headway in terms of considering the environmental impact involved in their lending activities and project development. Practically all these institutions, at the international, regional and subregional levels, have established environmental directives to appraise environmental risk prior to project approval. This must be complemented, however, by institution-building on the part of the beneficiary countries in order to ensure that projects are designed and followed up in an effective manner. It would therefore be desirable for international financial agencies to broaden their technical cooperation activities to include capacity-building at the country level in order to incorporate environmental criteria and management methods into the economic activities financed by their loans.
- Similar directives should be included in private-sector projects that are backed by international financial agencies, particularly in the cases of the International Finance Corporation and Multilateral Investment Guarantee Agency of the World Bank Group and the IDB Inter-American Investment Corporation. This is particularly important because it involves not only large firms but also small and medium-sized enterprises, which have the most financial and technical difficulty in incorporating the environmental dimension into their operations.
- Regional and subregional banks should seek to play a more active role in the international multilateral funds that provide concessional funding to address global problems, such as the Global Environment Facility and the Clean Development Mechanism. Certain global environmental problems, such as climate change and loss of biodiversity, call for innovative projects developed at the regional or subregional level. Such an approach would require the regional and subregional financial institutions to design cooperation mechanisms that would bypass the national level and encourage lending or cooperation operations across several countries simultaneously on the basis of joint projects with common objectives.

Box II.3
INVESTMENT IN BIODIVERSITY IN LATIN AMERICA AND THE CARIBBEAN

Despite the fact that the region's highly significant biodiversity is under threat and that substantial investments have already been made to forestall its deterioration, there are virtually no studies on the magnitude of financing required to conserve it. The United States Agency for International Development (USAID), the World Bank and the Biodiversity Support Programme designed a survey to compile this information at the project level. The survey was distributed to 118 leading donor organizations and did not include public spending within countries or profit-seeking investments. On the basis of replies from 65 sources of financing (which included the most significant ones), it was estimated that between 1990 and 1997 financing was provided for 3,489 conservation projects representing an investment of US\$ 3.26 billion. Brazil received the largest allocation of funds, followed by Mexico. Together, these two countries received 45.5% of the funds. The countries to receive the most funding per km², however, were Venezuela, all the Central American countries, the Dominican Republic, Ecuador, Haiti and Jamaica. The Southern Cone and Cuba received the smallest amounts. Thirteen principal financing sources accounted for 77% of total funding, including the World Bank (16.7%), IDB (11%), GTZ (8.8%), USAID (6%) and the Global Environment Facility (5.7%).

FINANCING FOR BIODIVERSITY CONSERVATION, BY SUBREGION, 1990-1997
(Millions of United States dollars and percentages, respectively)



Projects relating to the management of natural resources and of protected areas accounted for over 70% of the financing. Just 32% of the projects could be classified by ecoregion and, of these, tropical and subtropical broadleaved forests accounted for 66% of the funding. Although there is no doubt that some headway has been made on the issue of biodiversity conservation in the last two decades, progress has nonetheless been insufficient, as threats to biodiversity have grown and become more complex.

Source: Gonzalo Castro and others, *Mapping Conservation Investments: An Assessment of Biodiversity Funding in Latin America and the Caribbean*, Washington, D.C., Agency for International Development (USAID), World Bank and Biodiversity Support Programme (BSP), 2000.

- Borrowers from multilateral lenders play a fundamental role in determining the sectoral distribution of these institutions' portfolios, since they are the ones requesting the loans and therefore are also the ones that assign the corresponding priorities. The economic situation of the countries in the region may alter their priorities and this, together with financial constraints, may result in a reduction in loans for environmental projects even if multilateral lenders support them.

5. Concessional international multilateral funds to address global problems

Agenda 21 urges the international community to seek new resources to help developing countries to achieve a more sustainable form of development. In response, the last 10 years have seen the development of innovative sectoral financing instruments, particularly for infrastructure (energy, water, public transport and sanitation). Financial markets have followed suit by creating new financial instruments, including public-private partnerships, new forms of credit guarantees, new microfinancing mechanisms for the rural and informal sectors, and joint ventures, to mention but a few. At the international level, the Montreal Protocol on Substances that Deplete the Ozone Layer, signed in 1987, paved the way for new financing mechanisms by establishing the Multilateral Fund for the Implementation of the Montreal Protocol. Through this fund, developed countries provide cooperation for environmentally sustainable development processes in developing countries, which ultimately benefits the global environment on which we all depend. The Global Environment Facility was created in 1991. Of all the new financing modalities that have been created, this mechanism has probably channeled the most resources to developing countries for projects having an environmental component. The Clean Development Mechanism provided for in the Kyoto Protocol to the United Nations Framework Convention on Climate Change is still in its early stages, but it too may become a major source of financing for sustainable development in the future.

Montreal Protocol Multilateral Fund

Under the Montreal Protocol, assistance is provided through the Multilateral Fund to developing countries for projects aimed at preventing or reducing emissions of ozone-depleting substances. This Fund operates through the United Nations Environment Programme, the United Nations Development Programme, the United Nations Industrial Development Organization and the World Bank. Like the Global Environment Facility, the Multilateral Fund for the Implementation of the Montreal Protocol finances such projects' operating and capital costs, including the costs of conversion to non-chlorofluorocarbon technologies.

The World Bank has implemented projects under the Montreal Protocol in eight of the region's countries —Argentina, Brazil, Chile, Colombia, Ecuador, Mexico, Uruguay and Venezuela— involving allocations of around US\$ 50 million. Thanks to the efforts of the World Bank and other agencies, the consumption of ozone-depleting substances was reduced by 22% between 1993 and 1999.

Global Environment Facility

The Global Environment Facility (GEF) has been a significant source of new resources for environmental initiatives in developing countries. The Facility began as a pilot programme in 1991-1994 and now comprises 173 countries. With over 1,100 projects in 150 developing countries and transition economies, GEF had allocated close to US\$ 3.2 billion as of mid-2001, which opened the way for the allocation of a further US\$ 8 billion in cofinancing. Cumulative allocations up to and including 2002 amount to US\$ 3.6 billion, with disbursements totaling more than US\$ 1.4 billion.

Table II.4
LATIN AMERICA AND THE CARIBBEAN:
MONTREAL PROTOCOL-BASED CONCESSIONAL FINANCING AGREEMENTS
(United States dollars)

Country	Year	Framework allocation	Disbursements approved
Argentina	1997	25,000,000	22,631,367
Brazil	1993	10,900,000	9,905,488
Chile	1993	6,306,080	5,739,955
Colombia	1999	8,652,000	1,343,709
Ecuador	1993	1,566,000	1,566,000
Mexico	1997	13,000,000	2,945,606
Uruguay	1995	5,000,000	890,193

Source: World Bank, "Montreal Protocol Grant Agreements" (<http://www.worldbank.org/montrealprotocol>).

GEF is the financial mechanism established by the Convention on Biological Diversity and the United Nations Framework Convention on Climate Change. In December 2000, GEF was also designated as the main preliminary financing mechanism of the draft Stockholm Convention on Persistent Organic Pollutants. In addition, the Facility contributes resources for the implementation of global agreements to protect international waters and the ozone layer.

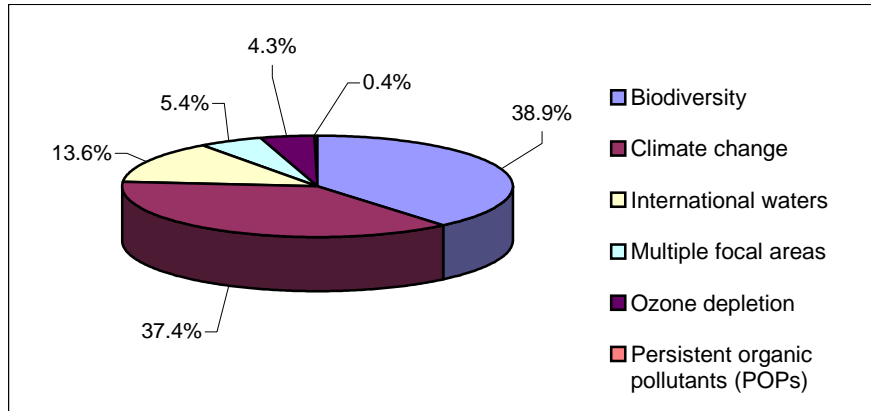
In addition, GEF supports projects to combat desertification insofar as they relate to the four focal areas of GEF action. In December 2001, the GEF Council agreed to designate land degradation as a new focal area. This process will be completed at the October 2002 GEF Council meeting. The financial mechanism related to the Convention to Combat Desertification is the Global Mechanism, which was established in 1997. The International Fund for Agricultural Development (IFAD) was selected to house the Global Mechanism. This mechanism not only mobilizes financial resources, but also channels them. It may be regarded primarily as a "broker" which matches up developing countries' resource requirements for combatting desertification with the funds being provided by developed countries and cooperation agencies.³¹

Between 1991 and 2002, throughout the world GEF allocated a total of US\$ 1 512 million to 548 biodiversity projects, US\$ 1,457 billion to 394 climate change projects, US\$ 531 million to 67 projects on international waters, US\$ 167 million to 21 projects on protection of the ozone layer, US\$ 209 million to 37 multiple focal areas projects and 16 million to 34 projects assessing persistent organic pollutants (POPs). This was in addition to co-financing, which was more than three times the resources allocated by GEF.

GEF finances the additional costs involved in converting a national scale project into a concern that has global environmental benefits. The Facility's projects are administered by the United Nations Development Programme (UNDP), United Nations Environment Programme (UNEP) and the World Bank, with the support of the Food and Agriculture Organization (FAO) and the United Nations Industrial Development Organization (UNIDO), in addition to regional development banks such as IDB.

³¹ IFAD is a specialized agency of the United Nations created in 1977. IFAD mobilizes resources (loans and grants) on concessional terms for programmes that alleviate rural poverty and improve nutrition. At the end of June 2000, the IFAD portfolio of projects related to the effort to combat desertification in Latin America and the Caribbean amounted to US\$ 610.1 million, of which US\$ 287.5 million was financed by IFAD. The main countries of the region receiving IFAD support are Argentina, Brazil, Haiti, Mexico and Nicaragua. This financing is furnished as part of the regular activities of IFAD and is not related to the Global Mechanism.

Figure II.20
WORLD DISTRIBUTION OF GLOBAL ENVIRONMENT FACILITY RESOURCES, BY FOCAL AREA a/
(Percentages)

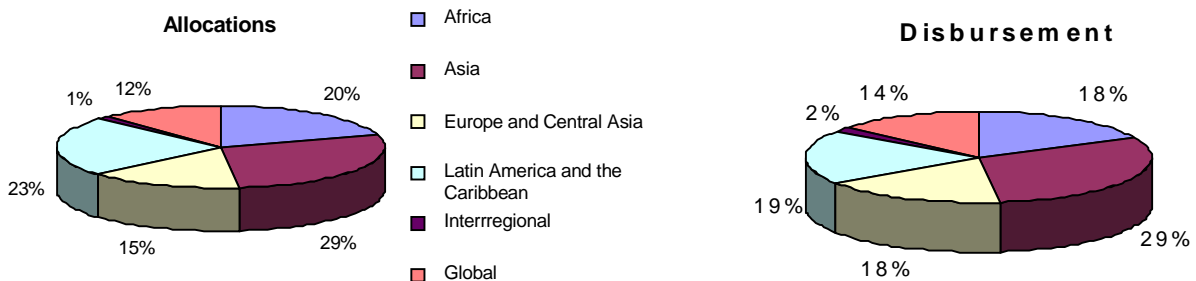


Source: On the basis of Global Environment Facility (GEF), *GEF Projects Database* (<http://www.undp.org>; <http://www.gefweb.org>).
 a/ Corresponds to gross allocations between 1991 and 2002.

GEF has been replenished twice by the contributors. In 1994, 34 donors put up US\$ 2 billion for four years for a Facility that was restructured according to Agenda 21. In 1998, 36 donors committed US\$ 2.75 billion to finance GEF activities into the new millennium. The Facility entered into negotiations for a third replenishment. In August 2002, a consensus was reached on a US\$ 2.92 billion replenishment of the Global Environmental Facility to fund its operation over the next four years. This makes a substantial contribution to the continued financing of the Facility’s traditional focal areas as well as the new mandates for POPs and desertification. GEF also receives resources from other sources and coordinates global environmental protection activities through the programmes of other institutions, governments and private sector agencies.

By December 2001, Latin America and the Caribbean had received over US\$ 269 million, although the region had projects approved for a total of US\$ 841 million (23% of the Fund’s worldwide commitments at that date). The region’s share of disbursements was slightly lower (19%).

Figure II.21
REGIONAL DISTRIBUTION OF RESOURCES BY THE GLOBAL ENVIRONMENT FACILITY a/
(Percentages)

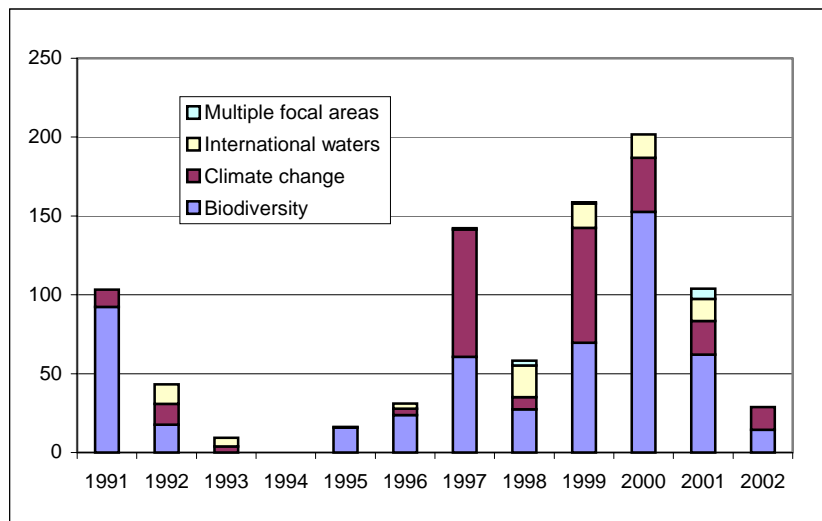


Source: On the basis of Global Environment Facility (GEF), *GEF Projects Database* (<http://www.undp.org>; <http://www.gefweb.org>).

a/ Corresponds to cumulative allocations and disbursements to December 2001.

GEF allocations in Latin America and the Caribbean³² over the decade followed a similar trend to the Facility's overall allocations. The first-year allocations amounted to over US\$ 100 million, then declined steadily to a turning point in 1994, when they began to grow again rapidly to reach US\$ 200 million in 2000. This increasing trend changed after 2000, with rough decreases in 2001 and 2002 (figure II.22).

Figure II.22
**LATIN AMERICA AND THE CARIBBEAN: GLOBAL ENVIRONMENT FACILITY
 ANNUAL ALLOCATIONS, BY FOCAL AREAS a/**
(Millions of United States dollars)



Source: On the basis of Global Environment Facility (GEF), *GEF Projects Database* (<http://www.undp.org>; <http://www.gefweb.org>).

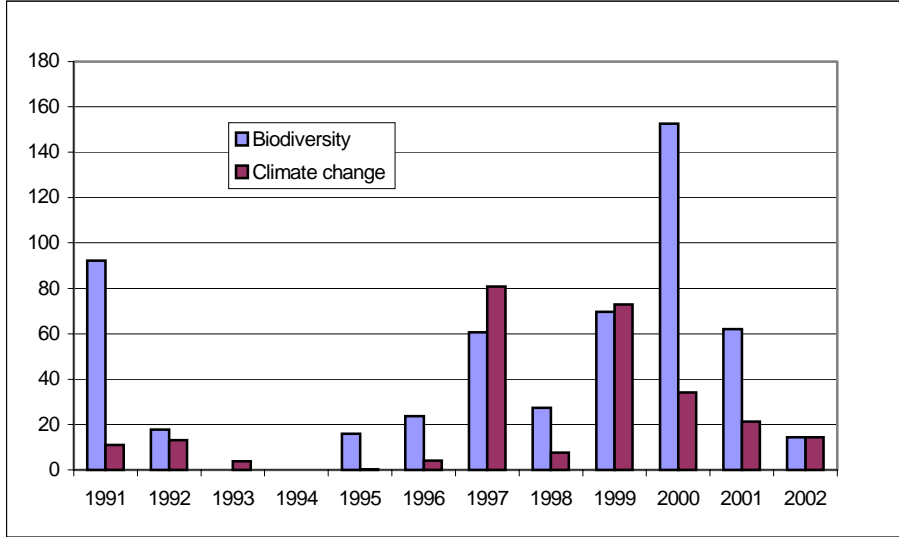
a/ Does not include global projects.

Most of the resources allocated to projects in the region go to the focal areas of biodiversity and climate change, which have set the trend for the evolution of the total value of GEF projects assigned to Latin America and the Caribbean. If global projects—some of which involve disbursements in the region—are not included, around 60% of total project allocations go to the focal area of biodiversity, while 29% are assigned to climate change, 10% to protection of international waters and 1% to multiple focal areas.³³ While allocations to climate change-related projects have grown since the creation of GEF (even during its pilot phase), however, resources for biodiversity projects have been increasing only since 1995. After 2000, both types abruptly decrease, being biodiversity projects more affected. Persistent Organic Pollutants projects only account US\$ 1 million, through two recent projects in Bolivia and Guatemala.

³² Tables and figures for Latin America and the Caribbean cover projects up to May 2002. The data refer to full-size projects, medium-size projects and enabling activities.

³³ Within the category of global projects (i.e., projects that encompass combinations of countries or regions around the world), the amounts allocated by focal area are more evenly distributed: 23% for biodiversity, 36% for climate change, 9% for international waters and 32% for multiple focal areas.

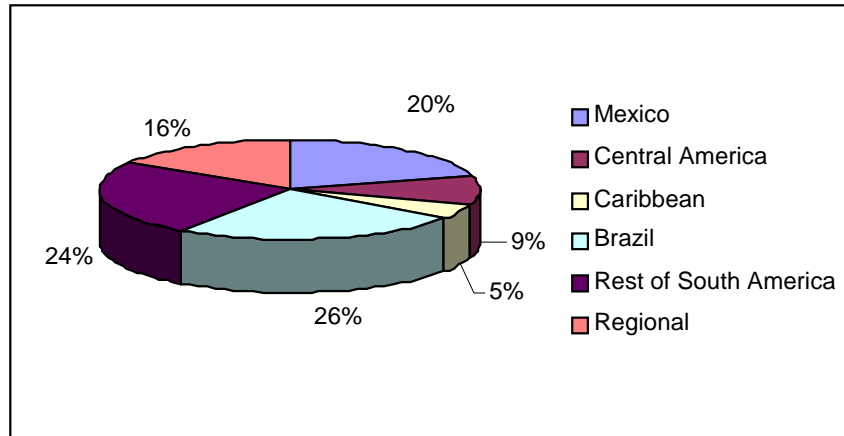
Figure II.23
LATIN AMERICA AND THE CARIBBEAN: ANNUAL GLOBAL ENVIRONMENT FACILITY ALLOCATIONS TO BIODIVERSITY AND CLIMATE CHANGE PROJECTS a/
(Millions of United States dollars)



Source: On the basis of Global Environment Facility (GEF), *GEF Projects Database* (<http://www.undp.org>; <http://www.gefweb.org>).
 a/ Does not include global projects.

Brazil and Mexico are the region’s leading recipients of GEF allocations, accounting for 26% and 20% of the total, respectively. Regional projects represented 16% of the total amount assigned over the decade (see figure II.24). Central America and the Caribbean have a larger share in terms of the number of projects, however, which indicates that the volume of funding involved in the projects being implemented in these two subregions is smaller (see figure II.25).

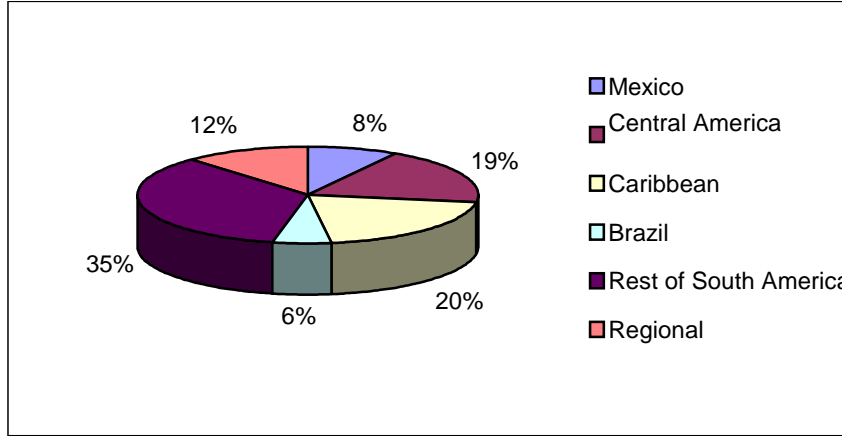
Figure II.24
LATIN AMERICA AND THE CARIBBEAN: DISTRIBUTION OF GLOBAL ENVIRONMENT FACILITY-ALLOCATED PROJECT FUNDS, BY CUMULATIVE VALUE a/
(Percentages)



Source: On the basis of Global Environment Facility (GEF), *GEF Projects Database* (<http://www.undp.org>; <http://www.gefweb.org>).

a/ On the basis of groupings of projects (1991-2002). Belize is included in Central America. Does not include global projects.

Figure II.25
LATIN AMERICA AND THE CARIBBEAN: DISTRIBUTION OF GLOBAL ENVIRONMENT FACILITY-APPROVED PROJECTS, BY NUMBER OF PROJECTS a/
(Percentage of United States dollars)

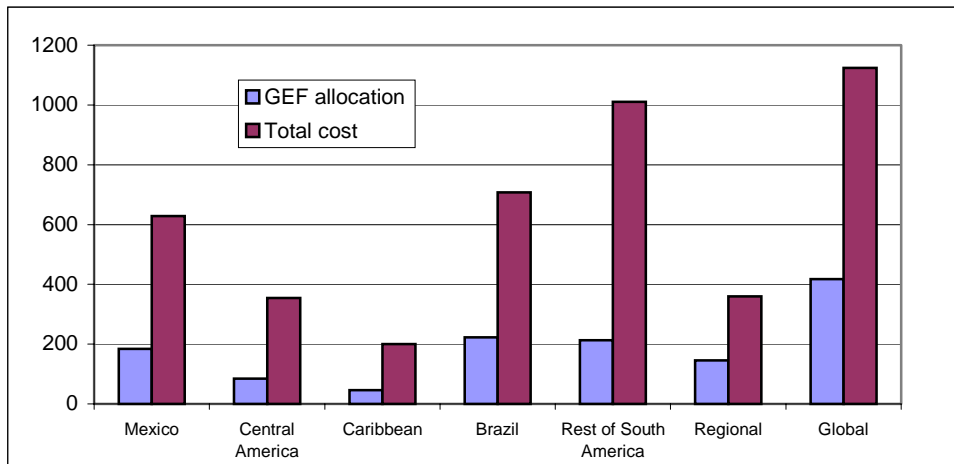


Source: On the basis of Global Environment Facility (GEF), *GEF Projects Database* (<http://www.undp.org>; <http://www.gefweb.org>).

a/ On the basis of groupings of projects (1991-2002). Belize is included in Central America. Does not include global projects.

An important point to consider is that GEF finances only a portion of total project costs. In fact, the Facility finances an average of just 26% of the total cost of all country-level projects, although this figure varies from one subregion to another. Its average contribution to regional projects is 40% of the total, which is similar to the 37% figure for global projects. This means that, on average, cofinancing resources in Latin America and the Caribbean are 2.5 times more than GEF allocations. During the 2001-2002 biennium, however, the ratio for cofinancing increased to more than 5 times that of GEF allocations.

Figure II.26
LATIN AMERICA AND THE CARIBBEAN: RESOURCES ALLOCATED BY THE GLOBAL ENVIRONMENT FACILITY AND TOTAL COST OF PROJECTS a/
(Millions of United States dollars)

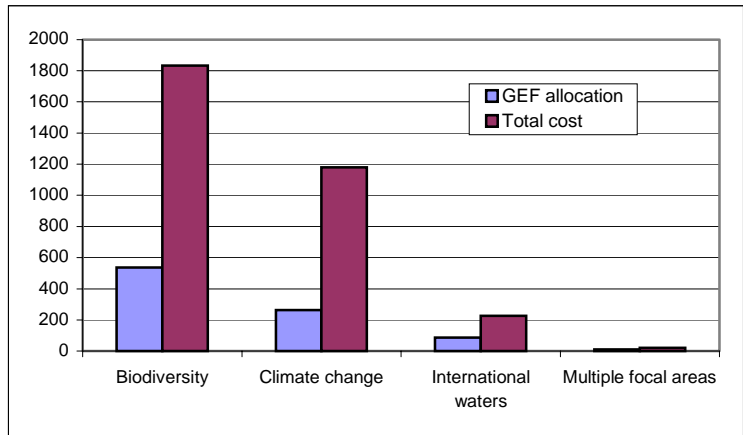


Source: On the basis of Global Environment Facility (GEF), *GEF Projects Database* (<http://www.undp.org>; <http://www.gefweb.org>).

a/ On the basis of groupings of projects (1991-2002). Belize is included in Central America.

A breakdown of GEF resource allocations and total project costs by focal area in Latin America and the Caribbean reveals marked differences across categories. While GEF covers an average of 52% of the cost of projects for multiple focal areas, it contributes 38% for projects on international waters, 29% for projects on biodiversity and just 22% for climate change projects. It should be noted that up until 2001, GEF covered 36% of the total cost of biodiversity projects.

Figure II.27
LATIN AMERICA AND THE CARIBBEAN: RESOURCES ALLOCATED BY THE GLOBAL ENVIRONMENT FACILITY AND TOTAL COST OF PROJECTS, BY FOCAL AREA a/
(Millions of United States dollars)

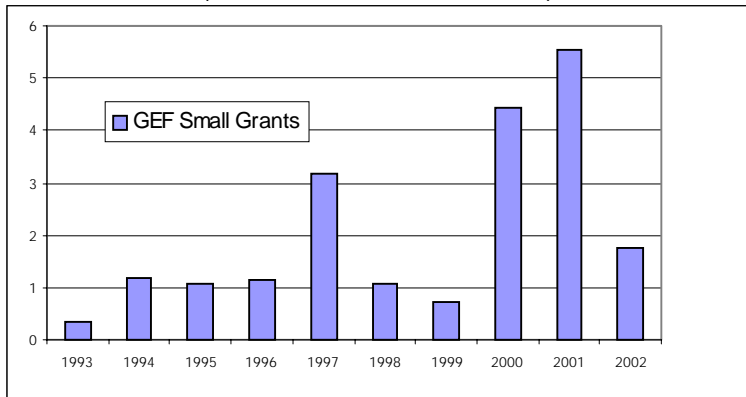


Source: On the basis of Global Environment Facility (GEF), *GEF Projects Database* (<http://www.undp.org>; <http://www.gefweb.org>).

a/ On the basis of groupings of projects (1991-2002). Does not include global projects.

GEF also has a line of financing for small-scale projects, up to a maximum of US\$ 50,000. This mechanism is expanding rapidly and has proven instrumental in dealing with financing problems at the local level and providing support for non-governmental organizations. There are more than a thousand small-scale projects under way in the region, and they are quite evenly distributed among its countries. The average grant per project is approximately US\$ 20,000, which is matched by a similar amount of cofinancing.

Figure II.28
LATIN AMERICA AND THE CARIBBEAN: RESOURCES ALLOCATED BY THE GLOBAL ENVIRONMENT FACILITY UNDER THE SMALL GRANTS PROGRAMME a/
(Millions of United States dollars)

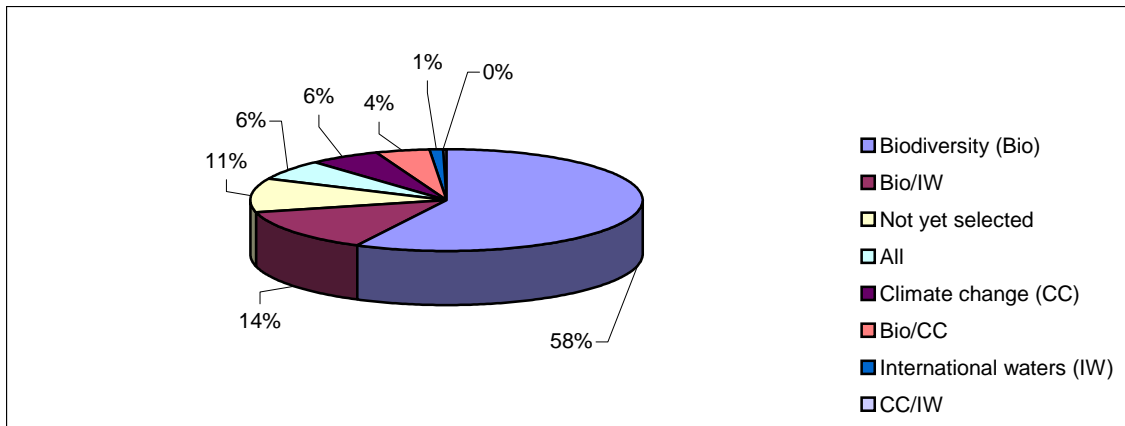


Source: On the basis of Global Environment Facility (GEF), *GEF Projects Database* (<http://www.undp.org/sgp/>).

a/ On the basis of groupings of projects (1991-2002).

Biodiversity and biodiversity-related projects receive the majority of the funding; within all the focal areas, emphasis rests on community participation, local capacity-building and environmental sustainability.

Figure II.29
LATIN AMERICA AND THE CARIBBEAN: RESOURCES ALLOCATED BY THE GLOBAL ENVIRONMENT FACILITY UNDER THE SMALL GRANTS PROGRAMME, BY FOCAL AREA a/
 (Percentages)



Source: On the basis of Global Environment Facility (GEF), *GEF Projects Database* (<http://www.undp.org/sgp/>).

a/ On the basis of groupings of projects (1991-2002).

New financial mechanisms under the Kyoto Protocol

The Kyoto Protocol offers new approaches to financing and investment for sustainable development. The Clean Development Mechanism (CDM) allows the developed countries to meet their targets for greenhouse gas emissions reduction at a lower cost than the equivalent investments required to bring about similar reductions on their own territory, while developing countries also have the opportunity to lower their carbon emissions while absorbing new investment and technology. The consolidation of this mechanism is yet to be concluded, however, and many issues remain unresolved with regard to the CDM, including the materialization of sufficient demand to stimulate a vigorous international market for emissions reduction projects.

In addition, the second part of the Sixth Session of the Conference of the Parties to the United Nations Framework Convention on Climate Change, held recently in Bonn, Germany, resolved to create a Special Climate Fund, which will be formed by voluntary contributions from the industrialized countries (those listed in annexes I and II of the Convention), and an Adaptation Fund, which will be created using a portion (2%) of sales of internationally certified emission reduction units (CERs) conducted through the flexibility mechanisms provided for in the Kyoto Protocol. The full potential of the Adaptation Fund will depend on the consolidation of a vigorous international market for emissions reduction activities through the CDM and other flexibility mechanisms under the Framework Convention.

The CDM is one of the flexibility mechanisms envisaged in the Kyoto Protocol, along with those provided for emissions trading and joint implementation. The purpose of these mechanisms is to allow the participants to benefit from opportunities to lower the overall costs of reducing greenhouse gas emissions by enabling different groups of countries to take part in the global effort to decrease emissions. These mechanisms allow the reductions to be made in countries where the marginal per-ton cost of decreasing

emissions is lower. CDM is the only instrument that enables developing countries to participate in the market for international emissions reduction projects (developing countries are not included in Annex B of the Kyoto Protocol³⁴ and have not undertaken emissions reduction commitments under the United Nations Framework Convention on Climate Change). In consequence, CDM is also the only instrument that offers a potential for raising new funding for Latin America and the Caribbean through the region's participation in that market.

The purpose of CDM is to create an international market in which Annex B countries can comply with a portion of their total emissions reduction commitments by means of projects aimed at reducing emissions in countries that have not undertaken such commitments. Investors in these sorts of CDM projects can earn CERs for the emission reductions achieved by their projects. CERs are thus the instruments that are to be traded on the international emissions market.

Box II.4

PIONEERING PROJECTS IN LATIN AMERICA

In 1996 Costa Rica and Norway signed a US\$ 2 million contract for carbon sequestration services, at US\$ 10 per ton, to offset equivalent emissions of greenhouse gases. The two countries agreed to collaborate on a joint implementation project which included reforestation and forestry conservation under a private forestry project, together with the reconstruction and expansion of a hydropower plant. Costa Rica signed this contract with a consortium of public and private Norwegian entities. The Government of Norway was to put up US\$ 1.7 million, to be raised from the carbon taxes levied on the private forestry project, in addition to US\$ 300,000 from private consortiums in Norway in exchange for 200,000 CERs.

The Noel Kempff Mercado project in Bolivia consists of the protection in perpetuity of the carbon sequestration services provided by 600,000 hectares of tropical forest, at a total cost of US\$ 9.6 million. The project was drawn up in 1996 by non-governmental agencies, with the support of the Bolivian Government. American Electric Power (AEP), Pacificorp and BP Amoco committed US\$ 7 million to the project. The terms of the contract do not guarantee the volume of emissions reduction to be achieved by the venture, as this will depend on the results of the monitoring systems and the success of the management programme. The potential carbon sequestration of an area such as this could be up to 55 million tons, however.

Another pioneering project, known as Ilumex, is being developed in Mexico by that country and the United States within the framework of a joint implementation arrangement. The project calls for the large-scale replacement of incandescent lamps with more energy-efficient fluorescent lighting. The resulting saving in electricity (equivalent to the emissions avoided in generating it) is translated into carbon offset certificates for the programme's sponsors covering a specified number of years. The sponsors' financial contribution to the project lowers the cost of acquiring and installing the fluorescent lamps.

Source: On the basis of United Nations Development Programme (UNDP), *Casos de Cambio Climático en 13 Países de Latinoamérica. Programa de Energía y Cambio Climático*, CD-ROM versión, 2000.

From a Latin American and Caribbean perspective, it is important to estimate the size of the potential CDM market in which the region could gain a share. Such an estimate necessarily depends on a series of assumptions for each scenario. Very broadly, before the United States decision to withdraw from the Kyoto Protocol, most studies pointed to a global emissions reduction by Annex B countries of 600 million-1.3 billion metric tons of carbon (MtC) per year in order to comply with the Kyoto target. This potential Annex B global emissions reduction under the Kyoto framework has been significantly undermined by this decision, since the United States represented roughly one third of the total reduction. Originally, it was estimated that some 400-900 MtC of this reduction could be channelled through flexibility mechanisms. The withdrawal of the United States from the Kyoto Protocol drives this estimate

³⁴ The countries listed in Annex B are basically industrialized countries and transition economies.

down into the lower range (200-250 MtC), since the demand for CDM projects will now presumably come mainly from Europe and Japan.

In order to arrive at an estimate of the aggregate demand that could be generated in the CDM market, it is necessary to subtract the portion of emissions reduction that would be absorbed by emissions trading and joint implementation (the flexibility mechanisms in which developing countries do not participate). The share of the CDM market that would go to countries such as China and India and other developing countries that have a strong potential as suppliers of low-cost CERs on the CDM market would also need to be deducted. A conservative estimate places the Latin American and Caribbean region's share in potential reductions via the established flexibility mechanisms at from 8% to 12%³⁵ in a scenario that does not include sink projects. If a conservative price-range estimate of between US\$ 10 and US\$ 20 per ton of certified emissions reduction is factored into the equation, this scenario would imply a potential market worth from US\$ 200 million to US\$ 500 million during the period covered by the commitments.³⁶ This tallies with the low range given below for estimates developed by the World Bank Programme for National Strategy Studies (NSS) on Climate Change.

Table II.5
LATIN AMERICA AND THE CARIBBEAN: ESTIMATED VOLUME OF
THE CLEAN DEVELOPMENT MECHANISM MARKET a/

	Total volume (MtC)	Volume ascribed to Brazil (MtC)	Exports (millions of dollars)	Exports by Brazil (millions of dollars)
Low estimate	31	1	400	10
Mid-level estimate	55	6	2,000	300
High estimate	103	22	3,400	880

Source: World Bank NSS/Grütter Consulting, using data from the Carbon Emissions Reduction Trade (CERT) Model.

a/ Estimates correspond to calculations made before the withdrawal of the United States from the Kyoto Protocol.

Generally speaking, it can be concluded that:

- Agenda 21 proposes the exploration of new ways to generate public and private financial resources. The last 10 years have seen some progress in the strengthening of concessional funds such as the Global Environment Facility and the Multilateral Fund of the Montreal Protocol, but existing resource allocations fall far short of the level needed to deal with global problems.
- In addition, very little headway has been made in the design of mechanisms for the creation of global environmental markets. Although Agenda 21 recommends that the possibility of issuing tradable permits be explored, the only legal instrument under which a protocol providing for specific financial mechanisms could be negotiated is the Framework Convention on Climate Change, and little or no progress has been made towards the development of precise financial mechanisms targeting the Biodiversity Convention or the Convention to Combat Desertification.

³⁵ See World Bank NSS/Grütter Consulting (2001).

³⁶ See (www.worldbank.org/prototype). The World Bank used a conservative price estimate of US\$ 20 to US\$ 30 per ton in the establishment of the Prototype Carbon Fund.

- Given its abundant natural capital, the region has much to offer in terms of public goods and trade in global environmental services, although the economic value of this potential is yet to be captured through appropriate international mechanisms. The steps taken to date have taken the form of pilot programmes which, although successful and promising, have not yet given rise to a solid or stable financing mechanism.
- The implementation of the Special Climate Fund, the Clean Development Mechanism and other flexibility mechanisms under the Framework Convention represent considerable opportunities for developing countries to diversify their comparative advantages towards the provision of global environmental services in keeping with the international environmental agenda. The creation of international markets enabling the capture of the economic value of global environmental services raises the possibility of new financial flows to countries that have major comparative advantages in terms of forests and biodiversity. As well as the potential to increase energy efficiency and absorb technology to contribute to global greenhouse gas emission reduction efforts.
- One of the region's most important assets is its biodiversity. It is therefore urgent that an integrated financing strategy be devised that will incorporate the mechanisms of the relevant conventions and protocols with a view to the valuation, conservation and proper administration of the region's biological diversity from the perspective of long-term sustainability.
- Many of these issues call for further reflection upon the role of regional and subregional institutions. A system based on a more effective inter-agency cooperative network encompassing all these areas would enable the region to make important strides towards more effective implementation of the international environmental agenda and towards meeting sustainable development targets without having to fight the tide of international economic trends.
- These reflections make for a rich agenda based on the mobilization of resources for dynamic sectors that use clean production methods, in which competitiveness is based on the accumulation of capital in the broad sense —human, natural and physical— and does not result in the degradation of natural capital. Such an agenda is therefore associated with technological innovation, training and production and financial management systems that incorporate the dimension of sustainability.³⁷

³⁷ See ECLAC (2000c, chapter 13).

III. TRENDS IN DOMESTIC FINANCING FOR SUSTAINABLE DEVELOPMENT

As discussed at the start of this document, in 1992 it was recognized that full implementation of Agenda 21 would require major funding,¹ most of which would have to come from the developing countries themselves, with contributions being made by the public and private sectors alike.

The report on financial resources and mechanisms submitted by the Secretary-General to the Commission on Sustainable Development at its eighth session analysed progress in mobilizing resources and deploying financial mechanisms. An examination of trends in domestic financing for sustainable development in developing countries since 1992 shows that funding for environmental management has primarily been drawn from general fiscal revenues.² Some countries have put in place environmental taxation instruments that have the potential to stimulate environmental protection and serve as self-financing mechanisms for specific purposes. In his report, the Secretary-General also noted that private expenditure was becoming increasingly important in some countries, although information on this was incomplete. The contents of the report clearly indicate that the incorporation of environmental criteria into domestic funding policies is still at a very early stage.

This chapter looks at trends in domestic funding for sustainable development from 1992 to the present. The analysis is divided into five sections: institutional changes relating to environmental management; methodologies and strategies for data collection to estimate public and private environmental expenditure and financing; trends in the countries' environmental spending and financing, as illustrated by seven case studies in selected countries of the region; the use of economic instruments; and the role of the private sector in financing environmental expenditure. This last section includes an examination of trends that have taken shape at the international level towards an improvement in the environmental performance of the private sector and towards the creation of new markets and business opportunities related to the environment. A great deal of attention is devoted to public-private partnership strategies aimed at fostering private-sector participation in environmental financing and investment. A number of ideas for building more comprehensive domestic strategies for funding sustainable development are presented. The application of such strategies would clearly require greater coordination among the different ministries, particularly those responsible for finance and the environment, and closer cooperation between the public and private sectors in undertaking long-term investments that are conducive to sustainability.

1. Institutional framework

Environmental management in Latin America and the Caribbean has developed considerably over the last 20 years. Since the 1972 United Nations Conference on the Human Environment in Stockholm, environmental issues have been addressed in the majority of development analyses and proposals put forward in the countries of the region. In all the countries, governments have, to a greater or lesser degree, incorporated environmental concerns into public administration, and this has resulted in policies based on a variety of legal and institutional initiatives. In the 1970s and 1980s, responsibility for environmental management was delegated to sectoral organizations, channeled through environmental agencies at the under-secretary or deputy minister level, or to specialized bodies linked to the health care, urban

¹ A total of about US\$ 600 billion per year (with US\$ 475 billion provided by developing countries).

² See United Nations, 2000c.

development or agricultural sectors. In some cases, environmental management was addressed from a planning perspective based on an intersectoral approach involving high-level advisers with close links to government bodies (e.g., councils, commissions or secretariats linked to planning ministries or presidential secretariats).

The shift towards modern environmental institutions in the region began with the Earth Summit in 1992, when most of the countries created ministries as the highest-level sectoral environmental authorities within the framework of a process intended to confer the comprehensive status on environmental management that it needed in order to be efficient. Two basic and contrasting environmental management strategies emerged and developed in different countries: one that treated the environment as a sector in its own right, and another that approached it as a cross-cutting issue (Bárcena, 2001). In the first case, the environmental body has ministerial status (see table III.1). In the second case, the multisectoral approach to environmental management has led countries to set up a collegiate body encompassing all the areas of public administration whose decisions impinge upon natural resources and the environment (ECLAC, 2000c).

Most national environmental organizations have been given responsibility for monitoring the sustainable development agenda. As these bodies are usually ministries or commissions, however, they tend to be burdened by an excessive number of jurisdictions and responsibilities relative to their capacities, which undermines their effectiveness (Bárcena, 2001).

The World Bank and IDB have recently carried out a number of evaluations of different ways of organizing public institutions for dealing with environmental issues. These assessments have revealed the fundamental importance of consolidating strong institutions in all three branches of the State in order to achieve environmental development and meet economic and social policy challenges. Accomplishing these objectives will require a determined effort to strengthen direct regulatory instruments (command and control). This reinforcement effort will have to encompass both reactive instruments (such as measures to combat pollution) and instruments of a preventive character (land and integrated water resources management, environmental impact assessments and programmes to encourage businesses to adopt clean production technologies).

In addition, in order to draw up any environmental policy or investment plan, whether public or private, information is needed on environmental problems and objectives, together with a quantification of the resources needed to tackle those difficulties and accomplish those goals, but information of this sort is not yet available in most countries of the region. The compilation of data on these subjects would make it possible to design strategies for mobilizing the funding needed for such disbursements and to establish financial mechanisms that would engage environmental management stakeholders in the public and private sectors.

The pace of change in the region's environmental institutions has prevented such proposals from being fully acted upon. The institutional learning process is still going on, and this, compounded in some cases by a lack of continuity between past and present approaches, complicates the quantitative analysis of environmental problems and naturally makes it much more difficult to monitor trends in domestic financing for sustainable development on a systematic basis.

Table III.1

LATIN AMERICA AND THE CARIBBEAN: TOP ENVIRONMENTAL AUTHORITIES AT THE NATIONAL LEVEL

Countries in which the maximum environmental authority is represented by a minister or official of similar rank	
Antigua and Barbuda	Ministry of Tourism, Culture and Environment
Argentina	Ministry of Social Development and Environment
Bahamas	Ministry of Agriculture and Fisheries
Barbados	Ministry of Environment, Energy and Natural Resources
Belize	Ministry of Natural Resources, the Environment and Industry
Bolivia	Ministry of Sustainable Development and Planning
Brazil	Ministry of the Environment
Colombia	Ministry of the Environment
Costa Rica	Ministry of the Environment and Energy
Cuba	Ministry of Science, Technology and the Environment
Dominica	Ministry of Agriculture and the Environment
Ecuador	Ministry of the Environment
El Salvador	Ministry of the Environment and Natural Resources
Grenada	Ministry of Health, Environment, Community Development and Cooperatives
Guatemala	Ministry of the Environment and Natural Resources
Guyana	Ministry of Health and Labour
Haiti	Ministry of the Environment
Honduras	Ministry of Natural Resources and the Environment
Jamaica	Ministry of Land and the Environment
Mexico	Ministry of the Environment and Natural Resources
Nicaragua	Ministry of the Environment and Natural Resources
Panama	National Environment Authority
Paraguay	Ministry of the Environment
Dominican Republic	Ministry of the Environment and Natural Resources
Saint Kitts and Nevis	Ministry of Health and the Environment
Saint Lucia	Ministry of Planning, Development, Environment and Housing
Saint Vincent and the Grenadines	Ministry of Health and the Environment
Suriname	Ministry of Labour, Technology and Environment
Trinidad and Tobago	Ministry of the Environment
Uruguay	Ministry of Housing, Regional Planning and the Environment
Venezuela	Ministry of the Environment and Renewable Natural Resources
Countries in which the top environmental authority is represented by a coordinating or collegiate body	
Chile	National Environment Commission
Peru	National Environment Council

Source: ECLAC, on the basis of United Nations Development Programme (UNDP), "Estudio comparativo de los diseños institucionales para la gestión ambiental en los países de América Latina", document presented at the Fourth Inter-Sessional Committee Meeting of the Forum of Ministers of the Environment of Latin America and the Caribbean (Lima, 2 October 1999), 1999; Guillermo Acuña, Marcos regulatorios e institucionales ambientales de América Latina y el Caribe en el contexto del proceso de reformas macroeconómicas: 1980-1990 (LC/R.2023), Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC), April 2000; and information provided by the United Nations Environment Programme (UNEP), "Puntos focales técnicos de medio ambiente de los países de América Latina y el Caribe", 2001 (<http://www.rolac.unep.mx/ForoALC/esp/>).

Nearly all the region's countries suffer from a general, or at least, an operational lack of statistics on environmental spending and investment, whether public or private. Moreover, where such statistics do exist, they are piecemeal and neither homogeneous nor compatible, which hinders comparative analyses across countries. Further obstacles that are often encountered have to do with confidentiality or with serious difficulties in obtaining information because of the low priority ascribed to environmental issues. While there are clearly difficulties at the national level, the possibility of obtaining disaggregated subnational information is practically nonexistent in many countries because such data is simply not available; this is a particularly important concern in view of the fact that environmental programmes are essentially implemented locally. Nonetheless, the following section provides a general overview of public and private expenditure on environmental management.

2. Public and private environmental expenditure and financing: data collection methodologies and strategies

Since the early 1990s, a number of countries and international organizations have been working on systems for measuring environmental expenditure. The Environmental Protection Expenditure Account is designed to register statistics that are indicative of a society's responses to environmental problems. Measuring each economy's financial exposure for environmental protection activities provides information that can then be used to evaluate how environmental protection costs influence international competitiveness, employment and the application of the "polluter pays" principle. Such measurements also provide inputs for cost-effect analyses of environment protection regulations and policies as well as for the design of economic instruments to support environmental protection. Furthermore, measuring the production and consumption of goods and services for environmental protection purposes provides some indication of the demand for goods and services generated by the "environmental management" industry. This industry, which, as of 2000, was estimated at US\$ 500 billion worldwide and which is growing by more than 3% each year (United States Department of Commerce, 2000), is seen as a source of trade opportunities by developed countries.

Most of these initiatives have been undertaken by developed countries based on the guidelines prepared by OECD and the European Statistical Agency (EUROSTAT), which have worked closely with the United Nations Statistical Division. In the methodology developed by EUROSTAT, the definition of what constitutes "environmental protection" is conceptually guided by the application of an "end purpose criterion", that is, environmental protection must be the main objective or reason behind the action in question. Actions which have a favorable impact on the environment but which serve other goals do not come under the heading of environmental protection. The scope of environmental protection is defined according to the Classification of Environmental Protection Activities (CEPA), which distinguishes nine different environmental domains. CEPA is designed to classify transactions and activities whose primary purpose is environmental protection. The management of natural resources (e.g., water supply) and the prevention of natural hazards (landslides, floods, etc.) are not included in CEPA, but it does include expenditure to protect biodiversity and landscape (UNSD, 2001).

Key components of the total economic resources that a country uses for protecting the environment are environmental domains (air, waste, water, etc.), sectors of the economy (government, enterprises, households, non-profit institutions) and types of expenditure (current and capital expenditure).

In considering different sectors of the economy, more experience has been gained in estimating government expenditure, both in developed and in developing countries. Government expenditure

includes not only allocations made by the central environmental authority (ministry or other agency) but also expenditure by other governmental institutions involved in environmental protection activities (e.g., activities financed by the Ministry of Agriculture aimed at reducing land degradation). Depending on the administrative structure of the country, environmental expenditures originating in governments between the central and local levels (e.g., states or provinces) may also need to be considered. In addition, local governments (municipalities and regions), which usually are responsible for providing wastewater management and waste collection and treatment services, complete the scope of government expenditure.

The main problems related to the collection and processing of data on government expenditures are the dispersion of environmental protection activities among many institutions at different administrative levels and, in particular, the difficulties involved in identifying and classifying government expenditure items according to CEPA. Because of these problems, although efforts are being made to measure government environmental expenditure in Latin America and the Caribbean, there are only a few cases in which the data are currently classified according to CEPA or could easily be adapted to it.

Less experience has been acquired in estimating industries' environmental expenditures, and almost all of the initiatives of this type have been undertaken in developed countries or transition economies (Central and Eastern Europe and the newly independent States of the former Soviet Union). In Latin America and the Caribbean, the Chilean National Institute of Statistics has recently been working in conjunction with one of the nation's business organizations on the measurement of private environmental expenditure.

The experiences of several developed countries (Australia, Canada, Japan, the Netherlands, Spain, Sweden and the United Kingdom) illustrate different approaches and degrees of development in the measurement of private environmental protection expenditure. Information on such expenditures is obtained through surveys, but in most cases these surveys are voluntary and their response rate is usually low.³ In some countries, only certain sectors (mining, energy, manufacturing, etc.), firms above a minimum size and/or selected environmental domains are covered. Given the existing limitations, it is widely recognized that these estimates are only indicative of broad orders of magnitude. Nevertheless, the results provide useful information on which sectors spend the most on environmental protection and which environmental domains (air, water, etc.) demand the most expenditure.

Environmental expenditure can be divided into operating and capital expenditures. The former includes the operating costs of a company's own environmental protection services as well as what it pays to other organizations for environmental protection services. It also includes the consumption of fixed capital (depreciation) related to environmental protection activities. The estimation of some operating expenditure items is straightforward; examples would include payments made to private producers such as environmental consultants and payments to public utilities for waste and wastewater collection and treatment. Other items, especially those related to a company's own operating costs, may present more difficulties; examples here would include expenditure on energy for environmental protection facilities or wages paid in connection with environmental protection operations.

Two main types of capital expenditure are generally distinguished: end-of-pipe and integrated investment. Examples of end-of-pipe investments include effluent treatment plants, settling tanks and solid waste compactors. Integrated investment expenditures relate to new or modified production facilities which have been designed so that environmental protection is an integral part of the production process.

³ In Canada and the Netherlands, it is compulsory for companies to complete environmental expenditure questionnaires.

In the case of the adaptation of an existing facility or process, the expenditure considered includes the total cost of adaptation. In the case of a new investment, there are two possible approaches: either to consider a specified share of the total investment or to consider the outlays over and above the cost of an investment that would have provided the same services with the exception of the environmental protection function. The latter procedure can be quite difficult.

The primary domains of household environmental expenditure are those related to the use of environmental services, such as payments for waste and wastewater services, and to the use of connected and adapted products (e.g., use of catalytic converters and mercury-free batteries, CFC-free products, unleaded petrol, etc.). Information about some of these expenditures can be obtained through household budget surveys, but the estimation of expenditure on connected and adapted products usually requires the use of other information sources, such as statistics on energy use, vehicle registration, markets estimates provided by trade associations, etc.

Environmental expenditure by non-profit institutions may be important in some countries. In developing countries, the environmental protection activities carried out by national and international environmental organizations mainly concern the protection of wild animals, preservation of forests and wetlands, etc. In several Latin American and Caribbean countries, some of these organizations are responsible for the management of various protected areas. The annual reports issued by non-profit institutions are the main source of information on this type of expenditure.

If statistics on expenditures by economic sector are to be aggregated in order to arrive at a total figure for national environmental protection expenditure, consideration must be given, on the one hand, to items of environmental expenditure that may have been counted twice (for example, expenditure on waste collection and treatment when these services are financed, either partially or entirely, by user charges) and, on the other hand, to transfers from one sector to another (for example, subsidies that reduce the prices paid by the users of environmental protection services or the cost of investments in environmental protection).

The results of these estimations (many of which are pilot exercises) in developed countries indicate that environmental protection expenditure amounts to around 2.3% of GDP in the European Union (estimates based on the results for eight countries), 1.6% in Australia and 2.4% in Japan. In terms of the CEPA environmental domains, wastewater management, waste management, and protection of ambient air and climate account for more than 85% of total environmental protection expenditure (EUROSTAT, 2002).

3. Expenditure and financing for environmental management: summary of case studies

The adjustment mechanism most frequently used in the region's economies in response to the 1982 debt crisis was to scale back public spending. Starting in the first half of the 1980s, spending cuts came as part of numerous stabilization and structural adjustment programmes designed to curtail fiscal expenditure. These programmes took a variety of forms, including conventional cuts in ministerial budgets; wage policies that reduced civil servants' real wages; closure of government agencies; privatization of public enterprises; transfer of responsibility for service provision to private agents; decentralization of fiscal responsibilities and authority to subnational governments; and various initiatives to reform public administration.⁴

⁴ For a fuller account of trends in public expenditure in the region, see ECLAC (1998, chapter IV).

This situation has had a severe impact on the budgets of environmental agencies. Both the level and the composition of public spending have been affected, as well as its distribution between levels of government, thus seriously undermining the public sector's capacity to control pollution and halt environmental deterioration in critical ecosystems. The effects have included a loss of skilled staff, who have migrated to the private sector, and a reorganization of the provision of environmental services, in particular the treatment of sewage and solid waste management.

Public-sector environmental budgets have fluctuated widely over the past decade and, in many recent cases, have tended to decline in step with public finances in general. This situation is compounded by a significant degree of fragility and a lack of continuity among environmental institutions. Generally speaking, budget deficits and the need to generate funds to meet external obligations have resulted in budget cuts that impinge particularly heavily upon environmental items.

To obtain a more detailed analysis of the situation in a number of the region's countries and an overview of trends in domestic financing for sustainable development, ECLAC and UNDP conducted an initial assessment based on seven case studies of Argentina, Brazil, Chile, Colombia, Costa Rica, Mexico, and Trinidad and Tobago.⁵

Although this document presents only a summary of these case studies, a preliminary record was prepared of environmental expenditure and investment in each of these countries, along with the corresponding funding sources. As far as possible, the effectiveness of their use was also appraised.

Each case study was conducted by compiling information and statistics intended to document and quantify the nature and trend of the public-sector environmental budget from the time that the Earth Summit was held in 1992 to the present, in addition to a preliminary assessment of private expenditure aimed at controlling environmental externalities. On the financing side, efforts were centred on quantifying domestic and international sources and the capacity to mobilize new funds, especially through economic instruments, with a view to bringing environmental management closer to a self-financing status.

A variety of different methodological problems were encountered, ranging from the classification of environmental protection activities—based on the Classification of Environmental Protection Activities and Expenditure (CEPA 2000) and discussions led by the United Nations Expert Group on Economic and Social Classifications—to problems of reconciling budgets between different levels of government. The application of a single methodology that is compatible across all countries of the region and among different government levels (national, regional and local) is key to achieving a systematic and homogeneous source of quantitative information in the future.

Several shortcomings in this initial approach to the subject can be identified, however. Firstly, environmental expenditure at the municipal level has barely been touched upon, and a great deal of research remains to be done in the private domain. Even so, each case study should be viewed as a stand-alone document providing a general overview of the actual situation in the country as it relates to the issues discussed and as a tool to facilitate policy recommendations and lay the foundations for delineating future environmental expenditure and funding strategies.⁶

⁵ The complete case studies will be published separately.

⁶ Clearly, it is methodologically difficult to draw comparisons between the different case studies. Any such comparisons must therefore be based on broad and flexible criteria, without reference to the specific figures.

Argentina

Until 1998, the Office of the President of the Republic and the Ministry of Economic Affairs and Public Works and Services were the public bodies responsible for the environmental budget in Argentina. In 1999, following amendments to the Ministries Act and changes in the jurisdiction under which certain programmes were implemented, environmental expenditure was centralized in the Office of the President. Currently, four agencies undertake environmental expenditures: the Office of the President (responsible for the National Parks Department), the Ministry of Social Development and Environment, the Ministry of Infrastructure and Housing, and the Cabinet Office.

Considering only those expenditures which can be classified on the basis of the available information as clearly being environmentally-related, it is estimated that national and provincial public agencies' actual outlays on the environment in Argentina amounted to US\$ 440 million in 2000 (US\$ 12 per capita), which was equivalent to 0.6% of total public expenditure by both levels of government, and to 0.15% of national GDP (see table III.2).

Table III.2
ARGENTINA: ENVIRONMENTAL EXPENDITURE BY THE NATIONAL AND PROVINCIAL PUBLIC SECTORS

Year	Millions of pesos at current prices	Millions of pesos at constant prices a/	Annual percentage variation b/	Environmental expenditure per capita (US\$) b/	Percentage of national/provincial public expenditure	Percentage of GDP
1994	371	371	n.a.	11	0.6	0.14
1995	392	404	9	12	0.6	0.15
1996	310	319	-21	9	0.5	0.11
1997	303	311	-3	9	0.4	0.10
1998	393	396	27	11	0.6	0.13
1999	523	517	31	14	0.8	0.18
2000	439	439	-15	12	0.6	0.15

Source: Daniel Chudnovsky and Andrés López, *Gasto, inversión y financiamiento para el desarrollo sostenible en Argentina*, Medio ambiente y desarrollo series, No. 52 (LC/L.1758-P), Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC), June 2002. United Nations publication, Sales No. S.02.II.G.70.

a/ Deflated by the implicit GDP price index.

b/ Calculated on the basis of constant values.

Environmental expenditure levels varied significantly during the period 1994-2000, ranging from a minimum of US\$ 303 million in 1997 to a maximum of US\$ 532 million in 1999 (which represented a rise from 0.4% to 0.8% of total national and provincial expenditure between those two years), before dropping back in 2000 to the levels mentioned in the previous paragraph.

Including estimates for municipal spending, for which reliable figures exist only up to 1997 (making it necessary to extrapolate figures up to 2000), it can be concluded that total public expenditure on the environment by the Argentine public sector in 2000 amounted to US\$ 1.43 billion. In view of the problems encountered with respect to the availability of information, it is likely that these figures represent minimum values.

In 2001, Argentina found itself in a critical economic situation which dealt a severe blow to the public budget. This situation's impact on the environmental budget was particularly strong. Thus, although environmental budget allocations at the national level amounted to more than \$Arg 67 million in

2001, only \$Arg 38 million were executed. This represents a 43% cut for the year, in comparison to the 8% reduction registered between total budgetary allocations and final total budget executions. This prevented 2001 from being one of the years with the highest relative and absolute national environmental spending levels, with environmental expenditure falling to around 0.08% of total expenditure at the national level, which was equivalent to the low point recorded in the period 1994-2001 and far below the 0.12% posted in 2000. The situation seems to have been similar at the regional and local levels.

No estimates of private-sector expenditure on the environment are available for Argentina. The only available data source is the Argentine Business Council for Sustainable Development (CEADS), which encompasses 38 business groups representing about 25% of total sales of the 1,000 largest Argentine firms. Under certain assumptions, and extrapolating the expenditure reported by these firms, private-sector expenditure on the environment in Argentina is likely to have been about US\$ 480 million in 2000.

Based on these figures, it can be assumed that about 0.67% of GDP is currently spent on the environment in Argentina (slightly more than US\$ 1.9 billion per year, or just over US\$ 50 per capita). The bulk of this expenditure takes place at the municipal level (heavily concentrated in waste collection), followed by the provinces, with marginal participation by the national government and increasing involvement of the private sector (which in 2000 may have accounted for as much as one quarter of total expenditure).

Although these figures must be approached with caution, Argentina's total environmental expenditure time series remains flat between 1994 and 1997 (around US\$ 1.4 billion), then climbs to over US\$ 1.6 billion in 1998 and more than US\$ 1.9 billion in 1999 and 2000. Environmental expenditure thus rose from 0.5% of GDP in 1997 to almost 0.7% in 2000.

An international comparison shows that, while expenditure in Argentina is predictably lower than the average figure recorded in developed countries, the percentage of GDP allocated to the environment by the public sector is not significantly different from the percentage allocated by a number of European countries and is not far below the corresponding figure for the United States or Canada.

Classification of environmental expenditure by use proved possible only at the national level, where just over 23% of outlays went to liquid waste management and the protection of natural and semi-natural areas. Research and development activities accounted for about 13% of total expenditure, with protection and restoration of soil and water resources absorbing a further 12.5%. Nonetheless, as mentioned above, the bulk of public spending is carried out at the provincial and municipal levels, and it was not possible to classify this expenditure. Even so, it is worth noting that municipalities spend between US\$ 800 million and US\$ 900 million every year on waste collection, which is far more than the figure of US\$ 140 million on which the above expenditure classification was based.

Based exclusively on environmental expenditure at the national level, the following observations can be made:

- (i) Three government areas currently account for the majority of environmental expenditure: the National Parks Department (41% in 2000), the Ministry of Social Development and Environment (35%) and the Ministry of Infrastructure and Housing (23%).
- (ii) Investment absorbs a small proportion of total expenditure (14% on average in 1994-2001).

As regards the regional distribution within Argentina of funds allocated to the environment, those originating at the national level are used mostly in the city of Buenos Aires—owing to the concentration of the relevant bureaucratic and administrative functions there— apart from expenditure on natural parks, which obviously occurs in the provinces in which they are located. It is difficult to make well-founded comparisons of provincial and municipal expenditure on the basis of the available information, however, given the different criteria that may be applied to the classification of such outlays.

The National Treasury finances the bulk of expenditure, with external financing (mainly loans) accounting for an average of 14% per year, although the relative share of this type of financing trended upward throughout the period analysed, except in 2000 (see table III.3).

Table III.3
**ARGENTINA: ENVIRONMENTAL EXPENDITURE BY THE NATIONAL PUBLIC SECTOR,
 BY FINANCING SOURCE, 1995-2001**

Year	Domestic financing		External financing		Total	
	Millions of dollars	%	Millions of dollars	%	Millions of dollars	%
1995	48.1	94	2.9	6	50.9	100
1996	53.6	90	6.1	10	59.8	100
1997	51.6	87	7.7	13	59.3	100
1998	61.4	85	10.6	15	72.1	100
1999	48.9	83	9.8	17	58.7	100
2000	40.0	91	4.0	9	44.0	100
2001	51.9	78	14.6	22	66.5	100
Total	355.4	86	55.9	14	411.3	100

Source: Daniel Chudnovsky and Andrés López, *Gasto, inversión y financiamiento para el desarrollo sostenible en Argentina*, Medio ambiente y desarrollo series, No. 52 (LC/L.1758-P), Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC), June, 2002. United Nations publications, Sales No. S.02.II.G.70.

The only economic instrument for environmental management is an annual fee that hazardous waste generators and operators must pay under the provisions of Hazardous Waste Federal Act No. 24.051, which was enacted in 1992. In the first half of 2001, this fee yielded just under US\$ 440,000 in revenue. Several provinces also keep their own records, with specific regulations in some cases, and levy their own fees.

Clearly, in the future it will be necessary to take steps to improve the quality and accuracy of information on environmental expenditure in the public sector—at different government levels—and in the private sector. The estimates given here are intended as a first step towards quantifying that expenditure.

There are no figures available in Argentina on which to base an evaluation of the efficiency or effectiveness of environmental spending, a shortcoming that is shared by other areas of public expenditure in the country. The development of indicators and methodologies for such an evaluation would be highly useful, together with the compilation of reliable data on environmental pollution at the national, provincial and municipal levels that would cover private-sector firms as well.

Brazil

Brazil has a highly decentralized public administration comprising three independent levels: the federal government, 27 federated states with their own governments and over 5,000 municipalities, all of which have their own environmental institutions⁷. However, at the time of writing, no aggregate information was available on these different institutional levels for 1992-2001.⁸

Despite the many methodological problems involved in the development of these indicators, it was possible to identify trends in environmental spending and to draw a number of conclusions in this connection. At the level of the federal government, the environment is thought to have accounted for between 0.4% and 1.4% of budgeted federal expenditure between 1993 and 2001. This means that overall federal government expenditure on environmental issues did not increase during 1993-2000. Upon examining the actual execution of environmental expenditure, these figures shrink substantially; in recent years environmental allocations have been cut by 25%, which may hamper planning efforts and long-term actions (see table III.4). Another matter of concern is the declining quality of this spending, with fewer resources directed to end purpose activities and more money diverted to “means-expenditures” (administrative costs, social security payments, financial operations and so forth). A very important factor in this situation is the growing share of the total budget going to debt-related expenditure (interest payments and amortization). On the other hand, investment has been cut back, particularly in recent years, and has exhibited sharp fluctuations (after reaching 28.9% of the budget in 1998, it fell to 9.1% in 1999). Finally, expenditures on personnel fell steadily —by a total of 25% in constant prices— during the second half of the 1990s.

Aggregate information is required for the municipal or state level, but budgetary and control methodologies differ widely, which makes it difficult to arrive at compatible aggregate figures. The three states that were analysed (São Paulo, Paraná and Rio Grande do Sul) did not display any clear trends that would suggest an increase in expenditure on environmental projects; the difficulty of separating expenditure on water supply and sanitation services further complicates the analysis. In any event, whether water management is included or not, expenditure trends do not differ greatly. Results for 1996-1998 show that, if sanitation costs are included (an overestimate, since the figures also include water supply), local governments’ environmental expenditure levels are relatively higher: around 9% of total public spending in the sample of municipalities used in this study. State governments are in second place, spending around 1.5% of their budget on environmental issues, whereas the federal government spends less than 1%. The estimated range of environmental expenditure is from 1% to 3% of total state budgets. It was not possible to calculate expenditures at the municipal level for 1992-2000, but approximate estimates suggest that waste collection and disposal —the main environmental activity conducted by municipalities— accounts for around R\$ 1.8 billion per year (about US\$ 720 million).

⁷ The Brazilian Constitution distributes environmental functions among all levels of government. Brazilian legislation has also regulated environmentally threatening activities and established the right of federal and state prosecutors to represent community interests and to charge authorities, enterprises or individuals for any damage (including potential damage) on the basis of legal procedures/regulations on environmental issues. This institutional structure is exerting growing pressure on government and the production sector to safeguard the environment and invest in environmental activities.

⁸ The Brazilian Geographical and Statistical Institute (IBGE) has published estimates of public spending for 1996-1998 period (IBGE 2001). Whenever relevant, these figures were also used in the analysis, but the reader is warned that they were obtained using different methodological procedures.

Table III.4

BRAZIL: EXPENDITURE ON ENVIRONMENTAL ACTIVITIES AS A PROPORTION OF THE FEDERAL BUDGET
(Thousands of reais, at average 2001 prices)

	A. Direct adminis- tration	B. IBAMA a/	C. FNMA b/	D. ANA c/	E. Total MMA d/ (A+B+C+D)	F. Other ministries e/	Total authorized expenditure (E+F)	% of federal budget	Total expenditure executed	% of federal budget
1993	147 459	587 453	16 435		751 346	913 877	1 665 223	0.5	n.a.	n.a.
1994	375 058	409 876	22 158		807 092	956 520	1 763 612	0.4	n.a.	n.a.
1995	376 497	609 881	19 634		1 006 012	954 555	1 960 567	0.7	671 494	0.3
1996	544 903	537 838	16 181		1 098 921	54 449	1 153 370	0.5	840 795	0.4
1997	526 745	546 971	14 346		1 088 062	77 028	1 165 090	0.4	912 091	0.4
1998	688 635	560 613	20 104		1 269 352	36 207	1 305 560	0.4	1 005 488	0.4
1999	418 005	483 823	9 786		911 614	50 662	962 276	0.3	835 293	0.3
2000	361 233	585 842	29 861		976 937	1 001 132	1 978 068	0.7	1 298 690	0.5
2001	355 767	562 085	46 200	243 291	1 207 343	2 639 219	3 846 562	1.4	n.a.	n.a.

Source: Carlos Eduardo Young and Carlos Alberto Roncisvalle, "Gasto, inversión y financiamiento para el desarrollo sostenible en Brasil", ECLAC/UNDP Project on financing for environmentally sustainable development, September 2002, forthcoming.

a/ Brazilian Institute for the Environment and Renewable Resources.

b/ National Fund for the Environment.

c/ National Water Agency, created in 2000.

d/ Ministry of the Environment.

e/ Preliminary figures.

n.a.: Not available.

There appears to be solid evidence that the private sector is showing greater concern with respect to environmental issues, especially among stakeholders with international interests or responsibilities.⁹ Environmental expenditure by industry is estimated at about R\$ 160 million per year (US\$ 64 million), which is equivalent to just under 1% of sectoral value added. Although this figure is expected to increase in the future, it is still well below the level of environmental expenditure in the public sector.

It is very difficult to aggregate all these figures, but assuming that public spending on environmental issues amounted to 1.5% of total expenditure in the year 2000, then public environmental spending would be equivalent to 0.33% of GDP, while annual per capita expenditure would be R\$ 22.9 per capita (US\$ 9.2 per capita). If estimated industrial environmental spending (R\$ 160 million) is added, then total expenditure comes to R\$ 4.1 billion (0.34% of GDP), or R\$ 23.9 per capita (US\$ 9.6 per capita).

External financing for public-sector environmental expenditure has been trending downward since 1994, fluctuating between 6% and 17% of the total. Even so, environmental projects are the largest single component in Brazil's international cooperation agreements, representing 40% of total bilateral cooperation and 28% of total multilateral cooperation. Most of such financing comes in the form of external loans, which in the long run will exert additional financial pressure on the overall environmental budget. In 2000, the share of total expenditure funded by international grants fell to its lowest level in the period under analysis (2.0%); thus, after reaching R\$ 30 million (at 2001 prices) in 1996, in 2000 donations were less than half that amount (R\$ 14.7 million), which was a clear indication of decreasing international support for environmental projects in Brazil. Moreover, this external financing has tended to focus on issues that are priority items on the international agenda (mainly relating to the "green agenda")

⁹ See table II.3.

and the Amazon Basin). Regions with large populations of low-income families who are directly dependent on the environment for their livelihood are thus, in comparative terms, deprived of such financing.

The bulk of the financing provided for environmental projects comes from three sources: the government (mainly federal, channeled through the National Bank for Economic and Social Development (BNDES));¹⁰ international development agencies; and firms' internally generated funds. The private financial sector plays a small role in funding environmental expenditure (less than 20% of total environmental investment), although here, too, there have been promising developments, with the creation of innovative private funds specializing in environmentally-friendly projects that combine financial and "green" interests. The consolidation of economic instruments in international environmental agreements, especially the Kyoto Protocol of the United Nations Framework Convention on Climate Change, could speed up the development of this new financial market.

Another potential source of funding for environmental projects is related to the implementation of economic instruments in the environmental management system. Command-and-control procedures, such as licensing and emissions standards, largely dominate the environmental regulatory system in Brazil. However, some interesting initiatives, such as the "green" tax on the circulation of goods and services (*ICMS-Ecológico*)¹¹ and recent changes in the water resources policy involving the "user/polluter pays" principle, indicate that the role of economic instruments will increase and, consequently, that there is potential for developing self-sustained financial mechanisms to fund environmental expenditures.

Chile

During the first half of the 1990s, a national environmental management system was established by means of legislation intended to consolidate all environmental definitions, principles, criteria and regular basic procedures—which until then had been inconsistent and piecemeal—into a single framework law. The resulting General Environment Act (Law No. 19.300) has been in force since 1994. This legislation provided for the creation of the National Environment Commission (CONAMA), which reports directly to the Office of the Minister-Secretary General of the Presidency. This law also established the necessary instruments for efficient environmental management, but without eliminating ministerial or public-utility jurisdictions.

The characteristics of the system are such that public environmental expenditure is not channelled through the environmental agency of the executive branch, but is instead conducted through budgetary programmes that are executed and financed by the different ministries having jurisdiction over matters related to the environment, with the amounts involved being commensurate with the nature and responsibilities of each.

Public expenditure estimates for 1992-2001 are primarily drawn from information provided by the Budgetary Affairs Bureau (DIPRES) of the Ministry of Finance for a number of CONAMA budgetary items; the Ministries of Economic Affairs and Mining; and the National Forestry Corporation (CONAF) of the Ministry of Agriculture. This information affords only a very restricted view of public expenditure on the environment in Chile, however.

¹⁰ Other federal banks, such as Banco do Nordeste, Banco da Amazônia and Banco do Brasil also maintain related credit lines for environmental actions.

¹¹ See section III.4 (a).

Public-sector environmental expenditure in these categories rose considerably during the period covered by the study (for the most part, from 1995 onward). Expenditure actually executed—which the available information suggests should be treated as a minimum figure—increased from Ch\$ 230 million (US\$ 300,000) in 1990 to Ch\$ 10.596 billion (US\$ 19.6 million) in 2000, measured at constant 2000 prices. This represents a nearly 50-fold increase in real terms. Institutional changes in the 1990s make it recommendable to consider a broader array of public institutions in assessing environmental expenditure, however. If this were to be done, then the 1990-2001 increase would be reduced to a factor of around 2.5.

Based on studies by Rifo (1999) and Focus (2000), and subject to a number of adjustments for 2001, public environmental expenditure in 1998-2001, measured at constant 2000 prices, rose from about Ch\$ 147 billion in 1998 to Ch\$ 157 billion in 1999 and to Ch\$ 166 billion in 2000 (about US\$ 300 million). The figure budgeted for 2001 was Ch\$ 169 billion (approximately US\$ 285 million),¹² or nearly US\$ 20 per capita.

Environmental spending in 1999 and 2000 was almost evenly split between current expenditure and investment, with the latter accounting for 48% and 49% in those two years. Environmental expenditure accounted for 1.85% and 1.86% of the overall public-sector budget in 1999 and 2000, respectively. Annual State expenditure on the environment was just 0.48% of GDP.

The bulk of this expenditure—between 40% and 50% in 1999-2001—goes to the CEPA 2000 category of “Other environmental protection activities”, which includes general administrative outlays together with environmental management, education and training. This category is followed in terms of expenditure allocation by “waste management”, “protection of biodiversity and landscape” and “protection and remediation of soil, groundwater and surface water.” This last category rose from fourth place in 1999 to second in 2000. These four categories together accounted for over 90% of public-sector environmental expenditure in 1999-2001.

A significant portion of public-sector environmental expenditure is conducted by State-owned firms. In 1998-1999, the leading State-owned enterprises spent close to Ch\$ 325 billion (US\$ 642 million) on environmental management. The enterprises involved included the National Copper Corporation (CODELCO), the National Mining Corporation (ENAMI), the National Petroleum Corporation (ENAP) and the country’s various water companies, none of which had been privatized at that time.

Between 1990 and 2000, environmental expenditure by CODELCO rose considerably, with a particularly sharp increase beginning in 1994 that brought it to a peak level of nearly US\$ 196 million in 1998. Thereafter, however, the Corporation’s expenditure fell drastically, dropping to US\$ 67.3 million in 2000, which was even lower than the 1995 figure.

The tightening of environmental legislation during the 1990s entailed a series of regulations that have tended to translate into major disbursements for business enterprises. This includes the implementation of the environmental impact assessment system (SEIA), which has represented a source of additional expenditure for firms undertaking new projects, particularly since 1997 when this regulation became compulsory. Assuming that environmental assessments for projects subject to SEIA adds 1% to total project costs (a figure that has been widely quoted), then expenditure on studies would be on the

¹² The depreciation of the peso against the dollar in 2001 distorts the rising trend of environmental expenditure when expressed in dollars.

order of US\$ 483 million in 1992-2001. As much as 92% of that expenditure corresponded to projects that came under SEIA regulation after 1995.

Financing for public environmental programmes has come from a variety of sources, with the bulk of funds originating in the public-sector. International cooperation, which is channeled through the International Cooperation Agency (AGCI), contributed no more than US\$ 110 million to public-sector environmental expenditure in 1990-2000. International cooperation funded between 3% and 8% of public-sector environmental expenditure in 1999, for example.

The civil society and NGO sector is financed mainly through the Environmental Protection Fund operated by CONAMA, which is supported by contributions from the Americas Fund—financed by interest-rate swaps on debt with the United States—and international cooperation funds channelled through AGCI. Total disbursements by these funds in 1991-2000 amounted to US\$ 36.8 million, albeit with wide fluctuations during that period.

Given that between 25% and 50% of funding for projects executed by beneficiary organizations is provided by the beneficiaries themselves, the civil society and NGO sector's environmental expenditure can be estimated as increasing from between US\$ 4.7 and US\$ 7.1 million in 1991 to between US\$ 7.3 and US\$ 11.0 million in 1999, for a rise of 55%. Total investment by the non-commercial private sector is calculated to have amounted to between US\$ 43.5 and US\$ 65.2 million in 1991-2000.

Colombia

Over the past decade, Colombia has centred its efforts on the organization and initial strengthening of an institutional system designed to promote environmental goals. Just over 45% of environmental operating and investment expenditures were used to set up this specialized institutional framework. Act No. 99 of 1993 established the National Environmental System (SINA), which has a decentralized, democratic and participatory structure and is responsible for the country's environmental management. The system is expected to operate on the basis of coordinated and decentralized action by local and regional authorities, with participation by ethnic groups and the citizenry at large, in order to promote environmentally, economically and socially sustainable development in the country.

Operational and investment expenditure by specialized environmental agencies (Ministry of the Environment, autonomous regional corporations,¹³ the Special Administrative Unit of the Natural Parks System, and research institutes) totalled about US\$ 2.4 billion in 1995-2001. Expenditure grew significantly between 1994 and 1995 in the wake of institutional reforms introduced in 1993. In 1998, transfers from the national budget to the Ministry of the Environment accounted for about 1.5% of the total.

According to official estimates, environmental expenditure accounted for around 1% of GDP in 1995 (Colombia's financing strategy for environmental investment places the target level at 2.7% of GDP). This was distributed fairly evenly, with about one third each for the specialized official sector, the

¹³ The key functions of autonomous regional corporations are based on their status as environmental authorities in their field of jurisdiction: technical consultants to territorial organizations and executors of national policies through management and investment plans. Their management councils consist of representatives of national and departmental governments, the municipalities in their area of jurisdiction, business sectors, citizens' organizations active in the environmental field and ethnic minorities living in each region.

non-specialized official sector and the private sector (including communities, civil society, production sectors and so forth). On the assumption that the relative contributions of the sectors remained constant, Colombia's environmental expenditure during 1995-2001 can be estimated to have exceeded US\$ 7 billion.

Current expenditure by specialized agencies in the environmental system was budgeted at Col\$ 203.6 billion for 2001 (over US\$ 87 million), of which 70% was earmarked for the operations of autonomous regional corporations and about 26% for the Ministry of the Environment and the five research institutes. The Special Administrative Unit of the National Parks System receives just over Col\$ 7 billion, or US\$ 3.2 million. The composition of operating expenditure by type of outlay varies significantly from one entity to another. National contributions for the operation of the specialized bodies in SINA mainly tend to finance payroll costs (65%), with general expenses and current transfers accounting for similar proportions (17%) of the remainder.

Between 1995 and 2001, specialized agencies in SINA invested mainly in instrumental action initiatives —mostly institution-building— and in water improvement programmes (which accounted for over 60% of the total). Among the non-specialized public bodies, the largest investments were in water improvement, protection of strategic ecosystems and improvements in cities and settlements, with the first two categories absorbing 76% of total expenditure by these agencies. Private-sector investment went mainly to clean production (73.4%) and water improvement (5.8%).

In 1990-1999, 73% of the total environmental investment funded from the national budget was undertaken by environmental agencies, mostly autonomous regional corporations (54%). The management council (*Dirección Superior*) channelled 18% of investment funding, including contributions for research institutes and foreign loans obtained by the regional corporations.

The financing structure of SINA comprises a variety of instruments and funding sources for the national, regional and municipal public and private sectors. The composition of official domestic sources of investment financing changed between 1995 and 1998; allocations from the national budget accounted for a smaller proportion of the total, whereas incomes earned by the corporations and the National Royalties Fund trended upwards. This is consistent with a decentralized regime (see table III.5).

Incomes earned by autonomous regional corporations and urban environmental authorities, which are the system's most stable and significant revenue sources, include: a share in the property tax levied by the municipalities; capital funds; a percentage of sales revenue earned by electricity generating companies (the corporations have a legal right to 3% of gross sales by hydroelectric plants and 1.5% in the case of thermal generators); revenues from the sale of goods and services; fines, compensatory levies and interagency agreements. The bulk of these receipts derive from the property tax and capital resources (75% of total internally generated revenue), both of which are influenced by the pace of economic activity in the various regions of the country. Even taking into account the state of their natural resources and pressure on them, revenues are concentrated in the corporations of five regions that have high population density and income levels.

For the period 1998-2007, the range of instruments to be used to obtain resources, together with budgetary contributions from specialized bodies, point to a continuation of the current trend of revenues as a percentage of GDP, and there is no reason to expect any radical change in funding levels.

Table III.5
COLOMBIA: GENERAL STRUCTURE OF OFFICIAL DOMESTIC SOURCES OF FINANCING FOR ENVIRONMENTAL INVESTMENT
(Thousands of Colombian pesos at constant 2000 prices)

Year of application	Transfers from national budget SINA	Income earned by autonomous regional corporations	National Royalties Fund	Sectoral	Total
1990	125.1	125.9	-	35.4	286.5
1991	86.6	90.7	-	28.8	206.2
1992	61.8	104.9	-	37.6	204.4
1993	53.8	65.7	-	35.7	155.3
1994	65.4	75.6	-	50.2	191.3
1995	224.4	302.6	97.2	45.5	669.9
1996	185.6	321.9	109.9	12.0	629.5
1997	163.9	353.9	97.4	28.4	643.8
1998	78.2	398.0	36.9	5.1	518.4
1999	70.3	306.4	149.0	18.3	544.1
2000	44.4	295.6	134.4	1.2	475.8
2001	62.2	294.8	77.7	1.3	436.2
2002	42.3	281.9	98.0	1.0	423.3
Total	1,264.6	3,018.5	801.0	301.1	5,385.3

Source: Alberto Galán and Francisco Javier Canal, "Gasto, inversión y financiamiento para el desarrollo sostenible en Colombia", ECLAC/UNDP Project on financing for environmentally sustainable development," September 2002, forthcoming.

As regards external financing, loans received by Colombia from multilateral banks and bilateral and multilateral cooperation agencies account for under 10% of the total financing provided to the country over the last 10 years.

Colombia does not have the necessary analytical tools to conduct a rigorous monitoring of expenditure on environmental policy. This is made clear by an examination of the reports filed by the national government and the Comptroller-General of the Republic on the status of the environment in the country, which lack well-founded baselines and simply report on the progress made towards established targets. This is also true of the annual and triennial reports submitted by autonomous corporations and urban environmental units, which generally do not include an analysis of the effectiveness of expenditure, the relevance of targets, the comparative impact of different expenditure lines or means of achieving more effective results with the resources available.

National planning and policy-making bodies, together with regional entities, are working to develop tools for the analysis and rationalization of expenditure. The measures that have been adopted are diverse and have not yet been structured to systematically ensure the best possible allocation of available resources.

Costa Rica

The results for Costa Rica were drawn from a survey of central government institutions and non-governmental organizations, together with research and teaching centres, trade associations and other bodies. This information was supplemented with data generated from other studies and public sources. It

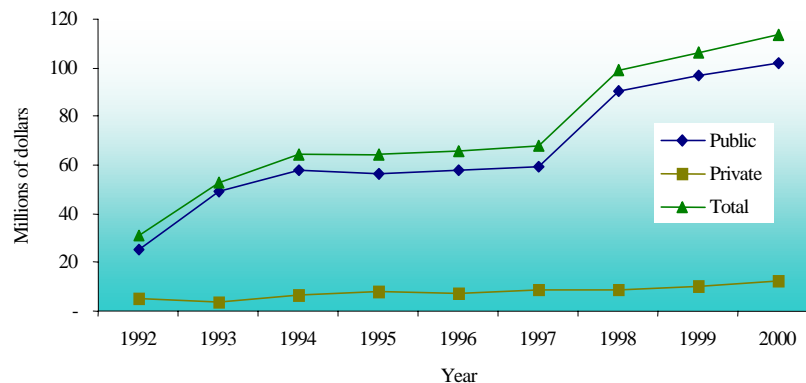
was not possible to compile information of the desired scope for the domestic production sector, which is thus insufficiently represented in the results obtained.

According to the results of the survey, total expenditure on the environment in Costa Rica amounted to US\$ 663.87 million in 1992-2000, of which US\$ 594.32 million corresponds to the public sector and US\$ 69.55 million to private institutions. Environmental expenditure in Costa Rica trended upward during the period under study, with expenditure of over US\$ 100 million per year over the last three years. In 1992, just under 1% of government expenditure was used for environmental purposes, but this figure had risen to nearly 4.5% by 2000, or about 0.64% of GDP. Total environmental expenditure (although the private sector is greatly underestimated) was probably equivalent to about 0.72% of GDP by the end of the decade. In per capita terms, environmental spending increased from US\$ 9.51 in 1992 to US\$ 31.41 in 2000 (at 2000 prices) with an average for the period of US\$ 21.57 per capita.

The main targets of expenditure were forest ecosystems, water, waste treatment and soils. Investment in the conservation of forest and non-forest ecosystems has helped to secure a flow of various environmental goods and services of benefit to society. This helps to reduce the risks involved in production activities that are highly dependent on raw materials obtained from the natural resource base.

Of the total expenditure actually undertaken, 45.31% was classified as current expenditure and 18.96% as investment, leaving 35.72% of total expenditure unclassified. This was attributable to the fact that no explicit accounts are kept on the different types of environmental expenditures.

Figure III.1
COSTA RICA: ENVIRONMENTAL EXPENDITURE
(At constant 2000 prices)



Source: Gerardo Barrantes, "Gasto, inversión y financiamiento para el desarrollo sostenible en Costa Rica", ECLAC/UNDP Project on financing for environmentally sustainable development, August 2002, forthcoming.

Environmental expenditure was financed largely from domestic sources (65.18%), with only 7.86% being identified as externally funded. Unidentified sources accounted for a significant proportion of expenditure (26.96%), although this figure has been declining steadily. These expenditures reflect the country's concern about environmental issues, which is probably the main reason for the considerable international prestige Costa Rica enjoys in the field of nature conservation today.

Environmental investment in the country has made it possible to reduce deforestation substantially. Forest cover has been restored in degraded areas and there is a more widespread awareness of the need to conserve biodiversity and of the environmental problems that affect it.

Costa Rica has made use of a system of payments for environmental services since 1997, under which forest owners are free to apply to the corresponding institutions to have their land included in this programme. The success of this initiative can be gauged from the fact that, between 1997 and 2000, the institutions responsible for environmental service payments were able to meet only 34.05% of the demand (258,928 hectares). Of the total surface area incorporated under the initiative thus far, 86.02% has been for forest protection, 5.74% for reforestation and 8.25% for forestry management. Resources earmarked to pay for environmental services amounted to US\$ 46.72 million, for which the main source of financing is a selective tax on domestic hydrocarbon consumption; a small fraction is funded externally.

Mexico

In late 1994, the Secretariat of the Environment, Natural Resources and Fisheries (SEMARNAP) was created, thus conferring ministerial status on environmental management for the first time at the federal level. The management of environmental affairs had previously been the responsibility of ministries whose main objectives lay in other areas, or had been distributed among various different organs. In late 2000, responsibility for fisheries was transferred to the Secretariat of Agriculture, Livestock, Rural Development, Fisheries and Food (SAGARPA) and SEMARNAP became the Secretariat of the Environment and Natural Resources (SEMARNAT).¹⁴

Total expenditure by SEMARNAT in 2000 amounted to Mx\$ 14.8 billion, or approximately US\$ 1.596 billion (see table III.6). Not all this expenditure can be classified as environmental expenditure, however. The bulk of the Secretariat's budget is allocated to the National Water Commission (CNA), which is responsible for managing the country's water resources, and only a relatively small proportion of the agency's expenditures are allocated to environmental preservation or protection.¹⁵

Item 14 of the Public Account corresponds to "environment and natural resources". Outlays on this item by SEMARNAT and Petróleos Mexicanos (PEMEX) amounted to Mx\$ 10.4 billion in 2000, which was equivalent to approximately US\$ 1.1 billion. PEMEX is the only federal agency besides SEMARNAT to have an expenditure item for "environment and natural resources".¹⁶ Although other areas of government have programmes with an environmental component, their main objectives are not environmental and they therefore figure under different areas of the Public Account. Consequently, even if the overall expenditure on those programmes were known, it would be difficult to identify outlays on environmental components. However, since the federal government conducts most of its environmental programmes through SEMARNAT and since PEMEX —by reason of its activity— is the agency that spends the most on this item, the expenditure identified under Item 14 can be assumed to account for the bulk of federal environmental spending.

¹⁴ The name SEMARNAT will be used for the purposes of this analysis, even when the data correspond to the former body SEMARNAP.

¹⁵ According to the Secretariat of Finance and Public Credit, programmable expenditures made by the federal government under the heading of the environment and natural resources amounted to Mx\$ 13.4 billion in 1999; Mx\$ 14.4 billion in 2000 and Mx\$ 12.5 billion in 2001. These sums represented 3.4%, 2.9% and 2.4% of total federal government expenditure, respectively. In 2002, accumulated expenditures up to June represented Mx\$ 4.4 billion, or 1.7% of the total, in contrast to the figures for 1999 and 2000, which amounted to 2.5% and 2.3%, respectively (<http://www.shcp.gob.mx/index01.html>).

¹⁶ According to PEMEX reports, operational expenditures for environmental protection totalled Mx\$ 1.4 billion in 2000 and Mx\$ 2.6 billion in 2001. In addition, it invested Mx\$ 6.5 billion in 2000 and another Mx\$ 5.2 billion in 2001. Expenditures on clean products raise these figures by Mx\$ 0.2 billion in 2000 and Mx\$ 0.3 billion in 2001 (www.pemex.org/gasto_p1.html).

Table III.6
MEXICO: PUBLIC-SECTOR ENVIRONMENTAL EXPENDITURE

	Millions of pesos 2000			Millions of dollars a/		
	1998	1999	2000	1998	1999	2000
Expenditure by SEMARNAT (previously SEMARNAP) b/	16 305.7	15 332.0	14 844.9	1 395.5	1 465.8	1 596.8
Expenditure by SEMARNAP and PEMEX on item 14: environment and natural resources	7 595.9	10 257.3	10 405.1	650.1	980.7	1 100.3
Direct environmental expenditure by SEMARNAP (CEPA 2000)	3 643.0	2 721.5	3 066.9	311.8	260.2	324.3
Private expenditure (CEPEDES)		n.a.	n.a.	2 158.5	n.a.	n.a.
Relation to GDP and total federal expenditure	GDP			Total federal expenditure		
	1998	1999	2000	1998	1999	2000
Expenditure by SEMARNAP	0.30%	0.28%	0.26%	2.03%	1.77%	1.51%
Expenditure by SEMARNAP and PEMEX on item 14: environment and natural resources	0.14%	0.19%	0.18%	0.94%	1.19%	1.06%
Direct environmental expenditure by SEMARNAP (CEPA 2000)	0.07%	0.05%	0.05%	0.45%	0.31%	0.31%
Federal expenditure growth rates	1998-2000		1995-2000 c/			
Expenditure by SEMARNAP	-9.0%		28.8%			
Expenditure by SEMARNAP and PEMEX on item 14: environment and natural resources	37.0%		n.a.			
Direct environmental expenditure by SEMARNAP (CEPA 2000)	-15.8%		n.a.			

Source: Gustavo Merino and Ramiro Tovar, "Gasto, inversión y financiamiento para el desarrollo sostenible en México", ECLAC/UNDP Project on financing for environmentally sustainable development, September 2002, forthcoming, based on information from the Public Account, Secretariat of Finance and Public Credit and the National Institute of Statistics, Geography and Information (INEGI).

a/ The conversion to dollars reflects the average FIX exchange rate for the respective year.

b/ In December 2000, as part of an institutional reorganization, SEMARNAP was relieved of the responsibility for fisheries and changed its name to SEMARNAT.

c/ Includes programmes transferred to SEMARNAP from other agencies. Budget data.

n.a.: Not available.

According to the CEPA 2000 classification, direct environmental spending by SEMARNAT in 2000 amounted to Mx\$ 3.067 billion or US\$ 324.3 million, which was 21% of the agency's total expenditure and 40% of outlays under the Item 14 classification. PEMEX data are not sufficiently disaggregated to permit a similar breakdown.

In 2000, total spending by SEMARNAT represented 1.51% of overall federal expenditure and 0.26% of GDP (the corresponding figures for 1998 were 2.03% and 0.3%, respectively). If Item 14, "environment and natural resources," of the Public Account is used as a gauge, then environmental expenditure accounted for 1.06% of total federal spending and 0.18% of GDP in 2000. According to the CEPA 2000 classification, expenditure by SEMARNAT amounted to 0.31% and 0.05% of total federal spending and GDP, respectively, in 2000. In per capita terms, total SEMARNAT expenditure was approximately Mx\$ 148 (US\$ 16), spending on Item 14 was Mx\$ 104 (US\$ 11) and direct environmental expenditure by SEMARNAT was Mx\$ 31 (US\$ 3).

In 2001, SEMARNAT created the National Forestry Commission (CONAFOR) and the Environmental Research Fund and issued the National Regulation for the Protection of Marine Mammals together with other initiatives.

Based on the information available at the state level, it is estimated (Merino and Tovar, 2001) that environmental spending by Mexico's states is low in relation to federal expenditure owing to the centralized nature of the country's fiscal affairs.

The task of identifying private expenditure is rather more complicated. There is very little information available on this type of expenditure, but according to estimates prepared by a private agency, the Private-Sector Research Centre for Sustainable Development (CEPEDES); in 1998 environmental outlays by the private sector amounted to US\$ 2.3 million, most of which went to wastewater treatment and atmospheric pollution items. In 2000, these outlays were estimated at US\$ 3.9 million. The source does not specify the methodology used to obtain this information, and it may be an overestimate. In any case, this figure does not include environmental expenditure by NGOs or households, and it is thus not possible to establish a figure for private environmental expenditure with any certainty on the basis of it. There is a some tendency to consider environmental issues by enterprises, which increases with the size of the plant, share of exports and level of technological modernization. Efficiency factors are the most relevant for environmental investment, while regulations have more influence on large enterprises (Mercado, 2002).

Financing for public-sector environmental expenditure comes mainly from federal government revenues. In Mexico there are very few instances of earmarked fiscal revenues; in the environmental arena, earmarked revenues are limited to entrance fees to marine parks, certain water and public service fees, hunting permit fees and a surcharge on gasoline in the Mexico City metropolitan area. The income from these instruments finances only a small portion of total environmental expenditure.¹⁷

Information on external flows and financial cooperation from international agencies is piecemeal and unsystematized. From 1995 to the end of 2000, resources for these types of projects and programmes amounted to US\$ 2.907 billion, of which 52% (US\$ 1.507 billion) corresponded to contributions by the Mexican Government and the rest to external flows. Most of them are focused on global environmental issues (Merino and Tovar, 2002).

Trinidad and Tobago

The institutional apparatus for environmental affairs is relatively new in Trinidad and Tobago. The Environmental Management Authority (EMA) was created under the provisions of Environmental Management Act No. 3 of 1995. This Authority reported to the Ministry of Planning until the Ministry of the Environment was established in 1999. EMA is responsible for dealing with the country's environmental problems, including the task of drafting environmental legislation and directives and overseeing compliance, approving new environmental projects, setting environmental standards, coordinating environmental actions in the country and so forth.

The main responsibilities of the newly created Ministry of the Environment are the preparation of environmental policy directives for EMA and the administration of the Green Fund. The Ministry does not yet have a budget allocation, however.

In Trinidad and Tobago it is very difficult to separate public-sector environmental expenditure from public spending on development policies, including infrastructure, which account for a significant

¹⁷ Nevertheless the Financing for Development National Programme 2002-2006 identifies an increase in resource savings and the promotion of sustainable development as expected impacts.

portion of the country's budget. Total public current and capital expenditure on environmental projects has ranged from 0.15% to 0.21% of GDP, or from about US\$ 2 to US\$ 3 per capita. In 1999 this was equivalent to 0.67% of government spending.¹⁸ The share of capital expenditure devoted to the environment has ranged from 4% in 1994 to 47% in 2000, with a sharp upward trend being observed during the decade. The major portion of this increase is attributable to the expansion of EMA financial capacity. Even on the basis of the broadest possible interpretation of the category of environmental expenditure, public capital expenditure on environmental projects did not exceed 5% of total capital spending.

The annual budget of EMA quadrupled between 1995 and 2000. It is now equivalent to around 0.12% of the government's total budget, which is about 0.04% of GDP. The Authority draws on this budget for the fulfilment of all its environmental management responsibilities and monitoring functions at the national level.

The Green Fund was created in September 2000 to collect resources for a variety of environmental projects. It is financed by means of a 0.05%¹⁹ levy on the gross earnings of all firms operating in the country. The available information indicates that the Fund stands at some US\$ 8 million to date. Although there is no solid data to indicate the potential volume of the Fund, it is estimated to be capable of generating between US\$ 24 and US\$ 40 million per year. No mechanism has yet been implemented for the Fund's disbursements, which will be administered by the Ministry of the Environment using a special fund set aside by the Ministry of Finance. Although no Green Fund financing priorities have yet been established, the mechanism has been designed to allow the government to delegate the formulation of projects to environmental NGOs and to channel resources through them.

Table III.7
TRINIDAD AND TOBAGO: PUBLIC ENVIRONMENTAL EXPENDITURE INDICATORS
(Percentages)

Year	Public environmental expenditure/total government budget	EMA financing/total government budget	EMA financing/GDP
1993	0.48		
1994	0.44		
1995	0.46	0.05	0.01
1996	0.65	0.09	0.03
1997	0.59	0.08	0.03
1998	0.75	0.10	0.02
1999	0.67	0.12	0.04

Source: Desmond Dougall and Wayne Huggins "Expenditures, Investment and Financing for Sustainable Development in Trinidad and Tobago", ECLAC/UNDP Project on financing for environmentally sustainable development, 2002, forthcoming.

Private-sector expenditure is undertaken mainly by petrochemical firms and environmental NGOs. The latter are the agents that facilitate action for environmental protection and conservation. External funds channelled through embassies and consulates constitute a very significant source of financing for these NGOs and, as a result, their agendas and programmes are often defined externally. Canada, Germany, the Netherlands and the United Kingdom are among the main suppliers of external funding.

¹⁸ Total government spending in Trinidad and Tobago amounted to US\$ 2.086 billion in 1999, and GDP was about US\$ 6.9 billion.

¹⁹ In August 2001 this tax was reduced to 0.025% of gross earnings.

The Global Environment Facility (GEF) has also provided approximately US\$ 5 million to Trinidad and Tobago for projects valued at a total of US\$ 18 million (with 70% being cofinanced locally).

General conclusions arising from the case studies

In the light of the case studies summarized in this chapter, the following conclusions can be drawn with respect to domestic financing for sustainable development:

- Although there are differences from one country to the next, total private and public environmental spending over the past decade has generally not exceeded 1% of GDP, and domestic public-sector expenditure has rarely risen above 3% of total public spending (although this figure depends to a great extent on the particular country's approach to environmental policy).
- It is therefore necessary to increase public environmental expenditure and diversify its composition. Environmental spending accounts for a limited proportion of the public budget, and no widespread upward trend has been observed in environmental spending and investment in the countries where these variables have been analysed since the Earth Summit of 1992. Current or administrative expenditure tends to take precedence over capital spending. This is partly attributable to the fact that environmental policy has conformed to the command-and-control model, which entails high administrative costs. There are also disturbing signs that financial costs are on the rise within environmental budgets, which is likely to affect the quality of spending in the future. On the other hand, for a number of environmental tasks, such as the management and administration of national parks, the prospects for achieving self-financing status are good.
- The composition of spending depends on the particular environmental problems faced by each country. Nevertheless, overall, water resources account for the largest share, a fact which reflects the priority assigned to water management and administration.²⁰ Water treatment and the management of solid and liquid urban waste, together with the protection of natural areas, are major items in the public environmental budget.
- The environmental budget is not managed and controlled exclusively by the institutions that deal specifically with environmental affairs in the countries studied. Frequently, sectoral ministries and autonomous State agencies and organs are also heavily involved in channelling environmental spending.
- Following the implementation of administrative decentralization processes, many environmental expenditures are shifted to provinces or states, and their environmental budgets may account for a slightly higher proportion than the national government figures. The environmental budget is especially important at the municipal level, however, as these authorities are usually responsible for local environmental management in areas such as household waste collection and sewage treatment.

²⁰ Owing to the difficulty of identifying which explicitly environmental activities (such as basin management or sewage treatment) are included in overall spending on water resources, the share allocated for this item may be overestimated, since it also covers infrastructure and water supply works whose objectives are not necessarily environmental.

- In view of the different levels —national, regional and local— at which the environmental budget is implemented, there is clearly a need for greater horizontal and vertical coordination among public institutions with environmental responsibilities, as well as a need to systematize all the information in order to generate integrated environmental management strategies.
- There are sharp geographical disequilibria in spending allocations, with regions that have greater environmental problems or a higher population density sometimes receiving the smallest shares. In some cases, this is due to the fact that the national agenda does not coincide with the international green agenda or the priorities of external financial agents.
- It is therefore recommended that environmental authorities develop the technical capacity to systematically evaluate trends in public and private environmental spending and identify opportunities to make this expenditure more efficient, more geographically balanced and more responsive to real environmental needs. It may be necessary to create agencies to centralize these data and develop methodologies to establish more effective coordination between the environmental and budgetary authorities.
- The case studies showed that domestic sources account for a larger proportion of financing for environmental expenditure than resources raised externally, which, moreover, sometimes reflect priorities that do not necessarily correspond to the needs of the recipients. The urgent need for fresh funding for environmental expenditure sometimes results in the environmental agenda being influenced by the interests of donor countries or institutions or of multilateral financial agencies.²¹
- The impact of donations and international loans on the public environmental agenda varies greatly from one country to another, although, as mentioned previously, these funds have generally trended downward and account for a limited share of financing in relation to domestically generated resources, especially in the larger countries of the region. By contrast, in the smaller countries —particularly in the Caribbean— external assistance is fundamental both for public environmental institutions and for NGOs, which in some cases have become key agents of environmental management.
- Environmental issues have also had a notable impact on the private business sector, which is showing increasing signs of concern about the environmental effects of production and consumption cycles. Reasonable estimates suggest that private environmental spending in Argentina stands at around 0.17% of GDP, while in Brazil, average spending on environmental investment appears to be on the order of 0.8% of firms' operational net income in 1998.²²

²¹ This is particularly noticeable in Brazil, where much more funding is allocated for the “green agenda” than for urban environmental problems and where expenditure is concentrated in Amazon forest conservation projects in the northern part of the country, which accounts for a relatively small proportion of territory and population. It is also the situation in Argentina, where the five jurisdictions that benefit the most are those that are most attractive from the standpoint of international tourism.

²² OECD (1996) estimated private environmental spending at 1% of GDP in the United Kingdom and the United States, 0.8% in the Netherlands and 0.4% in France and Austria at the beginning of the 1990s.

- The presence of firms with external stakeholders and the significance of exports in terms of total sales appear to have increased the probability that firms will undertake environmental investments. In addition, larger (in terms of the number of employees) and longer-established firms proved to be more likely to engage in environmental investment. Strict environmental controls and local pressure also increased the likelihood of this type of investment.
- The bulk of private investment goes to improving energy efficiency and promoting the use of materials that reduce production costs (improved technologies). Control of atmospheric pollution and the management of solid and liquid waste also account for a major portion of investment. The benefits that firms expect to obtain —certification of quality or of better environmental practices (such as ISO 14000), enhanced brand image and increased competitiveness— are ultimately defined by the objective of improving their international position and gaining access to new markets.
- Firms prefer to use internally-generated resources or to opt for public credit lines for environmentally-related investment. Many of these public lines or funds are financed by multilateral development banks (such as the World Bank, the Inter-American Development Bank and the Andean Development Corporation). A number of private equity funds, such as Terra Capital and the Clean Technology Fund in Brazil, have been founded in the region that have opened credit lines specializing in environmentally-friendly projects.
- Increasingly, international multilateral funds that offer financing on favourable terms, such as the Global Environment Facility, are encouraging the private sector to participate in the funds they have set up to deal with global environmental problems. A successful example of this is the Montreal Protocol Multilateral Fund, which has backed many successful initiatives to promote industrial technology substitution for environmental purposes in the countries of the region. The Kyoto Protocol's Clean Development Mechanism also encourages more extensive private-sector engagement, particularly in energy-efficiency projects.
- In the light of these considerations, there is an evident need to establish an institutional platform that sets out clearly defined rules on environmental management in order to ensure institutional continuity and to facilitate the design of medium-term policies and improved coordination with the private sector.

4. Economic instruments

In view of the fiscal constraints affecting most of the countries in the region, environmental authorities are unlikely to receive larger budgetary allocations to strengthen their capacity. Moreover, given the increasingly important role being played by the private sector at the national and international levels, these authorities must meet the challenge of devising innovative instruments to promote environmental responsibility, economic competitiveness and social equity while providing self-financing mechanisms for environmental management projects. Clearly, improvements in environmental quality must be achieved at the lowest possible economic cost. Nonetheless, there is a growing perception that traditional regulatory systems have not responded satisfactorily to the environmental degradation afflicting the region.

Direct regulation has been the most common approach to environmental problems, and the emphasis has been on environmental quality standards and standards for emissions or discharges. The main reasons why this approach is used are that it provides objective values towards which environmental regulation may be directed and it allows the authorities to monitor and exercise direct control over the conduct of economic stakeholders. Over the past decade, however, there has been growing acceptance of the idea of using economic instruments for environmental management purposes to supplement traditional methods of direct regulation. Economic instruments can be defined as all those mechanisms that have an impact on the costs and benefits attributable to the alternative courses of action open to stakeholders; they therefore affect, for example, the profitability of alternative processes or technologies or the relative price of a product and, consequently, the decisions of producers and consumers (ECLAC/UNEP, 1998).²³ These instruments have three basic advantages that make them useful for supplementing environmental management efforts: (i) they can provide greater flexibility through the introduction of price and cost incentives; (ii) they offer opportunities to secure financing for environmental management and investments through funds set up specifically for this purpose; and (iii) they have the potential to prevent future environmental damage through the internalization of social costs in private production and consumption decisions, as well as in the direction of technological development. The effectiveness of indirect regulation depends, however, on the efficiency of the market, which, in turn, depends on the degree of institutional development that has been attained.²⁴

Unlike the OECD countries (see box III.1), the region has relatively little experience in the use of such instruments. Promising economic instruments are beginning to be introduced in some cases, however, especially in countries whose institutional structure is more developed. The imposition of fees for environmental services and the collection of contributions to fund government provision of such services is quite common, for example. Colombia charges compensatory fees for waste disposal and emissions, water use, forest harvesting and fishery use; Brazil charges for water rights and levies industrial effluent fees; Guatemala charges a consolidated fee for municipal water services, energy and solid waste disposal; Chile charges users for waste disposal; Mexico charges wildlife user fees and industrial wastewater discharge fees; Argentina levies taxes on the discharge of wastewater; and Venezuela charges volume-based fees on industrial wastes, to name a few examples.²⁵

While the instruments referred to above are mostly intended to raise funds, the region also has instruments that result in lower receipts or even disbursements. These include tax incentives (rebates, credits and exemptions) in Costa Rica, Barbados and Venezuela, for example. In addition, financial instruments may also take the form of credit systems (Guatemala and Mexico), direct subsidies (Guatemala) or, in general, support plans for special environment funds.

Many of these instruments, both those for raising new funds and those for reducing the burden on public funds, have very specific applications. Thus, in the case of land, there are taxes with environmental implications (Chile, Colombia) and financial incentives (Argentina, Costa Rica). In forestry policy, instruments include built-in rates (Colombia), tax and financial incentives for protection, afforestation and

²³ Economic instruments may also be regarded as including informal regulatory programmes based on the public dissemination of official information on environmental performance, certification, labelling and other sources of external pressure based on transparency of information. All these instruments operate through incentives associated with public image and reputation in the market, which have economic consequences for stakeholders.

²⁴ See ECLAC (2000b).

²⁵ For an analysis of noteworthy examples of instruments applied in eight countries of Latin America and the Caribbean, see Acquatella (2001a).

reforestation (Argentina, Chile, Colombia, Costa Rica, Dominican Republic and Guatemala) and environmental incentives in concession mechanisms (Bolivia).

Box III.1
**ECONOMIC INSTRUMENTS FOR ENVIRONMENTAL MANAGEMENT
 IN OECD COUNTRIES**

The developing countries offer relatively few examples of efficient economic instruments for environmental management. However, OECD countries have successfully applied various instruments of this kind to finance environmental projects and programmes and environmental management services.^{a/}

The use of economic instruments in environmental management has progressed slowly but steadily since the early 1970s, when the more industrialized countries started to formulate environmental policies. The first trend observed in OECD countries was the diversification of instruments for environmental management. While the imposition of charges and fees on natural resource users was common in the 1970s, as were subsidies, other types of charges are now more common, including fees or rates for waste discharged or emissions released into the different environmental media. OECD has documented more than 60 taxes in force in different countries for controlling air, water and soil pollution, solid wastes and noise pollution (OECD, 1994). These instruments include rates and taxes for the use of natural resources, charges based on the volume of waste discharged or effluents or emissions released into the air or water, rates and taxes for water use as a means of controlling the quantity drawn and incremental rates to cover the cost of sewage treatment. The use of fees and subsidies is also common in forestry resources management in several countries. Other types of economic instruments have also emerged, including refundable deposit systems, which provide an incentive for recycling or the safe disposal of hazardous products; tradable permits or quotas for the use of resources (water, fisheries) or for the release of a certain amount of pollution; performance bonds deposited during the execution of environmentally risky projects; and systems of labelling and public information.^{b/}

In general, the main economic instruments currently used in OECD countries for environmental protection and management are fees, environmental taxes, charges for non-compliance with standards, deposit and reimbursement systems, the obligation to pay once legal responsibility for environmental damage has been determined, tradable permit systems, bonds contingent on environmental performance and subsidies for environmental protection.

Another aspect of this development is the growing role of environmental taxes as an integral part of fiscal reform plans in more developed countries. OECD countries, for example, are increasingly opting for taxes based on environmental parameters in their pollution control strategies. The collection of environmental taxes in OECD countries represented 2.5% of GDP in 1995, or almost 7% of total revenue (OECD, 1998). Most of these taxes affect the specific tax base relating to the transport and energy sectors, but they also include taxes on the management of waste and effluents, which are becoming increasingly common.

Source: Jean Acquatella, *Aplicación de instrumentos económicos en la gestión ambiental en América Latina y el Caribe: desafíos y factores condicionantes*, Medio ambiente y desarrollo series, No. 31 (LC/L.1488-P), Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC), January 2001. United Nations publication, Sales No. S.01.II.G.28, on the basis of Organisation for Economic Co-operation and Development (OECD), *Environmental Taxes in OECD Countries*, Paris, 1995 and *Managing the Environment: The Role of Economic Instruments*, Paris, 1994.

a/ OECD (1994 and 1995).

b/ For a detailed account of the different types of economic instruments used in environmental management, see ECLAC/UNEP (1998); Huber, Ruitenbeck and Seroa da Motta (1998); and Panayotou (1998).

Support plans based on special funds, such as national environment funds, are important financing mechanisms for environmental projects. Forestry funds, for example, may be seen as part of a broader set of significant initiatives for the creation of special funds to finance environmental projects implemented by public institutions or civil society. Funds of this kind are financed from State revenues (either budgetary sources or the proceeds of legal fees), contributions pledged in the context of bilateral or multilateral cooperation (including debt-for-nature swaps) or contributions from private organizations that channel resources from sectors of the international community that are concerned about the state of the environment. The management of these funds may be a governmental responsibility—exercised directly or delegated to civil society organizations—or may be the direct responsibility of organizations of this kind. Examples of such funds include the National Environmental Fund and the Support Fund for Ecological Action (ECOFONDO) in Colombia, which is managed by civil society organizations that channel resources derived from bilateral debt negotiations with the United States within the framework of the Enterprise for the Americas Initiative. The Americas Fund in Chile and the Integrated Fund for Nature in the Dominican Republic also channel resources from the Enterprise for the Americas Initiative. The Environmental Fund of El Salvador (FONAES) supports small-scale environmental projects of various kinds. Costa Rica has a number of funds, most of which concern forestry, including a fund established under the 1986 Forestry Act with proceeds from the tax on forestry activities, a reforestation fund based on an agreement with the Netherlands and trust funds for soft loans managed by the Cooperative Bank.

On the other hand, some of the subsidies provided in Latin America and the Caribbean are potentially harmful to the environment and could promote unsustainable practices. Generally, these are subsidies or tax incentives geared to factors of production (physical inputs or natural resources) which reduce the marginal costs that determine producer and consumer decisions. Water is the most obvious case in point. Water rates should reflect not only the cost of the water supply itself, but also the cost of sewage treatment and, as rightly pointed out by ministries of the environment, the cost of maintaining sources. Subsidies for fertilizers and pesticides are another example, as they encourage more widespread use of these products, which are harmful to the environment and can therefore be detrimental to agricultural production. In addition to generating incentives that have adverse environmental effects, these subsidies siphon off public resources that could be allocated to other priority activities.

Of all the instruments for environmental management applied in the region, three have been selected as noteworthy examples of how financing for environmental protection can be obtained: a sales tax on the circulation of goods and services in Brazil, a fee for water pollution in Colombia and fees charged for environmental services in Costa Rica.

(a) Environmental criteria for the distribution of receipts from the tax on the circulation of goods and services (Brazil)²⁶

The use of environmental criteria to determine the distribution of receipts from the goods and services circulation tax (Gusmão, 2000) is an example of the application of an innovative distribution mechanism to a traditional non-environmental tax instrument in order to channel new funds to municipalities, in keeping with guidelines for environmentally sustainable development.

Under article 158 of the Federal Constitution (1988), 75% of the proceeds of this tax go to the states and 25% to the municipalities. At least three fourths (75%) of the funds transferred to the municipalities must be distributed in proportion to the amount collected in each of them, based on the

²⁶ On the basis of Gusmão, 2000.

fiscal value added.²⁷ The remaining fourth of the total value set aside for the municipalities is distributed on the basis of economic, social and environmental criteria determined basically by state entities.

For example, in the state of Minas Gerais, the application of environmental criteria involves the use of two indicators: (i) one associated with the installation of environmental health infrastructure (disposal sites and sewer systems), for which a licence must be obtained from the State Environmental Policy Council (COPAM); and (ii) another linked to the establishment, regulation and installation/maintenance of conservation units, which must be registered with the Ministry of the Environment and Sustainable Development (SEMAD).

In order to receive a portion of the tax on the circulation of goods and services under the criterion on environmental health, municipalities must have either: (i) a system for the treatment or final disposal of urban solid wastes, covering at least 70% of the municipality's population, with an operating licence from COPAM; or (ii) a system for wastewater treatment covering at least 50% of the municipality's population, also operating under a licence from COPAM. The value assigned to each municipality may not exceed the value of the investment. The amount to be transferred is estimated by COPAM on the basis of the population served and the average per capita cost of the system of sanitation, organic waste treatment or domestic sewage.

The purpose of the criterion on conservation units is to compensate municipalities that own plots of land set aside for environmental conservation, which can entail restrictions on land use. The conservation units in question are those created by the Union, the state, the municipality or private individuals, once they have been duly registered with the Forestry Department of the state environmental agency. A conservation unit is eligible provided that: (i) it belongs to one of the categories defined by law,²⁸ (ii) it has been legally established, and (iii) it is demarcated and regulated in accordance with land-use restrictions.

As the mechanism becomes better known, the number of municipalities applying for financial compensation tends to increase. Consequently, the share that each one can receive tends to be smaller, since the total volume of resources available for distribution remains more or less constant.²⁹ The incentive factor will therefore tend to diminish over time. In this regard, two hypotheses should be considered: (i) that the demand for resources will decrease in inverse proportion to the percentage of the urban population being served; and (ii) that this environmental tax mechanism may, of its own accord, specialize in serving municipalities with limited economic power and in small-scale projects.

On the other hand, the possibility that the construction of such public works may be interrupted or that the installed infrastructure may not be maintained would perhaps warrant the incorporation of some type of incentive or green seal into this environmental tax mechanism that would encourage local governments to allocate resources for the maintenance of the investment, since, for municipalities with limited economic power, this can be just as problematic as the installation itself.

²⁷ In very simple terms, the fiscal value added is based on the value of sales and purchases effected in the municipality over a period of two consecutive years.

²⁸ Ecological station, biological reserve, park, private natural heritage reserve, national forest, environmentally protected area or reservation for indigenous peoples.

²⁹ This volume can increase only if there is an increase in the level of economic activity and, consequently, in the amount of tax collected.

Lastly, it should be noted that this is a case in which the environmental sector played a major role in a fiscal policy decision that has, for the most part, been successful. One sign of its success in Minas Gerais is that the legislative authorities took the initiative of increasing the percentage allocated to the environmental criteria from 1% in 1999 to 1.61% in 2000, despite the misgivings of municipalities with a stronger economic base.

(b) Fee for water pollution (Colombia)³⁰

Colombia's fee for water pollution is another environmental policy measure that has generated funding for environmental activities at the regional level, as well as incentives for reducing water pollution. The fee's implementation has been deemed successful in at least three regional autonomous corporations (CARs) by the Ministry of the Environment.³¹ The Ministry established a minimum rate, taking into account the costs of recycling water resources, and an incremental adjustment system to help reduce pollution to the target level agreed upon in each region of the country.

The main features of this instrument, designed by the Ministry of the Environment of Colombia, are the following:

- The regional community, in consultation with the stakeholders involved, sets a desirable target for the overall reduction of the pollution load in its bodies of water. The board of directors of each CAR negotiates the target with representatives of the entire community concerned, on the basis of the current total pollution load as estimated by the management of each corporation.
- Each regulated entity must pay a service fee for the use of the river for discharging pollutants. Each CAR sets up its own laboratories and systems of measurement, payment, billing and collection.
- The regulated agency has complete flexibility in choosing a method for reducing pollution and a means of minimizing costs through less expensive clean-up solutions.
- The fee is applied progressively over five years, starting at the minimum rate, and increases every six months by amounts that are pre-established by decree until the negotiated regional environmental quality target is achieved.
- Every five years, the target will be reassessed by the regional river basin commission to determine whether it should be changed.
- The Ministry of the Environment is currently working to set up regional environmental clean-up funds, to be financed with the proceeds of water clean-up projects.

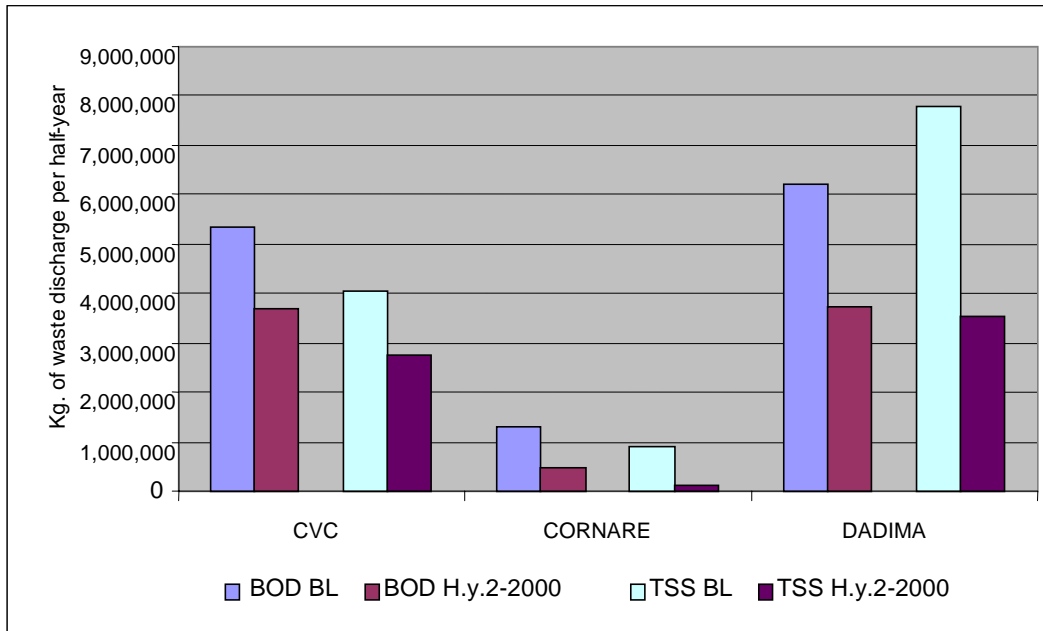
This programme was launched in Colombia with the promulgation of Decree No. 901 of 1997, which establishes the operating system of this economic instrument for each corporation. Of the 14 environmental authorities that have used this instrument, three account for the majority of the country's industrial activity, as they include the three largest cities. The CAR of Oriente Antioqueño (CORNARE) was the first regional authority to impose a fee for pollution, followed by the Valle del

³⁰ On the basis of Castro, Caycedo and Jaramillo, 2001.

³¹ See Ministry of the Environment, 2002.

Cauca Corporation (CVC) in the first half of 1998. Another environmental authority now applying the fee is the District Administrative Department of Environment in Barranquilla, which started its programme in the second half of 1999. As a result of this measure, discharges have been significantly reduced in all three corporations.

Figure III.2
WASTE DISCHARGED BY THE INDUSTRIAL SECTOR BEFORE AND AFTER INTRODUCTION OF THE POLLUTION FEE



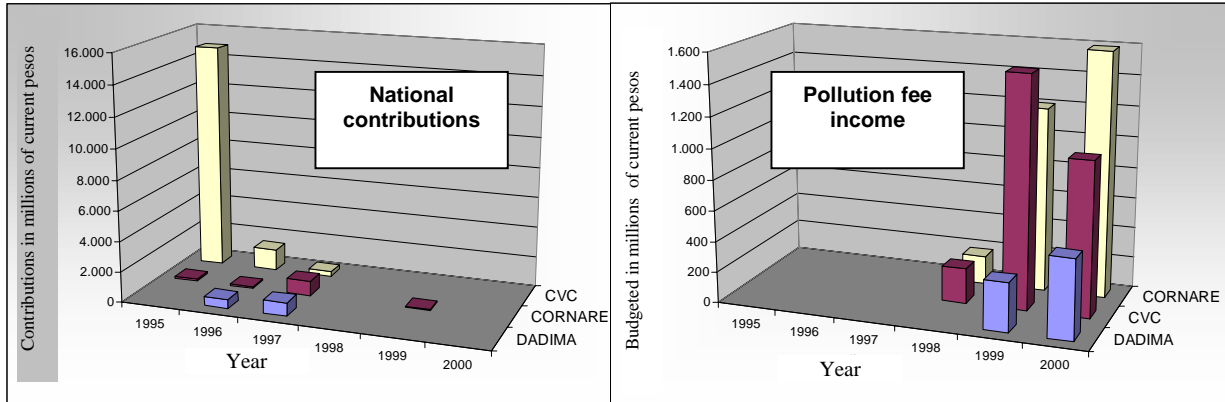
Source: Luis Fernando Castro, Juan Carlos Caycedo and Andrea Jaramillo, "Evaluación de la efectividad ambiental y eficiencia económica de las tasas por contaminación hídrica en el sector industrial colombiano", Bogotá, D.C., Andean Centre for Environmental Economics, Economic Commission for Latin America and the Caribbean (ECLAC)/United Nations Development Programme (UNDP), 2001, unpublished.
 CVC: Valle del Cauca Corporation; CORNARE: Regional Autonomous Corporation of Oriente Antioqueño; DADIMA: District Administrative Department of Environment (Barranquilla); BL: baseline; H.y.2-2000: second half of 2000; BOD: biochemical oxygen demand; TSS: total suspended solids.

The pollution fee is a source of substantial revenues. Thus, while the three environmental authorities saw their income from national sources collapse in the period 1995-2000, their income from fees reached significant levels (see figure III.3).

Since environmental authorities started to collect the fee in 1997, the amount collected throughout the country for the national environmental system totalled 17.9 billion Colombian pesos. For the same period, total allocations from the national budget to the 14 environmental authorities which have been charging the fee amounted to just Col\$ 8.66 billion.

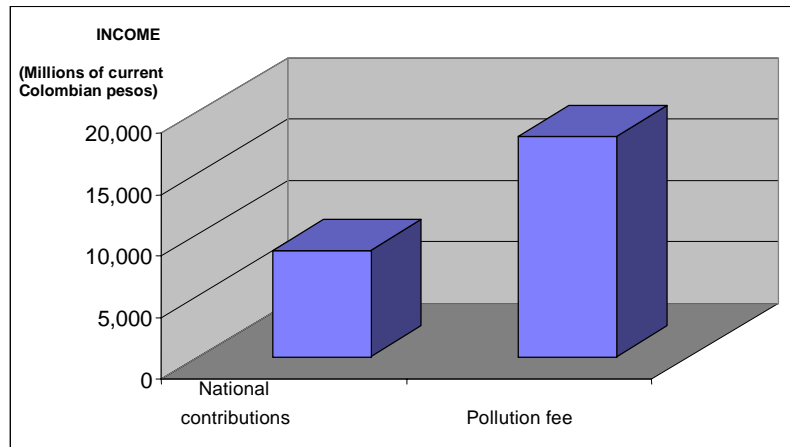
The principal sources of funding for the environmental authorities are the pollution fees and the environmental percentage of the land tax; this illustrates the importance of this source of income for the Colombian environmental authorities.

Figure III.3
NATIONAL CONTRIBUTIONS AND POLLUTION FEE INCOME RECEIVED BY THE THREE ENVIRONMENTAL AUTHORITIES



Source: Luis Fernando Castro, Juan Carlos Caycedo and Andrea Jaramillo, "Evaluación de la efectividad ambiental y eficiencia económica de las tasas por contaminación hídrica en el sector industrial colombiano", Bogotá, D.C., Andean Centre for Environmental Economics, Economic Commission for Latin America and the Caribbean (ECLAC)/United Nations Development Programme (UNDP), 2001, unpublished.
 CORNARE: Regional Autonomous Corporation of Oriente Antioqueño; CVC: Valle del Cauca Corporation; DADIMA: District Administrative Department of Environment (Barranquilla).

Figure III.4
RATIO BETWEEN NATIONAL CONTRIBUTIONS AND POLLUTION FEE INCOME RECEIVED BY THE ENVIRONMENTAL AUTHORITIES CURRENTLY APPLYING THIS FEE, 1998-2000



Source: Luis Fernando Castro, Juan Carlos Caycedo and Andrea Jaramillo, "Evaluación de la efectividad ambiental y eficiencia económica de las tasas por contaminación hídrica en el sector industrial colombiano", Bogotá, D.C., Andean Centre for Environmental Economics, Economic Commission for Latin America and the Caribbean (ECLAC)/United Nations Development Programme (UNDP), 2001, unpublished.

(c) **Payment for environmental services (Costa Rica)**³²

Costa Rica is one of the countries to have received the most international acclaim for developing a specific mechanism for levying charges for environmental services. While this mechanism is not per se an instrument for the collection or generation of new funds at the national level —on the contrary, it operates rather like a forestry subsidy— the possibility that payment for environmental services may be assumed by third countries or foreign entities places the instrument among those capable of generating new funding for the environment.

The mechanism was established under the 1996 Forestry Act (No. 7575), which defines environmental services as those provided by forests and forestry plantations and having a direct impact on the protection and improvement of the environment. These services include the reduction of greenhouse gas emissions (carbon fixation, reduction, storage and absorption); protection of water resources for urban, rural or hydroelectric use; protection of biodiversity for conservation and for sustainable scientific, pharmaceutical, research and genetic improvement uses; and protection of ecosystems, life forms and natural scenic beauty for tourism and scientific ends.

The Forestry Act (No. 7575) and the regulations pertaining to it opened up new opportunities for forest owners wishing to manage or protect their property, by allowing lands which were suitable for forestry exploitation but which were without forest cover to recuperate through natural regeneration or the establishment of forestry plantations. The 1998 Biodiversity Act (No. 7788) gave new impetus to the practice of charging for environmental services by allowing users to be charged on a pro rata basis for the cost of an environmental service, provided that the existence of the service depended on the protection and integrity of an area intended for conservation. This mechanism entered into force in 1997 and has generated substantial demand among forest owners for payment for the environmental services they provide. In the period 1997-2000, authorization was given for only 34.05% of total demand; that is, for a total of 258,928 hectares, at the rate of 64,732 hectares a year on average.

Of the total hectares to benefit from this measure in the period 1997-2000, 86.02% were set aside as protected areas, while 5.74% were reserved for reforestation and 8.25%, for forest management. The sharp increase in protected areas is a positive indication that the provision of forest cover is an additional economic option for owners.

An analysis of the demand for payment for environmental services and of the land area that has effectively benefited from this incentive reveals substantial excess demand. This is proof of the wide appeal and general acceptance of this incentive mechanism and the success of the policy applied to date.

One of the key aspects of the mechanism of charges for environmental services is financing. At the national level, the main source of financing is the selective tax on oil and gas consumption, one third of which must be earmarked for environmental purposes, as provided by the 1996 Forestry Act (No. 7575). Other sources include partnerships between the State and a number of hydroelectric corporations and the proceeds from the environmental services of water resources and natural beauty. Payment for environmental services also has an international component.

³² On the basis of Barrantes, 2002.

Table III.8
COSTA RICA: RESULTS OF THE PAYMENT MECHANISM FOR ENVIRONMENTAL SERVICES, 1997-2000
(In hectares, where mechanism is applied)

Year	Category			Total
	Protection	Reforestation	Management	
1997	94 621	5 035	8 533	108 189
1998	46 129	4 131	7 686	57 946
1999	55 859	3 187	5 132	64 177
2000 a/	26 117	2 499		28 616
Total	222 726	14 851	21 350	258 928
Percentage	86.02	5.74	8.25	

Source: Gerardo Barrantes, "Gasto, inversión y financiamiento para el desarrollo sostenible en Costa Rica", Economic Commission for Latin America and the Caribbean (ECLAC)/United Nations Development Programme (UNDP) project "Financing for environmentally sustainable development", August 2001, unpublished.

a/ Figures for 2000 are for January-October.

Since 1997, different rates have been applied to payments for different environmental services. Of the areas considered, reforestation receives more than double the amount earmarked for protection.

Table III.9
COSTA RICA: AMOUNT ALLOCATED FOR PAYMENT FOR ENVIRONMENTAL SERVICES
(In millions of colones and dollars)

Year	Current		Year 2000 value	
	Colones	Dollars	Colones	Dollars
1997	1 789	7.70	2 421	7.69
1998	3 650	14.20	4 424	14.04
1999	3 996	14.00	4 402	13.97
2000	3 472	11.33	3 472	11.02
Total			14 719	46.72

Source: Gerardo Barrantes, "Gasto, inversión y financiamiento para el desarrollo sostenible en Costa Rica", Economic Commission for Latin America and the Caribbean (ECLAC)/United Nations Development Programme (UNDP) project "Financing for environmentally sustainable development", August 2001, unpublished.

In general, from the standpoint of conservation, the rate of deforestation has diminished, deforested areas have been recovered, sustainable forestry management has been fostered and natural forests have been protected. From the institutional standpoint, the country has shown a strong capacity to implement conservation policies, which has brought it international recognition in many forms (including debt-for-nature swaps, negotiations on carbon emissions and a high level of tourist activity based primarily on natural endowment). Lastly, there is an increasingly efficient legal apparatus for facilitating the management of biodiversity and of natural resource exploitation in general.

One of the main strengths of the system of payments for environmental services is that it promotes the adoption of measures for the conservation of privately owned ecosystems that do not fall within protected areas. In this way, private forest owners can receive additional income for conservation, which had never before been available to them. Payment for environmental services is thus a practical and viable tool for fulfilling conservation objectives for strategic areas that are not subject to protection, such as biological corridors or zones that protect water for human consumption and productive activities. In terms of production, some highly positive experiences with alternative production have demonstrated the enormous potential for internalizing environmental benefits and guaranteeing the protection of zones that are of strategic importance for the provision of valuable and directly usable environmental services.

In the light of the innovative experiences described above, the following conclusions may be drawn:

- Greater emphasis should be placed on designing and applying economic instruments that will have a favourable impact on the environment (rates, taxes, charges and others) while eliminating harmful subsidies and other distortions of both national and international origin. In this regard, experience shows that instruments for indirect regulation (market-based or economic instruments) can effectively complement and strengthen traditional regulatory strategies based on direct instruments for environmental management (command and control regulation). It is indispensable to build the capacity of public institutions to operate both direct and market-based or economic instruments in a coherent mix of incentives to improve the environmental performance of economic agents.
- In some cases, the full implementation of economic instruments will require international (regional or subregional) agreements concerning the harmonization of fiscal regimes or tax policy in environmentally sensitive sectors. Central America or the Caribbean could launch interesting initiatives, under which the countries in question could collaborate in developing a mechanism for payment of the environmental costs associated with tourism.
- On the basis of the above, it must be recognized that success in the design and application of economic instruments depends, among other factors, on the environmental authorities' capacity to work in conjunction with fiscal authorities, taking full advantage of current opportunities for fiscal decentralization, and to continue to consistently monitor and enforce compliance with environmental regulations.
- To this end, the environmental sector must be provided with financial mechanisms and guaranteed minimum resource levels. The clearest rationale for this lies in capturing economic value from those resources that provide benefits (national and global environmental services) that are not currently expressed in economic terms owing to the absence of markets, or from more appropriate taxation associated with environmental externalities (internalization of social environmental costs in private decisions). Examples of potential mechanisms for moving in that direction are many: they include charges for the use of natural resources (royalties, charges for forest harvesting, water use charges), emission taxes, charges or fines for pollution, including gasoline taxes, cap and trade permit systems to ration open-access resources such as fisheries or the pollution absorption capacity of water or air sheds, the creation of new markets for payment for environmental services at the national and international levels, a requirement that public service enterprises should invest part of their income in environmental activities linked to the provision of such services, etc. There is also a more general rationale for establishing environmental investment mechanisms linked to property taxes, given the clear complementarity that exists between economic and natural wealth and the direct impact of environmental amenities on property values.

5. Overview of private-sector environmental financing and investment: international context

In the last decade, enterprises all over the world have shown a growing awareness of the need for corporate environmental responsibility. This new international climate has resulted from the new forms of interaction and pressure that have emerged among key social actors: transnational corporations, national economic conglomerates, banks, insurance companies, international organizations (political and financial), consumers/citizens and national governments. The development of these relationships around the “new agenda” for sustainable development is helping to create a new style of governance in various public and private arenas at both the national and the international level.

These new trends generally point towards better environmental performance and, more importantly, towards intensified research and technological development for cleaner production processes and products. Eco-efficiency is the concept that summarizes, to a large extent, the elements of a corporate environmental strategy that integrates both clean production and the efficient use of resources into an overall strategy for competitiveness.

This context is reflected in some initiatives of the international private sector that are having wide-ranging effects at the regional and local levels. The Global Compact (January 1999) between the United Nations and the international business world, the creation of the Dow Jones Sustainability Group Index, the Finance Initiative between UNEP, banks and insurance companies and the international standardization of environmental management systems (ISO 14001) are all aimed at strengthening environmental performance through voluntary agreements among the main players involved. Finally, the Business Councils for Sustainable Development are working to stimulate public-private partnerships in fields such as eco-efficiency, integrated management systems, recycling, by-product synergy, corporate social responsibility and a wide range of other sustainable development issues. Each of these initiatives has generated new instruments and information networks.

Box III.2 **THE GLOBAL COMPACT**

The Global Compact emerged as a challenge from United Nations Secretary-General Kofi Annan to the business world and business leaders to help build the social and environmental pillars required to sustain the new global economy and make globalization work for all the world's people.

Since this challenge was raised at the World Economic Forum on 31 January 1999, the Compact has become a value-based platform designed to promote institutional learning. It utilizes the power of transparency and dialogue to identify and disseminate good practices based on nine universal principles. These principles were drawn from the Universal Declaration of Human Rights, the ILO Declaration on Fundamental Principles and Rights at Work and the principles contained in the Rio Declaration on Environment and Development.

The nine principles cover topics in the areas of human rights, labour and environment. The last three principles, which are aimed at reconciling environmental protection with economic growth, are: to support a precautionary approach to environmental challenges (principle 7), to undertake initiatives to promote greater environmental responsibility (principle 8) and to encourage the development and diffusion of environmentally friendly technologies (principle 9).

Source: United Nations Global Compact (www.unglobalcompact.org).

A growing number of corporations in the region have become involved in the Global Compact initiative; Brazil, for example, has more than 200 supporting corporations. The participating firms internalize nine universal principles, including support for the precautionary principle, initiatives to promote environmental responsibility and encouragement of the development and diffusion of clean technologies.

Another initiative, the Dow Jones Sustainability Group Index (September 1999), provides information on the environmental behaviour and liability of the companies listed, thereby offering a new source of information for asset valuation by the market.

The Finance Initiative (1992) has 287 signatories, including banks, insurance and re-insurance companies and pension funds from all regions of the world. This initiative pursues a strategy of incorporating environmental responsibility criteria as an operational concept in financial-sector activities. It envisages the improvement of competitiveness through the development of innovative products, new lines of asset and risk management (pension and mutual funds), the development of venture capital funds to finance technological development projects and environmentally sustainable business management practices.

The ISO 14001 certification is a means of incorporating an environmental management system into companies' routine management mechanisms. It seeks to homogenize the standards of environmental management for firms. The ISO 14001 certification process has expanded throughout the world; in October 2001, the number of certified firms was 31,793 across 105 countries. Japan topped the list with 7,155 firms.

All of these new initiatives allow firms to take part in voluntary environmental initiatives, sharing business management goals and logic. On the one hand, the firms improve their efficiency, thereby increasing their profits; on the other, sound environmental performance may reduce their level of risk by enabling them to avoid prosecution, fines for non-compliance with regulations and changes in consumer loyalty, among other things. The OECD Council, in a 2002 recommendation, encouraged its members to take steps to improve the environmental performance of public procurement. In 1997, government purchases of goods and services accounted for between 5% and 18% of the GDP of OECD countries. This initiative will put pressure on suppliers to improve their environmental performance.

Each firm's social investment has to be monitored in order to test the extent of corporate commitment to sustainability goals. This assessment may include the resources that the company allocates for environmental and community programmes. Shareholders, anticipating future scenarios, are increasingly incorporating environmental performance and liability criteria into the assessment of investment options, on the assumption that it may be more profitable to avoid environmental liabilities than to risk having to pay compensation for damage.

The increasing application of environmental criteria to investment portfolio analysis is an interesting example. Despite the stock market slowdown in the United States, the total level of socially responsible investment grew by 8% between 1999 and 2001 (from US\$ 2.16 to US\$ 2.34 trillion), equivalent to 11.7% of the total investment assets under professional management in the United States. Some 50% of the assets in these portfolios (basically mutual funds) are environmentally screened (Social Investment Forum, 2001).

These trends may also translate into new business niches for emerging markets in relation to the production of environmental goods and services. Environment-related markets are increasingly seen as a new source of business opportunities by both countries and investors, whose driving forces are the need

for cleaner production technologies, international agreements that provide the framework for the development of new markets (Kyoto Protocol to the United Nations Framework Convention on Climate Change and the Convention on Biological Diversity) and consumers' and citizens' growing awareness of environmental problems, among other things. These markets can be divided into two categories based on the primary focus of investment,³³ although the dividing line between the two is somewhat blurred. On the one hand, the new technology, goods and services for environmental protection produced by the so-called eco-industry;³⁴ and on the other, markets based on the sustainable use of natural capital, especially those related to biodiversity.

Organic farming, which is one of the most important emerging activities, can be considered one of these new opportunity areas that combine clean production with the sustainable use of natural resources. According to the International Trade Centre UNCTAD/WTO (Yussefi and Willer, 2002), the world retail market for organic food was estimated at US\$ 17.5 billion in 2000, with an annual expected growth rate of 10% to 30% in the medium term in developed countries. As organic-food sales represent only 1% to 3% of total food sales, the potential for growth is enormous.

The eco-industry, with a current world market estimated at US\$ 500 billion and an annual growth rate of more than 3% (United States Department of Commerce, 2000), is seen by developed countries as a source of trade opportunities. The demand for clean technologies, including those related to the objectives of the Kyoto Protocol (reducing emissions of greenhouse gases), is channeling more resources into research and development in fields such as renewable energy sources (solar, wind power), solid waste, recycling and wastewater. Currently, much of this research and development is carried out by small firms financed with venture capital for technological innovation in developed countries.

Biological resources provide a wide range of products and services such as carbon sequestration, ecotourism, products derived from bioprospecting, intermediate products (natural dyes, colorants, oils, biochemical compounds, medicinal extracts) and final products (timber, handicrafts, perfumes, medicines). Some products have served as an important source of innovation for the pharmaceutical, biotechnological, cosmetic and agrochemical industries (Briceño, 2000). Under the Convention on Biological Diversity, biodiversity—which had previously been considered the “common heritage of mankind”—is now considered part of the national patrimony of host countries and is under their sovereignty. The Convention's objectives are the conservation of biological resources, the sustainable use of their components and the fair and equitable sharing of the benefits arising from their use.

Tourism has become a major sector of economic activity worldwide. In 2001, total international arrivals amounted to more than 700 million. WTO predicts that international travel will grow by 4.1% a year until 2020 (Eagles, McCool and Haynes, 2002). Ecotourism is considered a specialty segment of the tourism market. Although there are no global statistics on ecotourism activities, it is widely agreed that their growth in recent years has far outpaced that of the conventional tourism industry (some experts estimate annual growth rates of 10% to 25%).³⁵ Ecotourism activities usually take place in government-protected areas such as national parks. However, in recent years the management and ownership of

³³ For example, products from bioprospecting and biotechnological developments are used for pollution studies, pollution prevention, bioremediation and energy (fuels from renewable raw materials).

³⁴ OECD/EUROSTAT defines eco-industries as “activities which produce goods and services to measure, prevent, limit, minimize or correct environmental damage to water, air and soil, as well as problems related to waste, noise and ecosystems. This includes cleaner technologies, products and services that reduce environmental risk and minimize pollution and resource use”.

³⁵ See International Ecotourism Society (1998).

natural areas by other actors (the private sector and non-governmental organizations) has increased significantly. In some cases—for example, in Costa Rica’s Monteverde area, Chile’s Pumalín Park and Argentina’s Esteros del Iberá—the protection of natural areas linked to ecotourism projects has been financed by private funds through land acquisition.

Several countries and institutions are also implementing public-private agreements on bioprospecting based on the opportunities and obligations set out in the Convention on Biological Diversity and on new developments in biodiversity-related areas of research such as biotechnology, molecular biology, chemistry and information technology (bioinformatics). This new research and development is rapidly generating new tools and bioproducts (Sittenfeld and others, 1999). Under such agreements, investors usually transfer biotechnology to developing countries and give them a share of any future commercial profits in exchange for access to those countries’ biological resources. There are examples of this practice in Mexico, Peru, Argentina, Chile and Costa Rica. The principal markets for bioprospecting are in the pharmaceutical, agricultural and biotechnological sectors.

Linking biotechnology and biodiversity through modern bioprospecting requires a scientific and institutional base in developing countries and the collaboration of different actors in both industrialized and developing countries: the private sector, governments, universities, financial institutions and local communities (Rojas, 1999). In Latin America, examples include the experience of Costa Rica’s National Biodiversity Institute with different private firms and institutes (Merck, Givaudan Roure, BTG, etc.) in research on medical, pharmaceutical and agrochemical products; and the Canada-Latin America Initiative on Biotechnology for Sustainable Development (CamBioTec), which promotes awareness of the business opportunities offered by biotechnology applications in Latin America and the Caribbean. It has encouraged direct contacts between biotechnology entrepreneurs from Latin America and Canada.

In the region, the business opportunities emerging from these markets are attracting capital from a variety of sources, such as development banks (at the multilateral, regional, subregional and national levels), the Global Environment Facility (GEF), venture capital and individual private firms. For example, Terra Capital is a for-profit fund that invests in Latin American enterprises that help to preserve biological resources, encompassing sectors such as organic agriculture, ecotourism and certified sustainable forestry. The Andean Development Corporation participates in a venture fund for entrepreneurs involved in biodiversity-related businesses. The Central American Fund for Environment and Development (FOCADES), which is financed by GEF, Central American governments and other donors, supports projects in the areas of biodiversity, climate change and international waters.

Private-sector environmental financing and investment in Chile

In the last few years, many developed countries have made considerable efforts to quantify environmental expenditure and investment. The information gathered through a significant number of surveys has been helpful for designing different methodologies for quantitative and qualitative analysis and constructing sustainability indicators that may facilitate such analysis. In Latin America and the Caribbean, one of the problems encountered in measuring environmental investment and expenditure by private corporations dealing with the environment is the lack of information and of a methodology for the periodic measurement of such investment and expenditure.

Efforts have been made in some countries of the region to measure private environmental expenditure, though the results are not very representative. In Costa Rica, for example, according to a survey of 15 associations, chambers of commerce and private corporations, environmental expenditure increased by 20% a year between 1992 and 2001 (Barrantes, 2002). In Argentina, according to a survey

of 32 large enterprises by the Argentine Business Council for Sustainable Development (CEADS), average environmental investment represented 13% of total investment between 1993 and 1997. Environmental expenditure amounted to 1.5% of total expenditure in 1996, and showed a strong increase from 1999 onward (Chudnovsky, López and Zarza, 2002). In Colombia, figures from the Ministry of the Environment show that private environmental expenditure amounted to 0.34% of GDP in 1995 (Galán and Canal, 2002). In Mexico, the Centre for Private-Sector Studies on Sustainable Development gathered information through questionnaires sent to corporations —without identifying the methodology used— which showed that private-sector environmental expenditure exceeded US\$2 billion in 1998 (Merino and Tobar, 2002). In Brazil, according to a survey of 15 industrial sectors in the State of Sao Paulo, performed by the National Economic and Social Development Bank/National Chamber of Industry/Small Business Support Service (BNDES/CNI/SEBRAE), annual environmental investment was approximately US\$ 140 million in 1998 and US\$ 89 million in 1999 (Young and Roncisvalle, 2002).³⁶

The five cases mentioned exhibit methodological problems with respect to the way environmental expenditure and investment information has been gathered and presented, since the samples usually are not representative and have been evaluated using dissimilar criteria, making them difficult to compare. As a result, the analyses conducted on environmental expenditure and investment trends, not only between similar countries in the region but even within the same country, have been of poor quality, limiting the design of public policy in this area.

In Latin America and the Caribbean, there are not many joint public-private information-gathering exercises that may generate indicators to measure the degree to which the concept of sustainability has been integrated into corporate activities. In some countries, such efforts have been undertaken by the public sector, and in others, by the private sector through business associations. In the region, Chile has implemented an interesting private-public exercise for the collection of information.

Since 2001, the Chilean authorities have made considerable efforts to obtain information from the corporate sector about the degree to which the environmental variable has been integrated into business activities. They have done so using two instruments. The first is the “Environmental Management of Industry” survey prepared by the National Statistical Institute (INE) with the support of the Federation of Industry (SOFOFA). The second is the inclusion of the topic of environmental investment in the statistical files that the Chilean Securities and Insurance Regulator (SVS) maintains on registered corporations.

The INE survey was sent to 700 enterprises, selected on the basis of value added out of a group of 4,657 establishments. The sample represents 15% of the firms listed in the directory of the Annual Industrial Survey, which, in Chile’s case, seems to be a reasonable proportion of the country’s total industry. Around 53% of the establishments in the sample were concentrated in the metropolitan region. The International Standard Industrial Classification (ISIC) was used to classify corporations by branch of industry. The data reveal interesting results that provide a closer view of the real importance that corporations attach to environmental management and the characteristics to which they give priority.

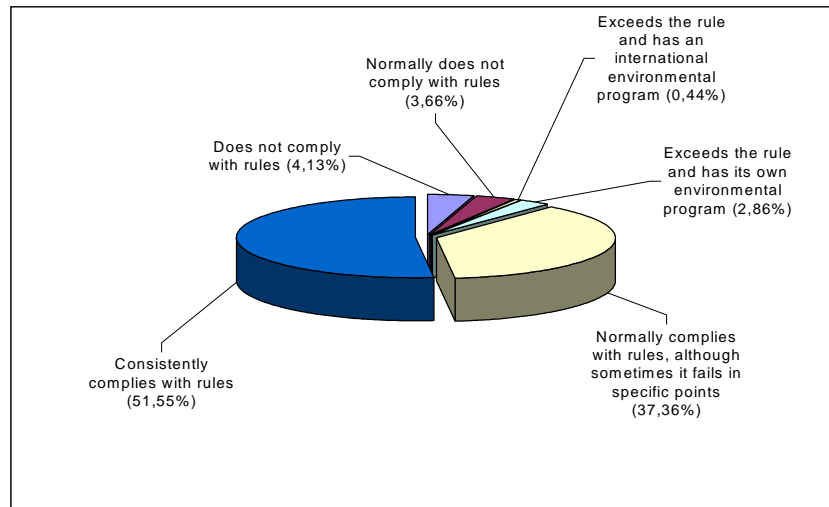
According to this survey, fewer than 50% of the corporations have invested in the environment in the last decade; most of them report amounts below US\$ 50,000. The survey shows that the corporations primarily use three investment-financing instruments. About 43% of the corporations, mostly small and medium-sized enterprises (SMEs), invest through self-financing. The second instrument is the one

³⁶ For more information on the methodology used to measure private expenditure in the countries, see ECLAC (2001g), which summarizes the five case studies mentioned.

provided by CORFO,³⁷ which is used mainly by large firms. Only 5.5% obtain funds through loans from private banks; this mechanism is used mainly by medium-sized firms. It is expected that such firms will make increasing use of CORFO funds in the period 2000-2005 and that self-financing will continue to be proportionately high.

Around 45% of the corporations claim to meet environmental standards consistently; almost 33% of them claim to meet these standards regularly, while recognizing that they do fail in certain specific areas. Only 3.6% say that they rarely comply with regulations. The importance attached to standards is illustrated by the fact that 28.7% of the corporations have received technical assistance in the area of environmental regulations, while 38.4% of them do not receive any type of technical assistance in any area.

Figure III.5
CHILE: ENVIRONMENTAL PERFORMANCE OF FIRMS



Source: Based on data provided by Chile's National Statistical Institute.

According to SVS, the second supply of data, more than 80% (418) of the corporations supplied the requested information, for the first time through the statistical file corresponding to the first two quarters of 2001. Of this group, 25.36% reported their environmental expenditure and investment. These percentages have increased in subsequent reports, reaching a 91% response rate in December 2001.

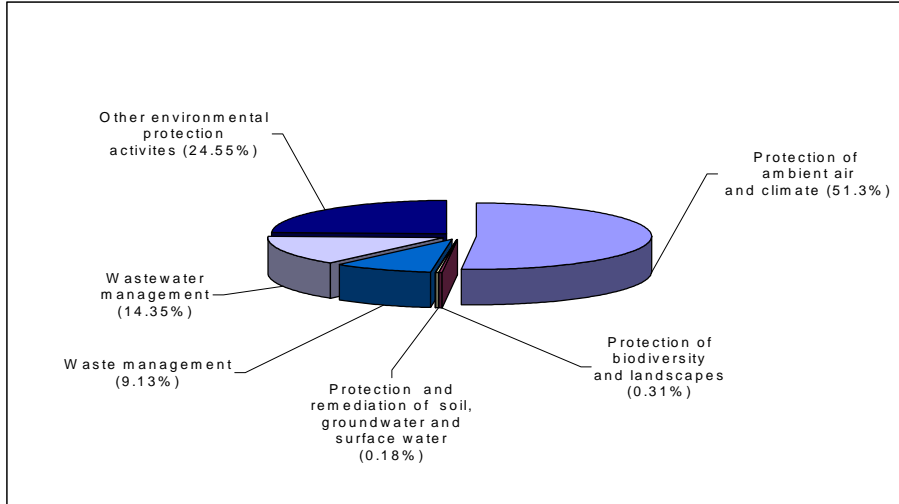
The methodology used to classify SVS information is based on the statistical instrument known as the Classification of Environmental Protection Activities and Expenditure (CEPA 2000), elaborated by EUROSTAT and approved by the United Nations in early 2002.

In December 2001, the area that received the highest percentage of expenditure and investment was clean air protection (51.35%), followed by other environmental protection activities (24.55%) and liquid waste management (14.35%).

³⁷ The Productive Development Corporation (CORFO) is under the authority of the Ministry of the Economy.

Using ISIC Rev. 3 categories to classify the SVS Sample, the service sector accounts for the largest share of expenditure and investment (43%), followed by the manufacturing sector, especially the food and beverage industry (41%). Nevertheless, 78% of the total amount disbursed by corporations on the environment is spent by the primary sector.

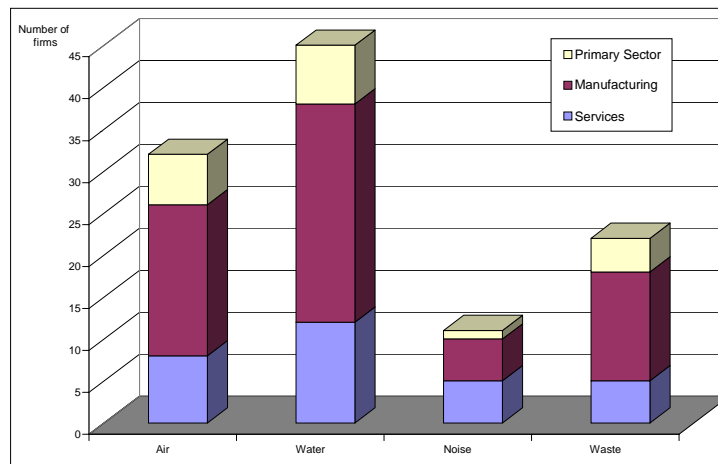
Figure III.6
CHILE: SHARE OF INVESTMENT AND SPENDING, DECEMBER 2001



Source: Based on information provided by SVS and the State-owned copper, petroleum and mining enterprises (CODELCO, ENAP and ENAMI). Classified according to CEPA 2000.

Figure III.7 shows that the manufacturing sector leads investment in at least three areas: air, water and solid waste. This is probably due to environmental regulations, which set more standards for this sector because of the volume of emissions, and to the problem of visibility, which generates pressure from the community. Another explanation could be that the manufacturing sector, which has been the focus of most of the efforts of sustainable development policy, has greater access to financial instruments for the promotion of clean production.

Figure III.7
CHILE: PRIVATE EXPENDITURE/INVESTMENT TO MITIGATE EMISSIONS, BY SECTOR



Source: Based on information provided by SVS and the State-owned copper, petroleum and mining enterprises (CODELCO, ENAP and ENAMI). Classified according to CEPA 2000.

With respect to exports and foreign participation, 69% of the firms in the sample that carry out export activities have made environmental investments/expenditures.³⁸ Conversely, only 19% of the corporations in the sample that do not export have made environmental investments/expenditures. Of the 19% of the corporations in the sample that have some degree of foreign ownership, 38% invest in the environment, whereas only 27% of the corporations with no foreign capital have made disbursements directed to the environment. Both results show that the stronger the link to external markets, the greater the corporations' concern about the environment.

The sample provided by the Chilean Securities and Insurance Regulator (SVS) has some methodological limitations. However, the total sales of the firms in this sample, together with CODELCO, ENAP and ENAMI, represent an amount equivalent to 60% of Chile's GDP. Nevertheless, the information is limited with respect to the firms' financing sources and the characteristics of their expenditure and investment. Although the questionnaire is voluntary, the firms' response level is fairly high, yet the capacity to verify the information they have provided is lacking, mainly because SVS has no role in data analysis.

In any event, this sample represents a concrete instrument for measuring the degree of corporate management's involvement in the area of environment and for quantifying the efforts made by corporations in this area. The sample is very interesting in itself, since it consists mainly of larger corporations that can afford to allocate resources for social and environmental protection.

Box III.3
CLEAN PRODUCTION IN CHILE

In Chile, clean production is regarded as the link between environmental policy and productive development. In January 2001 the Committee for the Development of Clean Production was created to foster contacts, dialogue and action among the different stakeholders (government-corporations-consumers). Through this Committee, a total of US\$ 3 million was allocated to funds for the development of clean production. The private sector made a similar contribution, and, since 2001, corporations —mainly SMEs— have had access to two environmental funds, which operate on a co-financing basis and are available through CORFO.

The Committee's four areas of activity are public-private cooperation, incentives and financing, technical capabilities and public management and coordination. Its objectives are: (a) to solve the pollution problems of corporations; (b) to improve corporations' compliance with the rules of the different regulatory institutions; and (c) to enhance corporate image.

One of the government mechanisms that link the private and public sectors is the conclusion of Clean Production Agreements (CPAs), which are voluntary public-private agreements. There are two framework agreements (agro-industrial, which is already in effect, and large-scale mining, which is still under review) and six specific ones for the cellulose, chemical, forestry, smelting, pig farming and construction sectors.

One objective of clean production is to reduce, reuse, recycle and dispose of the largest possible amount of solid, liquid and hazardous waste within and outside the plant.

The public entity in charge of infrastructure, transport and water (the Ministry of Public Works and Transportation) is responsible for making 60% of public investments, and only 7% is assigned to environmental and land-use planning, impact assessment, environmental regulation, territorial design, the framework for participation plans, etc. In these areas, the use of clean technologies, policy transparency and compliance with regulations have become central themes.

Among the collateral benefits of applying clean production mechanisms in the transport sector are those linked to technological externalities. Such benefits include the mobilization of additional investment, energy efficiencies, renewable energy and clean production technologies (low emissions); employment and health improvements; reduction of polluting emissions with local and global impacts; and the indirect effects produced on activity and employment.

The growing demand, in international markets, for goods and services that comply with quality standards and have been produced with clean technologies is generating strong pressures on corporations, forcing them to take a more responsible attitude towards the environment.

Source: Chilean Foreign Investment Committee, *Chile's Environmental Management Framework: Business & investment opportunities*, November 2001.

³⁸ This information was obtained from a report provided by Chile's Foreign Investment Committee and the web sites of the corresponding corporations (2002).

In Latin America, the Chilean case is a clear example of how public policy in the area of sustainable development is shaped by the interaction of the private and public sectors. One type of private-public initiative in the design of public policy is the application of clean production instruments (clean production agreements, endorsement instruments, etc.). The gathering of information in the area of environmental management in industry and other business sectors is another example. While this effort may present some problems—for instance, it is not applied to the primary sector or to services—it is a means of measuring corporations' involvement in environmental protection and receptiveness to the different public instruments that include environmental standards, as well as financing trends, sources of information, etc. At the same time, it is quite representative in terms of the size of the corporations (SMEs and large firms) and economic sectors considered.

IV. CONCLUDING REMARKS

Until 1992 the conventional treatment of financing for sustainable development was premised on a pre-globalized world.¹ The major issues at stake were the relationships between nation-States and the flows of funds between countries and particularly between governments. Ten years later, in 2002, the expansion of economic growth led by financial and trade liberalization and new developments in information technology have failed to fulfil the expectations of the developing world and have given rise to new global challenges: a wider gap between rich and poor, recurrent bouts of global economic instability, increasing economic concentration, and the shadow of war and terrorism.

In the light of increasing political, economic, and social instability, it is clear that something more is needed than the ideals that inspired the 1992 Earth Summit and that served as a basis for visions of a new global compact capable of producing a sustainable future. This is particularly true for the countries of Latin America and the Caribbean. The region is going through one of the most critical stages of its modern history. An adverse situation of such proportions had not been seen since the debt crisis of the 1980s. During the first half of that decade, output rose by less than 3% and per capita output fell by 7%, also amidst extreme volatility. The economic situation in 2002 clearly brings to light the disparity between the expectations awakened by the new economic model that took hold in the region during the 1990s and current growth prospects, thus revealing the existence of a gap that raises a series of questions as to the economic and social sustainability of present development patterns. This year, the region will have lost a full half-decade worth of growth, and this will be reflected in a decline of almost 2% in per capita GDP compared to 1997, in conjunction with enormous volatility. Looking beyond the immediate situation, there is concern that the prevailing economic climate in the region may become one of low growth, worsening economic conditions and bleak prospects for the future.² In spite of the difficult economic and social situation facing the region, in the course of the last decade an awareness of the environmental aspects of development and the related concept of sustainable development have gradually penetrated public policy as well as some economic and social practices. This has been reflected in the development of institutions, strategies and policies as the countries of Latin America and the Caribbean continue to devise creative options to respond to the new international context.

Within this context, the question is: How should the global community express its commitment to a development agenda that gives priority to social equity and environmental responsibility? How should the world conceive of financing and sustainable development in this new situation? And finally, what steps can a region like Latin America and the Caribbean take in order to reap greater benefits from international cooperation and improve its financial position so that it can move more forcefully towards sustainable development?

The first general conclusion that emerges from the analysis contained in this document is that the entire debate on financing development must be seen in a different light, as evidenced by the situation described above and the outcomes of the Millennium Summit and the conferences held in Doha and Monterrey. In the past decade, global decision-making has ceased to be the exclusive domain of governments, and new forms of networking have emerged which involve global players such as multinational corporations, civil society, parliamentarians, etc. The main issue is no longer how to

¹ See chapter 9 of "The sustainability of development in Latin America and the Caribbean: challenges and opportunities" (ECLAC, 2001h) for an interesting analysis of the new approaches needed to address this topic in the age of globalization.

² See ECLAC (2001d).

mobilize scarce resources but how to achieve broad-based legitimacy for development finance within a framework of mutual responsibility on the part of all countries and institutional transparency.

Clearly, the Millennium Summit brought poverty back to the centre of the international debate, and the agreement reached there regarding a set of development goals is likely to shape and underpin development cooperation for at least the next 20 years. The Millennium Declaration also reflects a conceptual shift in relation to the environment. In 1992, the environment was regarded as a centrepiece for economic development as it relates to the production and consumption patterns of modern society; 10 years later, in the Millennium Development Goals, it is seen more in terms of safe water, health care and resource depletion in deprived areas.

In spite of these conceptual problems, the debates surrounding both financing for development (FfD) and the World Summit on Sustainable Development still attest to the absence of creative thinking in the approaches being taken to the need for additional resources to finance the environmental dimension of sustainable development. There is consensus as to the need to mobilize new and additional resources for financing the transition towards sustainable development. Yet differences persist between developed and developing countries regarding the sources that should provide these new financial resources. Developing countries argue that these funds should come from ODA, together with a more equitable distribution of FDI and fair and equitable free trade. Developed countries contend that the bulk of such resources should come from domestic sources or should be mobilized through policy reforms that will make developing countries more attractive to foreign investors.

The International Conference on Financing for Development held in Monterrey succeeded in reversing the downward trend in ODA, with developed countries committing themselves to increasing current levels and making efforts to reach the United Nations target of 0.7% of GNP as a matter of top priority. Nevertheless, ODA levels as well as allocation criteria and priorities continue to be the object of ongoing negotiation. Although there have been considerable changes in the approaches taken to aid over the past decade, some issues remain unresolved, such as: resource allocation criteria (ranging from promised performance to demonstrated actions, increased transparency and an improved system to ensure accountability); the roles of recipients and donors; and the significance of ODA in leveraging additional financing for development through FDI, trade and domestic resources.

On the other hand, even though the FfD outcome document did not focus explicitly on the financing of global public goods (GPGs),³ there was considerable discussion of this issue in Monterrey and a sense that a number of governments would like to see further progress in this area. This question is implicit in the discussions to be held at the forthcoming World Summit on Sustainable Development in Johannesburg. In the wake of the Monterrey Conference, the prevailing spirit of the preparatory process for the Johannesburg Summit has been marked by a recognition that the FfD conference was a watershed event in which the global community committed to furnish increased resources within the context of a global development partnership. There is also an awareness that the Summit in Johannesburg may provide an opportunity to put these resources to work for sustainable development. However, the reopening of the

³ Global public goods are, for example, the environmental services provided by all natural resource assets and ecosystems, which produce a constant flow of positive global externalities such as climate stabilization and biodiversity conservation. There is a need to design international mechanisms to enable countries to capture the economic value of these positive global externalities. Due to the current impossibility of capturing the economic value of these resources, the pattern of incentives at the micro level is leading to a rapid conversion of natural ecosystems to marginal economic uses such as subsistence agriculture and grazing. These land-use changes are frequently irreversible and thus entail the permanent loss of these environmental services.

debate on the principle of common but differentiated responsibilities is hindering further progress in this respect. This could also explain why the most contentious issues during the preparations for the World Summit on Sustainable Development have been financing, trade, good governance and rules of investment and corporate behaviour.

In the aftermath of Johannesburg, it is expected that further commitments will be made and initiatives will be put in place to enhance the availability of financial resources and technology for the implementation of Agenda 21 and that both the public and the private sectors will be involved in this process. This will entail a major effort to seek out new modalities for increasing investment and financing and for creating markets that will contribute to a fuller implementation of international and national sustainable development priorities.

In the light of the Johannesburg Summit, two challenges need to be met with regard to ODA: to achieve complementarity between ODA funding and private investment for technological innovation, especially for the transfer of clean technologies; and to allocate additional funds (complementary to ODA) to address concerns relating to global public goods.⁴ These challenges need to be approached from a medium- and long-term perspective and will require a shift from a projects- to a programmes-based approach.

In addition, further progress is needed on the design and implementation of alternative mechanisms for technology and financial transfers, and ways have to be found to derive greater benefit from the opportunities offered by the various debt relief systems in order to support sustainable development and environmental protection initiatives. Such initiatives would also benefit from greater synergy among ODA, private financial flows and public-sector environmental investment.

Latin America and the Caribbean should seek broader involvement in concessional international multilateral funds that are devoted to addressing global environmental problems.

This point is especially important in relation to the Global Environment Facility (GEF) and the Montreal Protocol Multilateral Fund. The operational areas of GEF need to be broadened in order to respond to the needs and realities of developing countries as well as the priorities of the international agenda. Efforts should also be made to substantially increase the volume of flows allocated through both GEF and the Montreal Protocol Multilateral Fund, as the magnitude of global problems far exceeds the capacity of their current budgets. The countries of the region should seek to play a greater role in establishing the criteria and mechanisms for these allocations with a view to guaranteeing their transparency and ensuring that allocations are consistent with the decisions of the signatories to the relevant conventions. In addition, steps need to be taken to provide channels for private-sector involvement in projects that are backed by international multilateral funds in the region. This is particularly important for the promotion of sustainable practices in small and medium-sized enterprises.

This is a particularly significant area of action, as it offers the potential to capture the economic value inherent in the region's rich natural endowment and its comparative advantages through the global environmental services these resources provide. The region boasts forest ecosystems, for example, which play a major role in the stabilization of the global climate, together with a great wealth of biological diversity. The region must find mechanisms to attract a dynamic flow of international resources to finance the conservation and sustainable management of its natural endowment, which is of global importance. Without a stable flow of financial resources, it will not be possible to undertake the investments required

⁴ See United Nations (2001b).

to guarantee the continued provision of global environmental services from these natural assets. The negotiation of the Clean Development Mechanism provided for in the Kyoto Protocol represents the first multilateral initiative to create a market along these lines and sets an important precedent for future advances in the same direction. In the light of the Kyoto Protocol, it would be highly advisable for the countries of Latin America and the Caribbean to act collectively to negotiate and consolidate the creation of structures that can help capture the economic value of the global environmental services that the region provides. Although the negotiations have been slow to move forward, bilateral transactions that are now taking place are laying the technical and financial foundations for the emerging carbon market as well as establishing methodologies for preparing specific projects that can be competitive in this market. The Latin American and Caribbean region needs to undertake the necessary empirical work to begin evaluating the region's potential supply of global environmental services. In addition, the region could seek a more active role in the new financial mechanisms—including the Special Climate Fund and the Adaptation Fund—adopted at the sixth session of the Conference of the Parties to the United Nations Framework Convention on Climate Change, held recently in Bonn, Germany.

Multilateral banks should carve out a more active and coordinated role for themselves in areas relating to the Kyoto Protocol mechanisms, with broader participation by the regional and subregional banks. This would make it possible to link technical cooperation of a concessional nature to credit systems and encourage public-private partnerships for sustainable development projects and good environmental practices. Countries should have clear strategies for channelling multilateral bank credits and for increasing the social rate of return on projects supported by this type of external financing. These funds would thus complement national sources of financing effectively and would be used to address the priorities of the countries concerned while avoiding the distortions that can be imposed by the international environmental agenda.

Clearly, the environmental and social impact of a scheme for integrating the region into the world economy will depend to a great degree on the pattern of specialization that is developed. If the countries of Latin America and the Caribbean work to enhance—in both quantitative and qualitative terms—the part they play in international trade and if their pattern of production specialization aligns itself with the tendencies described in chapter II, there will be greater investment in services, technology and environmental management systems in order to deal with the environmental externalities associated with the new pattern of specialization.

The region will need to develop coordinated environmental regimes in order to bring its production practices into line with the demands of international markets. Such regimes are also necessary simply to ensure the continuing survival of the region's production base and natural endowment by preventing its environmental resources from being consumed more rapidly than their natural regeneration rate allows, which would lead to environmental degradation. The governments of the region will therefore need to step up their efforts to design and implement policies and incentives that will enable them to effectively steer private investment in general, and FDI in particular, towards greater environmental sustainability. The uncertainty and instability of existing regulatory frameworks must be remedied, and voluntary ISO 14000-type regulatory systems must be introduced to foster better environmental practices. This will boost investor confidence and generate a climate of more straightforward cooperation between the environmental authorities and the private sector.

As global demand shifts towards tighter environmental requirements for products and processes, countries should respond by adopting clear, proactive and forthright positions on the trade environment issue.

In the sphere of domestic financing, budget deficits and the need to generate resources to meet external obligations—in particular debt servicing—have led to considerable budgetary cuts, and the items that have historically suffered the most are those associated with sustainable development and the environment. Continuity in these areas must be ensured by strengthening environmental policies and institutions, consolidating structures and modernizing regulatory frameworks. These steps would make for more reliable and consistent public spending directed towards achieving national sustainable development targets. Efforts along these lines should be preceded by the systematization of information on environmental spending, financing and investment at all levels of government across the region and on environmental investment by the private sector. To this end, it is proposed that governments establish centralized follow-up systems using comparable methodologies in order to provide an empirical basis for public policy and business strategy decisions.

Mechanisms are needed at the domestic level to permit environmental management systems to achieve at least partial self-financing status. There are promising opportunities to increase financing for environmental management by levying general or specific taxes on electricity, fuels, motor vehicle ownership or land, for example. Other possibilities would be to reallocate receipts from existing levies on environmentally-related services so that they could be used for environmental purposes, to replace taxes on “goods” with taxes on “bads” (i.e., undesirable environmental externalities) or to add an increment for environmental purposes to existing taxes.

Before taking any steps of this kind, however, countries must identify what changes are required in their legal and institutional frameworks in order to fully support the application of fiscal environmental-management instruments and levies on the use of natural resources and environmental services. In the course of this process, they must also bear in mind that the issue of North-South distribution is reflected in the income gap in the countries of the region. The design, application and operation of environmental taxes, levies and tariffs should be directed at achieving two objectives: (i) to signal the real cost of environmental resources to economic agents in order to encourage more rational conduct in production processes and consumption; and (ii) to raise the funds to consolidate a self-financing approach in the field of environmental management. With a view to these objectives, a consolidated fiscal reform agenda should be established in order to develop the potential usefulness of economic tools for environmental-management purposes, and operational and coordination links should be set up between central authorities and local governments to facilitate the implementation of such an agenda.

In this regard, it should be noted that instruments of indirect regulation (market-based or economic instruments) ought to be viewed as complementary to—rather than as a substitute for—direct environmental management instruments (command-and-control regulation). It is therefore essential to strengthen the public institutional structure and the operational capacity of all levels of government to successfully perform environmental management tasks using an innovative mix of policy instruments.

In order to coordinate environmental policies effectively with the rest of the public-sector apparatus, it is necessary to forge closer cooperative links between the treasury or ministry of economic affairs, on the one hand, and the environment ministry, on the other. Coordination between these bodies is essential in order to create a platform for the generation of a vision of sustainability and prospects for long-term private investment and to engage the national and international financial sector (including insurance firms and development banks) more effectively in the pursuit of environmental sustainability.

In synthesis, if economic and social growth is to be achieved within the framework of a long-term vision that fully incorporates the environmental dimension, then consistent flows of public and private financing and investment for the environment from both international and domestic sources will be essential in order to deal with accumulated environmental liabilities and existing environmental challenges, on the one hand, and, on the other, to generate options for the future that will guarantee the sustainability of development.

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