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CONTENTS

PREFACE

I. THE IDB AND THE ENVIRONMENT 1

The Reorganization and Environment and Natural Resources Management	1
Composition of the Bank's Environment and Natural Resources Portfolio	1
Loans, Technical Cooperation and Portfolio Development	3
Strategies and Good Practice	6
Streamlining Project Environmental Review	6
CESI Reviews in 1997	8
Geographic Information Systems (GIS)	8
Independent Investigation Mechanism	9
The Public Information Center	10
Public Participation	10
Future Mandates	10

II. STRATEGIES FOR RURAL AND AGRICULTURE DEVELOPMENT AND OTHER STRATEGIC ADVANCES 11

A Strategy for Rural Poverty Reduction	11
A Proposed Strategy for Sustainable Food and Agriculture Development	15
Water Strategy Progress Report	17
Coastal and Marine Strategy Progress Report	17
Indigenous Communities	18

III. HIGHLIGHTS FROM THE REGION 20

HIGHLIGHTS FROM REGION I	20
The National Environment Fund in Brazil: Lessons Learned	20
Ecotourism and the Mercosur	21

HIGHLIGHTS FROM REGION 2	24
Actions to Improve the Response Capacity of the Bank in Environmental Management	24
Important Events Held in Support of Sustainable Agriculture	25
Support for Reform in Water Resource Sub-Sectors, Potable Water and Sanitation	26

HIGHLIGHTS FROM REGION 3	26
Andean Regional Biodiversity Issues	26
Water and Sanitation	28

ENVIRONMENTAL OPERATIONS	29
Urban Environment and Pollution Control	29
Water Strategy	33

Natural Resources Conservation and Rural Development	34
Coastal Zone Management	36
Energy	36
Environmental Information Systems	37
Environmental Institutions and Management	37
Environmental Funds	38
Environmental Strategies	39
Natural Disasters	39
Involuntary Resettlement	40
IV. COOPERATION FOR SUSTAINABLE DEVELOPMENT	42
IDB and the Global Water Partnership	42
Water Resource Management: Institutional and Policy Reform	42
Meeting of River Basin Organizations	42
Summit of the Americas	43
Commission on Sustainable Development	43
Private Sector	43
Sustainable Markets for Sustainable Energy	44
Energy and Urban Transportation	44
Forestry and Protected Areas	45
Desertification Convention	45
Devolution in Environmental Policy	45
Bank Briefings	46
Film Festival	46
Web Page	46
V. PUBLICATIONS	48
Of Special Interest	48
Publications of other Entities Undertaken with IDB Financial Support	48
Papers by IDB Staff Appearing in Journals or Presented at Professional Meetings	49
Evaluation Studies	52
Regional Research Network Studies	53
Technical Papers and Guidelines by the Environment Division (SDS/ENV)	55
Environmental Guidelines	61
Indigenous Peoples and Community Development Unit (SDS/IND)	62
ENVIRONMENT DIVISION PUBLICATIONS	63

PREFACE

During 1997, the Bank undertook a broad review of what has been accomplished to date under IDB-8, the Capital Replenishment approved three years before by the Bank's Board of Governors. Under the IDB-8 Agreement, the Bank has been directed to focus its development efforts on helping borrowing member countries create and sustain policies that are conducive to macroeconomic stability, support private investment, and address the critical need to bring excluded groups into the mainstream of society. In the agreement, special emphasis was given to three key areas of Bank activity: poverty reduction and social equity, modernization and integration and the environment. On all of these fronts, the Bank has moved forward vigorously, increasing its lending and technical support for new approaches and programs for addressing these critical issues and achieving sustainable development in Latin America and the Caribbean.

This 1997 Annual Report on the Bank's activities in environment and natural resources reviews the record since IDB-8 and highlights some of the most interesting and innovative initiatives that have been launched during the past year. It draws from the work of the Environment Division of the Sustainable Development Department (SDS/ENV), the environment and natural resources divisions of the three Regional Operations Departments (RE/EN 1, 2, and 3), the Private Sector Department (PRI), the Multilateral Investment Fund (MIF) and other offices and divisions of the Bank. The Report offers a comprehensive picture of environment and natural resources lending for 1997, new strategic approaches, Bank operations, the output of publications, and the Bank's widespread engagement in cooperative activities, conferences and technical workshops with other multilateral lenders, UN agencies, bilateral donors, NGO's and governments concerned with improving environment and natural resources management in the Hemisphere.

The Bank's lending for the environment and natural resources sector in 1997 reached \$862 million, rising slightly over the previous year to approximately 14% of the total lending for the year. Reflecting the pressing problems of urbanization in the region, the lion's share of the loans (\$588 million) were for urban water and sanitation projects, slum upgrading, the recuperation of a degraded urban watershed and other urban environmental operations. While, in comparison, the total amount of rural lending was not large, one project in Nicaragua reflects an innovative approach to spur agricultural growth and rural development, and two projects in Belize combined to address complex and volatile issues of development and land rights affecting communities in the southern region of the country. The Energy Efficiency program in Colombia opens up a new area for Bank lending that is expected to grow in importance. Finally, two substantial disaster relief loans were made to Ecuador and Peru on an emergency basis to prevent and mitigate the potentially devastating effects of El Niño.

Over the years, the Bank has developed a highly productive partnership with its 26 borrowing member countries, as the largest provider of development lending for the region and as a source of strategic and technical support and innovation. Working closely with government agencies, experts and NGOs from the Region, the Bank was engaged in a number of noteworthy strategic initiatives last year. As described in Chapter II of the report, new strategies for integrated water resources management and coastal and marine resources management were ready for review by the Board of Executive Directors and the proposed new strategy for the Reduction of Rural Poverty had been presented to the Board for its first formal review.

The Strategy for the Reduction of Rural Poverty provides a framework for integrating the Bank's critical concerns for economic and social development, modernization of the role of the state and

private enterprise, and more effective management of environment and natural resources. In establishing the fundamental requirements for effective poverty reduction and growth in rural areas, the strategy underscores the indispensable need for a sound macroeconomic and sectoral policy framework, the need for sustained investments in human resources through education and social services, and draws a strong link between the reduction of poverty and increased ability to preserve the environment. Indigenous communities also have a vital role to play in the effective implementation of such a strategy. The framework developed in the strategy has shaped thinking about the Bank's projects in Nicaragua and Belize, as well as the approach being taken for the development of a Sustainable Development Program for the Province of Darien in Panama, the culturally diverse, ecologically fragile and extremely poor easternmost province of the country.

Recognizing the importance of integrating environmental and natural resources management objectives into the Bank's country programming, the three regional Environment and Natural Resources Divisions also have started to develop Bank environmental strategies for individual countries. Last year, RE3/EN3 had completed environmental strategies for Peru and Jamaica and was developing the basis for strategies for Barbados and Trinidad; RE2/EN2 is defining an approach to preparing strategies for the countries in Central America and supported the Panamanian Government's effort to develop its strategy for the country; and RE1/EN1 was launching the development of strategies for its environmental programs in Argentina and Paraguay. Once this first round of country strategy development is completed, the Bank will be extremely well positioned to make a significant contribution to improving environment and natural resources management in the region.

Last year, the Bank also embarked on a broad review of its environmental strategies and policies in order to determine the need for new strategies that address the fundamental transformations that are occurring in Latin America and the Caribbean. Given the pace of economic, social and institutional change taking

place in the region, there is a clear need to define strategies for addressing environment and natural resources management issues with innovative policy instruments and institutions that are appropriate to the new reality emerging in the Bank's member countries. This will be a critical challenge for the coming year.

One of the potentially very significant highlights of the year are the steps being taken to explore new approaches to financing environmental investments. As noted in the discussion of Regional operations, the Bank, using funds from the Netherlands Environment Technical Cooperation Trust Fund, is examining the use of alternative financial instruments for investing in the conservation of biodiversity. This study will be complemented by additional work on environmental funds and the evaluation performed by RE1/EN1 of the FNMA in Brazil. It is designed to establish the foundation for new investment vehicles for the Bank. The Bank's Private Sector Department launched a first during the year with the use of a partial risk guarantee it approved for a water treatment plant in Bogota, Colombia. Continuing with its work developing environmental investment funds, the Multilateral Investment Fund (MIF) approved investments in a risk capital fund that will support small environmental businesses in Mexico and in another fund designed to support NGOs engaged in conservation related microenterprise. Mobilizing additional funds for environmental investments is one of the highest priorities to achieve sustainable development in the Region.

In the final chapter of this year's Annual Report a special effort has been made to offer a sampling of the policy research and technical papers that have been published by the Bank during the year. Some of are official strategy documents and best practice papers while others are technical papers prepared for the Bank by expert consultants, or research prepared by Bank staff for specialized professional journals. All represent noteworthy contributions to the Bank's knowledge in the field of environment and natural resource management.

In an effort to make these and other materials avail-

able to a broad readership, the Bank is making a concerted effort to expand its WEBSITE. For those interested in additional information please access the Environment Division of the Sustainable Develop-

ment Department at Web page address <http://www.iadb.org/sds> or the Bank's main Web page <http://www.iadb.org>.

I. THE IDB AND THE ENVIRONMENT

Recognizing the severity of the threat to sustainable development posed by the persistent degradation of the environment and natural resources in Latin America and the Caribbean, in 1994 the Eighth General Increase in the Resources of the Inter-American Development Bank (IDB-8) strongly reaffirmed the Bank's commitment to enhancing the environmental quality of Bank operations and supporting the improvement of environment and natural resources management in the region. The Bank's reorganization in 1994 strengthened its ability to fulfill the firm commitment spelled out in the mandate to "work with borrowing countries to ensure that all operations it finances are environmentally sustainable." In addition, lending for environment and natural resources operations, while below the peak achieved in 1993, clearly has focused on the several areas specifically highlighted by the mandate of the IDB-8 Replenishment. The following review of Bank's activities in environment and natural resources during the past three years of IDB-8 offers a framework for looking ahead to new roles for the Bank in these critical areas.

The Reorganization and Environment and Natural Resources Management

The 1994 reorganization rationalized and decentralized the assignment of responsibilities for environment and natural resources management activities. Primary responsibility for programming and preparing new operations in the area was lodged in the Environment and Natural Resources Divisions (EN) of the three Regional Departments, while responsibility for developing new environment and natural resources strategies and policies, preparing technical analyses, good practice studies and training courses, and reviewing the quality of operations in these sectors was assigned to the Environment Division of the central Sustainable Development Department (SDS/ENV). In addition, SDS/ENV provides technical support in critical areas to the Regional Depart-

ments. Within these Departments, primary responsibility for project execution remains with the Country Offices.

While the character of these new relationships is still evolving, the creation of the Sustainable Development Department and, within it, SDS/ENV with its explicit Bank-wide responsibilities, has greatly enhanced the Bank's potential for designing innovative policies and approaches and improving the effectiveness of operations. Early evidence of this lies in the strategy documents and good practice studies that SDS/ENV has produced and in the redefinition and streamlining of the Environment Committee (CMA), which in November 1996 was renamed the Committee on Environment and Social Impacts (CESI).

Composition of the Bank's Environment and Natural Resources Portfolio

Reflecting the mandate of IDB-8, the Bank's dialogue and programming process with borrowing countries has focused more attention on critical environmental policy and management issues. A growing recognition of the importance of environmental sustainability is reflected in Country Papers and Programming documents, and, in some instances, such as Peru, Jamaica, Panama, Argentina and Paraguay, the Bank is developing more detailed country environmental strategies to guide future environmental programming and operations. Increasing review of Country Papers and participation in programming missions by central departments like SDS offers strong analytical support to regional departments to achieve the integration of environmental issues and initiatives into the development of the strategies of borrowing countries.

The composition of the Bank's lending and technical cooperation operations also is aimed at the wide range of environmental management needs addressed

by the Replenishment; strengthening legal and regulatory frameworks and environmental management institutions; improving the urban environment; promoting the conservation and efficient use of energy; and, improving the sustainable management of agriculture and natural resources. Of the total number of projects approved from 1990 through 1996, water and sanitation represented 34.8%, energy 32.6%, and agriculture 22.8%, while forestry was 1.3%, and projects involving environmental protection, strictly speaking, amounted to 8.5% of the total portfolio.

Along with the policy studies and comparative analyses of institutions mentioned earlier, the Bank has undertaken operations explicitly aimed at strengthening environmental policy and management institutions in countries as diverse as Argentina, Bolivia, Chile, Colombia, Peru, El Salvador and Panama. A regional compilation of environmental legislation is being carried out in Central America, and environmental considerations have been introduced into a number of privatization and regulatory reform projects of the Bank's Multilateral Investment Fund (MIF).

A substantial portion of Bank lending has been directed at urban environment and pollution control projects. In 1996, for instance, large-scale metropolitan sanitation projects in Mexico, Uruguay, Bolivia and Guatemala made up the lion's share of the environmental portfolio. Major projects have also been financed for clean-up programs in Guanabara Bay, Bahia Todos os Santos and Lake Managua. The Bank has supported innovative work upgrading low-income settlements in Brazil. With over 75% of the region's population living in urban areas, the Bank will continue to place a high priority on seeking solutions to urban environmental problems. This area received top priority in 1997 (see the next section).

In the areas of rural development, sustainable agriculture and natural resources management, the Bank also continues to fulfill the mandate of the Eighth Replenishment. New Bank strategies for Rural Poverty Reduction, Integrated Water Resources

Management, Sustainable Agriculture, and Coastal and Marine Resource Management have been developed, and a variety of innovative operations also are in place in each of these areas. In Guatemala's Peten, as well as in Nicaragua, Colombia, and, more recently, in Panama's Darien province, countries have launched sustainable rural development projects with Bank support. New projects have started in watershed management, the modernization of agricultural services, and land titling and cadastral reform. In addition, the Bank has been working with Barbados, Ecuador, Honduras and Brazil on comprehensive, community based coastal management and marine conservation programs.

The IDB and 15 Latin American and Caribbean countries, led by Colombia, have joined forces to create the Regional Fund for Agricultural Technology. An endowment fund designed to finance high-priority strategic agricultural research, the Fund is expected to generate an annual flow of \$10 million to be allocated on a competitive basis to research on increasing the productivity of food crops, management of natural resources, and strengthening institutional capacity in agricultural policy research and applications.

In the field of renewable energy and efficiency, the Bank approved a regional technical cooperation of close to US\$1 million in 1996 to set up a special program on Sustainable Markets for Sustainable Energy (SMSE). The program will identify key barriers to investments in energy efficiency and clean energy sources (EE/CES) and develop a pilot program to assist countries in mainstreaming EE/CES as part of their energy strategies. A number of countries have already stepped forward to participate in the program which is complemented by contributions from Mexico, the U.S. government and the European Commission.

This review of Bank activities in support of IDB-8 mandates for environment and natural resources would not be complete without mention of innovations the Bank has made in financing environmental projects. In Brazil, the Bank provided lending for the establishment of the National Environment Fund,

and through the MIF two separate investment funds have been established: one for renewable energy projects and another for a variety of eligible environmental investments. With support from the Dutch Trust Fund, it has also initiated a study on innovative financing for biodiversity conservation, which is expected to lay the foundation for a broader look at alternative ways to mobilize funding for environmental investments in the region.

Loans, Technical Cooperation and Portfolio Development

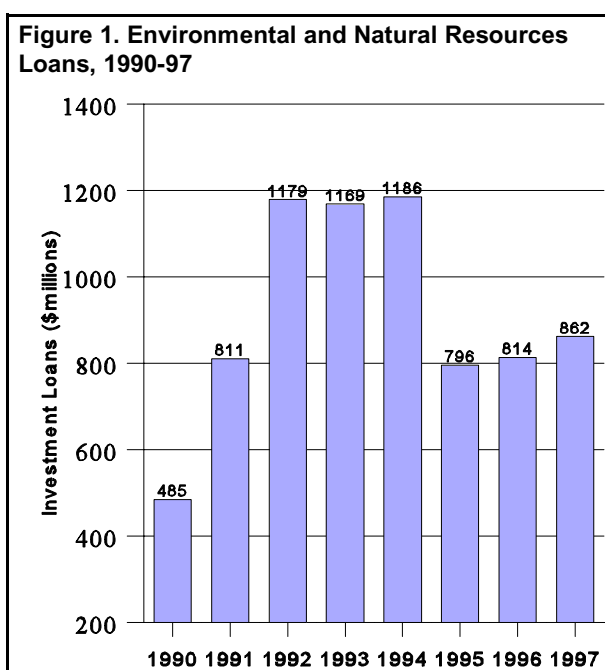
Bank lending for environment and natural resources sector totaled approximately \$6.4 billion for the

represents approximately one seventh of the Bank's total lending in 1997.

In 1997 thirteen investment operations were approved, almost all of them for urban sanitation, potable water supply services, and river basin pollution control (see Table 1).

The first loan ever made by the Bank's Private Sector Department for a water and sanitation project provides financing for a private company to rehabilitate and expand existing water and sewer facilities and increase the quality and efficiency of service in the province of Santa Fe, Argentina. In another innovative private sector operation, the Bank approved a partial risk guarantee for senior debt note holders investing in a wastewater treatment plant to service the city of Bogota, Colombia. The plant will be built, owned, operated and maintained by a private special -purpose company under a 30-year concession. This signal operation represents the first guarantee granted for private sector financing in Latin America (but because it is a guarantee, its dollar value does not show in the lending total reported above), and the first IDB private sector project utilizing the private placement of securities as the principal source of debt financing. In Ecuador, a loan will finance the improvement of water and sewerage services for the city of Guayaquil through granting a long-term concession to the private sector to promote enhanced efficiency and increase investment in the system.

The rest of the investment operations approved in 1997 include financing for pollution control, flood control, solid waste management and urban rehabilitation in Argentina's Matanza-Riachuelo river basin; a loan to the state of Rio de Janeiro in Brazil for improving the quality of urban life and health conditions in target neighborhoods of the Baixada Fluminense region; and water supply and sanitation sector restructuring projects in Honduras, Panama and Venezuela (all of which provide for some degree of private sector participation).



period from 1990 through 1996. Rising from just under half a billion in 1990 to \$1.2 billion between 1992 and 1994, investment project lending dropped to around \$800 million in the next two years, and was \$862 million in 1997. Thus, lending for environment and natural resources operations appears to have leveled off to about 70% of the peak achieved in 1993/94, as can be seen from Figure 1, and now

Table 1. Environmental Loans Approved in 1997 (US\$ million)

Country	Project	Amount
<i>Natural Resources Conservation</i>		
Nicaragua	Rural and Agricultural Recovery Program	40.0
Belize	Land Administration Project	0.9
Belize	Environmental and Social Technical Assistance Project	2.6
<i>Sub Total</i>		<i>43.5</i>
<i>Urban Environment</i>		
Argentina	Recuperation of the Matanza-Riachuelo Watershed	250.0
Argentina	Santa Fe Provinces Water ¹	30.0
Brazil	Baixada Fluminense Urban Upgrading	180.0
Honduras	Puerto Cortes Sanitation	12.6
Panama	Water Sector Restructuring	45.0
Colombia	Bogota Wastewater Treatment ²	...
Ecuador	Guayaquil Water and Sewer Concession	40.0
Venezuela	Modernization and Rehabilitation of the Potable Water Sector	30.0
<i>Sub Total</i>		<i>587.6</i>
<i>Other</i>		
Colombia	Energy Efficiency Program	10.0
Ecuador	Program to address the El Niño Phenomenon ³	70.8
Peru	El Niño Emergency Relief ³	150.0
<i>Sub Total</i>		<i>230.8</i>
TOTAL		861.9
¹ Approved in December 1996 but was not included in 1996 Annual Report.		
² Partial risk guarantee of \$31.25 million to senior holders of private debt securities.		
³ Infrastructure replacement accounts for 70 to 80% of the total value of these loans; consequently total lending may be overstated under a strict definition of environmental and natural resource lending.		

In energy, a loan to Colombia is the Bank's first project dedicated exclusively to energy conservation and rational energy consumption through the adoption of environmentally sustainable energy development strategies. The Bank also supported Ecuador and Peru with loans to mitigate the damages associated with the El Niño climate phenomenon.

Like investment lending, the demand from Latin America and the Caribbean for technical cooperation funding in the environment dropped off significantly after 1993, but recent signs point to the beginning of an upward trend, at least in terms of the number of operations approved. From \$4.9 million in 1990, technical cooperation approvals rose to \$22.8 million for 58 projects in 1993, dropped in total value by about 10% in 1994 (only 18 operations), dropped again in value by 20% in 1995 (33 operations), but more than recovered to \$27.2 million in 1996 (50 operations). In 1997, 52 operations were approved for a total value of \$16.3 million.

Included among the many innovative technical support operations approved in 1997 are funds to strengthen the regional dialogue on environmental policy and management through the preparation of studies on priority issues for the Meeting of Ministers of the Environment; a training program for professionals in the region on ecologically sustainable industrial development; and an assessment of the institutional framework for integrated water resources management based on experience in Chile, Colombia, Guatemala and Jamaica.

A possible reason for the different lending volume pattern between investment and technical cooperation is the fact that the environment is a relatively new area, and its institutions are still weak and underfinanced. As a result, there is a greater need for a large number of small technical support funding initiatives for the design of new policy approaches, capacity building, training, and development of small innovative projects that might not qualify initially as traditional lending activities. In addition, NGOs have, and will continue to play a significant role as policy advocates and potential partners in implementing and monitoring project activities. Tradition-

ally, the Bank has been a significant supporter of NGO activities in the region through the use of technical cooperation funding for workshops, training, and other capacity building activities. The annual investment project lending totals, on the other hand, have historically been dominated by the region's demand for a few large urban sanitation and potable water projects, which take a long time to prepare, and are gradually being moved into the private sector.

Annual investment lending dollar totals over the medium term are significantly affected by the amount of technical cooperation undertaken for program development in prior years and the rate of growth (or decline) in public sector demand for urban water supply and pollution control investments. Projects oriented toward the rural environment have less short- or even medium-term influence on the finance totals because they usually require less infrastructure and thus involve smaller loans.

Reflecting the mandate of IDB-8, the Bank's dialogue and programming process with borrowing countries has focused more attention on critical environmental policy and management issues. A growing recognition of the importance of environmental sustainability is reflected in Country Papers and Programming documents, and in some instances, such as Peru, Jamaica, Panama, and, now Argentina and Paraguay, the Bank has developed more detailed country environmental strategies to guide future environmental programming and operations. These recent efforts should have a positive effect on the level of Bank support for environment-related activities undertaken by the borrowing countries in future years.

In looking at the Bank's environmental activities, it is important to examine projects that by definition, do not fall within the sector but which contain significant environmental elements. These elements include the magnitude of the EIA studies that accompanied their preparation, or the extent and cost of the institutional strengthening components and mitigation measures that are incorporated into them

to address environmental impacts and requirements for future monitoring and management. While separate figures for these elements are not kept, a rough idea of their importance can be obtained by noting those projects approved by the Bank's Environment Committee in 1996 which fell into impact categories III and IV and, therefore, required full environmental assessments and detailed environmental management plans. Forty-eight of the projects approved by the CMA that year, totaling approximately \$4.3 billion fell into one of these two categories. This fact also offers a relatively good idea of the degree to which environmental considerations have now become incorporated into Bank operations.

Strategies and Good Practice

By the end of 1997, three new strategy documents in the area of environment and natural resources management will have been presented to the Board. These address Bank strategies for the reduction of rural poverty, integrated water resources management, and the management of coastal and marine resources. Strategies for sustainable agriculture and energy are nearing completion. A new Bank policy on Resettlement was also developed and is under consideration by the Board. As mentioned earlier, an overall review of Bank environmental policies is under way which may sharpen the focus of Bank activities in the future.

Along with these formal strategy documents, the Bank has prepared a number of technical studies and guidelines which help orient borrowing country, and Bank staff responsible for designing and implementing environment and natural resources projects. Such papers have been published on issues involved in the choices of environmental policy instruments, private enforcement of environmental regulations, policies for managing and financing sustainable forestry and biodiversity projects, integrated water resources management, and economic analysis of investment projects. In 1997 papers (summarized in Chapter 5) were issued in a number of thematic areas including evaluation studies of projects in watersheds, good practices for

urban greening, a diagnosis of municipal solid waste management, alternatives for habitat protection and rural income generation, the integration of freshwater ecosystem conservation into water resources management, the use of economic instruments for water resources management, and a study on marine fisheries management in the region. Environmental assessment guidelines for managers of transportation and microenterprise projects were also developed in 1977.

The process by which these strategies and papers are developed is designed to increase the likelihood that the issues and approaches they examine will reflect current thinking on these subjects and be incorporated into the thinking and practice of the Bank. It involves the use of internal working groups, peer review from within and outside the Bank, workshops and consultations with expert groups in Latin America and the Caribbean, as well as other donor agencies, and structured review by interested NGOs in the region and Washington, D.C.

Assigning responsibility for policy development, analysis and project review to SDS has not excluded the regional departments from these activities, particularly to the extent that they focus directly on specific countries. Not only are they actively involved in the process described above, but they have completed a number of special environment and natural resources management studies of Bank-wide interest. These include Environmental Strategies for several countries as noted above, and a comparative study of the legal and institutional framework for environmental management in the countries of the Southern Cone.

Streamlining Project Environmental Review

In 1996, new procedures for the Bank's Environment Committee (CMA) were approved broadening the scope of its review, streamlining operations and changing its name to the Committee on environment and Social Impacts (CESI). These new procedures bring the focus of the Committee's mandate into line with the policy directives of the Eighth Replenishment.

The Committee on Environment and Social Impacts is an interdepartmental body for reviewing and enhancing the quality of Bank operations. In the context of the processing of operations, the CESI functions as a technical subcommittee to the Bank's Loan Committee, which decides when operations may be submitted for consideration of the Board of Directors. The CESI is chaired by the manager of the Sustainable Development Department. Members include the division chiefs of the Environment and Natural Resource Divisions of Regional Operations Departments 1, 2, and 3; designated division chiefs from the Strategic Planning Department, the External Relations Department and the Legal Department; and the Chiefs of the Environment Division (SDS/ENV), and the Indigenous Peoples and Community Development (SDS/IND) and Women in Development Program (SDS/WID) units. In discharging its responsibilities, the CESI relies on technical inputs from other Bank units, especially the Environment Division of the Sustainable Development Department.

Under the terms of the new procedures, the Committee may delegate the review of operations to a technical review group (TRG). Coordinated by SDS's Environment Division, the TRG is composed of one technical representative from each of the environment and natural resources divisions of the Bank's regional departments, and single representatives from SDS/ENV, SDS/IND and SDS/WID. Members of the CESI are also at liberty to attend sessions of the TRG. Delegation to the TRG is designed to expedite project review by providing a flexible forum in which technical issues can be discussed and resolved in collaboration with project teams.

The new procedures define the scope of the CESI to include: (i) the promotion of adequate environmental and natural resources regulatory and management frameworks; (ii) the adoption of environmental protection, management, mitigation and enhancement measures; (iii) indigenous rights and community development issues; (iv) involuntary resettlement matters; (v) consultation requirements; (vi) gender considerations; and (vii) issues of social impact and

sustainability, with due regard to the primary responsibility of operational units for design issues, such as poverty targeting and distributional consequences, among others.

Along with broadening the scope of the CESI's project review, the procedures underscore the Committee's concern for the strategic context and content of Bank operations in a number of ways.

First, they reiterate the role that the CESI, like its predecessor, exercises in the review of Bank strategies in the area of environment and natural resources, the identification of critical issues that may need to be addressed in the future, and the assessment of Bank experiences with environment and natural resources management.

Second, the procedures provide incentives to encourage the Bank to prepare country environmental strategies. These are not intended to cover all issues or to replace national environmental action plans. They are intended only to identify the key environmental challenges that are relevant to the Bank's program in the country, either because they represent risks and obstacles or because they represent opportunities for joint action. These strategies provide a framework for CESI discussion of operational issues in each country, and avoid repeated discussions of issues that may affect more than one operation.

Third, the primary focus of the CESI's review is on early stages of the project development cycle. In order to have a more explicit influence on the design and development of operations, the Committee concentrates on reviewing and specifying the scope of the issues, alternatives and impact studies that Bank project teams should undertake (or have borrowers undertake) in project preparation.

One result of providing specific guidance at the early stage of the project cycle is that new procedures no longer require that projects be classified according to the degree of impact they might have on the environment. Instead, these Categories (I, II, III, and IV) have been replaced by explicit instructions from

the CESI/TRG about the level and scope of environmental analysis that must be undertaken in project preparation.

The fundamental objective of these changes is to focus the scoping discussion early in the project cycle on actions to be taken for substantive reasons and on the terms of reference of the impact assessment exercise. This strengthened upstream focus provides opportunities to address impacts through prevention, better management and operation design, avoiding the need for, or lowering the costs of, impact mitigation or compensation.

CESI Reviews in 1997

The Committee on Social and Environmental Impacts reviews most Bank operations twice during the project cycle, first during the Profile 2 stage to determine the type of analysis and procedures required to identify the impacts the operation might produce, and once again, when the project's environmental and social analysis has been completed and summarized in the Environment and Social Impact Report (ESIR) to determine that the operation incorporates the measures required to address and mitigate those impacts. The CESI reviews Technical Cooperations (TC's), Small Projects, and MIF projects, as well as loan operations. Although operations under \$3,000,000 generally are reviewed under expedited, short procedure, all operations are subject to the committee's approval.

During the first stage of review, the CESI examines the Profile 2 (or Plan of Operations) for the project and its associated Environmental and Social Impact Brief (ESIB) and defines the scope of the impact analyses that should be carried out during project preparation. It is at this point that the committee specifies whether a full Environmental Impact Assessment (EIA) should be prepared, or whether specific Technical Studies or other Measures will be required instead of a full EIA. Such Technical Studies might include a limited analysis of local regulatory requirements or an assessment and plan

for resettlement of impacted populations, while actions that might fall within the category of Other Measures might include more limited stipulations subjecting the project to existing regulatory requirements or standards. A number of projects require no environmental or social assessment or review.

As illustrated in the following table, in 1997 the CESI reviewed a total of 178 operations in the initial stages of project preparation (Profile 2, ESIB, Plans of Operation and other Terms of Reference) and 111 in the later stages prior to loan approval (ESIRs and Projects Documents). The CESI stipulated that EIAs were to be prepared for 47% or 41 of the 87 loan operations examined in the Profile 2 stage, while requesting specific Technical Studies in 19 (22%) of the cases and Other Measures for 21 (24%) of the loans. Few loans carried no environmental or social impact requirements. As most Technical Cooperations involve studies or workshops with little direct environmental or social impacts, the requirements set forth for these tended to cover issues or subjects that needed to be included within the scope of the project. An analysis of Table 3, shows a similar pattern for Loan operations and Technical Cooperations nearing approval: EIAs had been prepared for 30 or 48% of the loans reviewed by CESI, while none of the Technical Cooperations involved such analyses. Overall, the CESI conducted 289 project reviews during 1997.

Geographic Information Systems (GIS)

In 1992, the Bank conducted a series of pilot projects to determine if GIS could be used operationally to enhance the environmental quality of Bank operations. It was determined that GIS was useful during the project cycle because it provided a way for information to be collected, related geographically, and managed. More importantly, it allowed for the analysis and selection of alternatives that might not otherwise be possible. As a result of these positive findings, in 1995 SDS created a centralized GIS unit to serve as the focal point for the GIS needs of all Bank Departments and offices.

Table 2. ESIB or Profile Phase						
	Loans	%	TCs	%	SPs	%
EIAs	41	47%	0	-	0	-
Technical Studies	19	22%	2	2%	0	-
Other Measures	21	24%	50	60%	8	100%
No Requirements	6	7%	31	38%	0	-
Subtotals	87		83		8	
GRAND TOTAL	178					

Table 3. ESIR or Approval Phase						
	Loans	%	TCs	%	SPs	%
EIAs	30	48%	0	-	0	-
Technical Studies	21	34%	1	2%	0	-
Other Measures	10	16%	35	78%	4	100%
No Requirements	1	2%	9	20%	0	-
Subtotals	62		45		4	
GRAND TOTAL	111					

Through the support of the SDS/ENV GIS and Remote Sensing Facility, the Bank is currently using GIS and related technologies in two distinct but interrelated ways: (i) internally as part of project design, monitoring, information management, and post project evaluation; and (ii) externally by providing assistance to agencies and institutions executing Bank-funded projects.

Primarily, GIS support has been provided for the development of environment and natural resource projects including applications in areas such as natural resources management, urban and rural land administration, infrastructure planning, sustainable forestry and watershed management. GIS may however, also be used to assess the complex relationships between the environment and economic and social variables across space and time. For

example, in support of Guatemala's Housing Program, GIS was used to identify and quantify urban settlements that are at high risk due to seismically induced landslides in Guatemala City, and therefore, not eligible for the Program's housing subsidy. During 1998, GIS will continue to be an integral component of projects in the environment and, through training and outreach activities, will be used to form linkages to other sectors.

Independent Investigation Mechanism

In 1996, the Bank received its first request for an independent investigation of alleged violations of Bank policies and procedures in the design and implementation of the Yacyreta Hydroelectric Project. The request was filed by a Paraguayan NGO, with both the World Bank Inspection Panel

and the IDB's Investigation Mechanism. In its response to the request, Management concluded that in the design, analysis and implementation of the four Bank loans made for the project, the Bank followed its established policies in effect at the time. Given the complexity of the project, the possibility of serious adverse environmental and human consequences of continuation of the project without adequate remedy for the problems known to exist, and the need for transparency in efforts to resolve pending issues, the Board of Executive Directors requested an independent review of the project. The panel studied whether the plan and actions agreed between the Bank and the countries concerned are adequate to resolve existing problems. In its judgement, a satisfactory solution to the problems involved in human resettlement and the mitigation of environmental effects requires more concerted action on the part of the different institutions involved. The Bank has taken steps to address the panel's concern.

The Public Information Center

Use of the Public Information Center (PIC) continued to grow rapidly 1997. Compared to 1996, the number of visitors, callers and electronic mails queries to the PIC at Headquarters has more than doubled to about 22,000 during the year. Use of the PIC facilities in the Bank's Country Offices has increased even more sharply. Similarly, growth in use of the documents on the Bank's website (www.iadb.org) has been extremely sharp over the same period. The directory containing electronic versions of project documents received an average of 11,000 "hits" each weekday. More than half of the number of users of the information on hand at the PIC are from the private sector. NGOs have made considerable use of IDB project information from the beginning. Despite the largely positive reaction to the Bank's implementation of its disclosure of information policy, nonborrowing governments and NGOs, both local and international, have begun to review the Bank's compliance with certain specific provisions and aspects of the policy, particularly the timing of the release of EIAs.

Public Participation

A positive development in the environmental arena is the increased participation of the public and the new roles played by citizens, stakeholders and NGOs in environmental management. New legislation has allowed citizens to defend their right to a healthy environment and to participate in public hearings on environmental assessments. For several years, the Bank placed a high priority on participation as a key ingredient in project conceptualization and design. The Bank requires public participation in project preparation and the disclosure of information to the public on the potential environmental and social impacts of projects. To provide guidance on project design and related impacts, a *Resource Book on Participation* was prepared for Bank staff in 1997. The Bank maintains continuous contacts with the NGO community, not only on critical issues and projects but also with regard to new strategies and policies that may be of interest to its members.

Future Mandates

In 1997 the Bank embarked upon a review of its environmental policy which is designed to address the fundamental transformations that are occurring in the region and the changing portfolio and lending activities of the Bank. While it is too early to tell what the results of this review might be, several critical issues must be addressed. These include the changing institutional paradigm for environmental management resulting from liberalization of the economies in the region, new definitions of the role of central governments, increased decentralization of management functions, the requirements for effective application of new policy instruments and regulatory approaches, the growing strength of NGOs and civil society, and the potential of public-private partnerships for achieving environmental management goals. Directly related to these issues are those related to finding effective incentives to influence and shape private sector behavior in ways that can meet environmental as well as business objectives. Underlying these new challenges is the fundamental need to design new mechanisms to mobilize financing for environmentally sustainable development.

II. STRATEGIES FOR RURAL AND AGRICULTURE DEVELOPMENT AND OTHER STRATEGIC ADVANCES

A Strategy for Rural Poverty Reduction*

In relative terms, poverty is a rural phenomenon throughout most of the region. Over 60% of the poor in Mexico, Central America and the Andean countries live in rural areas, and the level of poverty is more extreme in the rural than in urban areas. Between 1990 and 1994 the percentage of the region's households living in poverty dropped from 41% to 39% (according to the United Nations Economic Commission for Latin America and the Caribbean, 1997). Yet this progress was not enough to halt the rise in poverty taking place over the past decade. Rural poverty in the region fell by only one percentage point (from 56% to 55%) between 1990 and 1994, while the number of rural inhabitants living in absolute poverty remained at 33% over the period.

Since the beginning of the 1990's, the urban poor (primarily female heads of household, fathers with little or no formal education, and unemployed youth) have for the first time become more numerous than those in rural areas, with the former currently estimated at slightly over 135 million, while the latter group numbers approximately 74 million individuals. But in relative terms, rural poverty is more significant, and extreme poverty is higher in the rural sector. Finally, it must be remembered that the drop in the percentage of households living beneath the poverty and extreme poverty lines has not prevented a continuing rise in the absolute number of individuals affected. A high percentage and growing numbers of the poor living in cities are new or recent arrivals from rural areas.

In sum, there is a growing gap between urban

poverty which is declining, and rural poverty which is growing in some cases or not diminishing in others.

The rural poor are small farmers, artisanal fishermen, landless workers, rural artisans, nomadic herders and indigenous populations. They face three main problems: (i) few opportunities for employment in either agricultural or nonagricultural activities; (ii) inadequate nutrition, poor health services and absence of educational opportunities; and (iii) lack of sufficient levels of organization needed to lobby effectively for rural interests. They need access to resources to better their lives.

Small farmers represent the largest share of the rural poor (approximately 66% or 47 million individuals), while the landless population (30%) and indigenous groups and others (4%) account for the remainder (21 million and 3 million persons, respectively). Therefore, about two-thirds of the rural poor are in farming and, by various counts, at least one-third of these are small-scale subsistence farmers with limited opportunities for overcoming poverty through agricultural development. This means that approximately half of the rural poor have very limited access to productive resources with which to generate sufficient earnings from agricultural production itself. This situation takes on even greater importance considering that the number of rural poor without access to agricultural resources is projected to grow faster than the number of those with sufficient access.

Paradoxically, even as the agricultural sectors experience significant growth and undergo a period of modernization, rural poverty is not declining.

* This section and the next draws from two documents prepared by Bank staff based on consultant reports and recommendations from several regional workshops. The *Strategy for Rural Poverty Reduction* was prepared during 1996 and 1997 and discussed at the Policy Committee of the Board of Directors of the IDB at the end of 1997. A draft of the *Strategy for Sustainable Food and Agriculture Development* was prepared in 1997. It will be completed and submitted to the Board's Policy Committee in early 1998.

Economic growth has played a vital role in reducing rural poverty within the region, mainly through increased demand for labor and the resultant migrations. However, economic and sectoral growth, although essential conditions for reducing poverty, are not sufficient in all cases. Situations of extreme poverty are frequent in many regions of Latin America, and can only be improved through specifically targeted programs.

Rural development programs fall into the category of poverty-targeted investments whether aimed at regions or individuals, in accordance with the social equity and poverty reduction objectives set out in the Bank's Eighth General Increase in Resources. Although the Bank has not had an explicit rural poverty reduction strategy, it has nonetheless financed projects aimed at low-income groups in rural areas that are designed to alleviate one or more of the specific problems they face. Over the past 30 years, the Bank has provided over one billion dollars in financing for approximately 40 rural development projects. In addition to these specific programs, there are also other Bank projects that benefit the rural sector under a variety of headings such as land titling, regional development, agriculture improvement, sustainable development and modernization of services. Moreover, the Bank has financed several rural development components as part of investment programs classified as watershed management, health, education, and infrastructure, as well as in other types of projects such as microenterprise and regional and national technical cooperation.

Many lessons may be learned from the rural development projects supported by the Bank and other agencies, such as the World Bank and the International Fund for Agricultural Development, which will be useful in designing new policies and programs. In general, the specific rural development initiatives have been mostly local, one-off projects, discontinuous and not totally connected with national strategies. The lack of flexibility in adapting to changes arising during the course of implementation of a project, and technical and administrative weaknesses in counterpart arrangements, along with

insufficient involvement of communities in the design and execution of the projects, have proven to be obstacles to the success of projects that endanger their sustainability. Nevertheless, many projects have achieved positive results, particularly those that gave access to productive resources and essential services not previously available to the rural poor, and those that set a positive example in the areas of decentralization and community participation in the design and execution of activities. Over the past decade, some NGOs and various bilateral and multilateral organizations have sponsored innovative programs based on the positive achievements mentioned above. This experience is providing valuable information and new perspectives on the most effective ways to reduce rural poverty. These programs have focused on correcting the principal deficiencies in the first generation of integrated rural development projects carried out in the past. In recent years, the Bank and other organizations have financed projects that take these experiences into account such as the Peasant Development Fund in Bolivia, and Colombia's Rural Development Fund.

There are several options for addressing the problems of rural poverty which are complementary and cover a wide range of possibilities. Since economic and sectoral growth plays a vital part in the reduction of rural poverty, it is an essential requirement that a *favorable macroeconomic and sectoral policy framework* be sustained. This constitutes the basic enabling environment for projects to succeed. In addition, *investments in human capital* are essential, since progress in terms of coverage, level and quality of rural health and education programs in the countries of the region has been very uneven. For several countries, achieving the conditions necessary to provide all children in rural areas with the opportunity to complete the six years of primary school remains a distant goal. For a few other countries, the current goal is to provide full access to a four-year secondary school education. The quality of rural education in most of the region's countries is lower than for the equivalent urban courses and programs owing to the distribution of the population, low enrollment rates and lack of educational incentive in the rural

environment. In addition, curriculums generally do not take into account the specific needs of students living in a rural setting.

The link between poverty reduction and the preservation of the environment is another important option in a rural development strategy. It is estimated that the population of Latin America will rise from 441 million to 670 million between 1990 and 2020, while the number of rural inhabitants will remain unchanged in absolute terms at about 125 million. Hence, the pressure which rural and urban dwellers put on the region's natural resources will go up proportionately. Poor farmers generally do not have the incentives nor the equipment, inputs and technology needed to carry out natural resource conservation work. Many lack secure access to the land and resources they work. In addition, they cannot count on capturing the benefits of conservation practices and, therefore, have no incentive to protect water, soil and forests. Breaking the link between poverty and deterioration of natural resources can result in a virtuous circle where restoration of natural resources supports the reduction of poverty, if support programs are designed with this specific aim in mind. These programs could include long-term incentives for rural families who take land out of production to restore depleted resources, and investments in the conversion of the area set aside, for example, for forestry operations, introduction of ground cover or other soil restoration practices. These are long-term programs rather than emergency projects for job creation.¹

Based on the diversity of the rural poverty situation,

¹ Some of the elements for the sustainable management of natural resources which could be utilized in rural development programs include: (i) expansion of agricultural production using multiple cropping and conservationist methods that increase yields without depleting soil or water resources; (ii) legal reforms that promote the rational use and decentralized management of water resources, ensuring equitable access and enforcement of regulations; (iii) watershed management with a balance between the sustainable use of resources and the participation of the rural population; and (iv) underscoring the role of protected natural areas as a key factor in rural development and the sustainable use of resources, focusing on the consolidation of such areas with the participation of rural communities in the management and rational use of resources, and promoting ecotourism and alternative natural products.

and for the purposes of a general strategy document, the rural poor are grouped as either small farmers with agricultural potential, or subsistence farmers without agricultural potential, and the landless poor.² While extreme poverty is concentrated mainly in the second group, some of the small farmers with agricultural potential are poor as well, primarily because of: restricted access to technology and credit which prevents individuals from realizing their potential productivity; lack of access to land and/or water; uncertainty over land ownership; or weak access to markets for products. The fundamental difference between the poor with agricultural potential and those without, is that the former can overcome these marketing restrictions, obtaining the necessary financial resources and, for example, investing in irrigation and technology. For those who lack agricultural potential (approximately half of the rural poor), the solution that will free them from poverty does not lie in farming. All too often in the region, the instruments of agricultural development have been used in an attempt to reduce poverty among rural inhabitants who lack agricultural potential.

Where no possibility exists for obtaining access to land, there are three main alternatives for the group of poor without much agricultural potential: nonagricultural sources of employment in rural areas (tourism, fishing, agroindustries); small business or self-employment in activities other than farming, in fields such as commerce, rural crafts, small manufacturing, repair services; and entering the urban or rural labor market with better qualifications by getting job training, while emphasizing that access to secondary education is the best guarantee of success in finding suitable employment.

The strategy to reduce poverty of small farmers with

² Agricultural potential is defined as access to the resources, including land of suitable quality and in sufficient quantity, needed to generate the earnings (or products) that will ensure survival of the farmer's family and development of the production unit. The status of "farmer without agricultural potential" is modifiable, for example by improving access to land for *minifundistas* or through irrigation projects in arid farming areas. In addition, both groups may very well exist within a single region or microregion.

agricultural potential will require both opening up new opportunities for obtaining scarce resources, and overcoming the obstacles that prevent small farmers from realizing the full productive potential of the land and water under their control. Among the more important means for increasing agricultural production and earnings among the poorest segment of the population are: land titling and legal registration of holdings, leasing of properties and grazing rights, development and transfer of technology, investment in micro-irrigation and promotion of water markets, encouragement of rural financing systems, and ensuring efficient insertion into markets. It is important to underscore the importance of promoting the development of rural financial markets that will permit rural inhabitants greater access to financial resources (i.e. help obtain credit) by promoting and strengthening viable financial institutions, encouraging the use of nontraditional credit methods, establishing an efficient regulatory framework and well-defined property rights, creating new guarantee mechanisms, and establishing means of cooperation between formal and informal lending institutions.

Table 4 summarizes some of the main instruments and options available to reduce rural poverty in the region.

Depending on the problem, the options described in the table can constitute the Bank's action either individually or by combining two or more approaches in a single program. The Bank can assist the countries in defining overall and sectoral policies that promote economic growth and the more equitable distribution of the resulting benefits, thereby contributing to poverty reduction. Along these lines, the Bank can undertake programs that are national in scope, consisting of one or more carefully coordinated components built around these strategy options and including, for example, activities aimed at raising the productivity and earnings of small farmers who have the necessary agricultural potential through technology development and transfer and micro-irrigation development.

In addition to the more general means to contribute to the reduction of rural poverty, there is also a need for programs and projects that specifically target the rural poor. The Bank's role in reducing rural poverty in the region is defined primarily by a dialogue with each country. Nevertheless, there are specific actions which link the options mentioned to the Bank's mandate, the main thrust of which is to redouble efforts to overcome conditions of poverty in the region.

Specific Bank actions are many. They include, for example, developing strategies at the national level and designing programs for the medium term. These programs should concentrate, in the first phase, on establishing the minimum policy and institutional conditions, and strengthening local participation and personnel training programs that are necessary for undertaking the full activities of the program in subsequent stages. Another specific action is to continue to focus on the flexible execution in all project activities and on working with specialized organizations and bilateral technical cooperation agencies with recognized expertise in the area. The early establishment of adequate benchmarks for evaluating the effectiveness of the methods and procedures used in executing projects, and the progress made toward their objectives, are two final Bank actions.

To conclude, the strategy to reduce rural poverty focuses on the problem from a broader perspective. It includes other sectors in addition to agriculture and the management of natural resources, such as social programs, rural finance and basic infrastructure, while recognizing the different types of rural poverty and promoting policies and instruments that will reduce rural poverty in the medium term.

The goal of the strategy is to conceptualize programs that will produce results over the medium term, based on national rural development strategies financed in successive steps. At the same time the strategy would ensure that suitable policies prevail and promote institutional strengthening as the first (preinvestment) stage of the process.

Table 4. Main Instruments and Options to Reduce Rural Poverty	
Options	Instruments
General programs to reduce rural poverty	<ul style="list-style-type: none"> S Favorable macroeconomic and sectoral policies S Investment in human capital (education, health and other social services) S Investment in infrastructure S Restoration and management of natural resources, and job creation
Specific programs targeting small farmers with agricultural potential	<ul style="list-style-type: none"> S Land titling S Investment in micro-irrigation and water markets S Research, technology transfer and technical assistance S Development of rural financial markets S Promotion of new market insertion
Specific programs to create employment and increase earnings of small farmers without agricultural potential and other rural inhabitants	<ul style="list-style-type: none"> S Development of land markets S Rural extension and other means of informal education for youths and adults S Promotion of microenterprises, small businesses and financial markets in rural areas S Incentives to attract private investment in rural areas S Training for better job opportunities in rural areas, towns and cities

The strategy reinforces the importance of designing rural development programs that include the decentralization of activities, strengthening of civil society and real participation by beneficiaries and, where warranted, specific components for providing access to land and credit, and promoting rural microenterprises, both agricultural and nonagricultural. It also aims to establish closer coordination with other development, technical cooperation and lending agencies, as well as national, subregional and municipal development organizations, and to coordinate the various internal activities of the Bank involving rural development, ensuring closer integration of effort.

Finally, the strategy stresses the need to focus greater attention on execution and monitoring phases of operations. Also important is the need to strengthen the Bank's Country Offices and the executing agencies working at the municipal and community level. Flexibility is needed to make

changes while programs are ongoing, at the same time evaluating results and applying successes in subsequent stages or new programs.

A Proposed Strategy for Sustainable Food and Agriculture Development

The economic reforms initiated in the mid -1980s together with the globalization of world markets have had a profound effect on the economic structure of the region. The insertion of the region's economies into global markets has dominated the second half of the current decade. An important element in this new scenario is the dramatic transformations taking place in the food and agriculture sectors and the new opportunities that international trade offers to the food production sector. The importance of agriculture is being rediscovered, acknowledging the central role it has in overall sustainable economic development.

In many countries of the region, the sector still involves a great share of the economy and allows for natural comparative advantages in the production of a number of commodities. Agriculture is then a logical focal point for investment leading to economic growth. However, this growth will only occur to the extent that the sector is modernized, its efficiency and productivity are increased, diversification is improved, and the multiplier effects generated by the links between agriculture and other sectors of the economy are strengthened at the national level. A prerequisite to the achievement of these goals is to reinforce technology development and diffusion, and focus the way that sectoral policies are implemented.

Given the specific mandate of the IDB's Eighth Replenishment towards the modernization of the agricultural sector and the recent experience of several countries of the region, there is now consensus on three elements. First is the central role that the food and agriculture sectors have played in countries with successful economic development programs. Second is the significant impact of economic policies that not include negative distortions towards primary production. And third is the significance of investing in infrastructure, and in the development of technology and financial markets as key ingredients in the modernization of the sector.

Given the sound macroeconomic situation and the region's natural wealth, the food and agriculture sectors are in a unique position to benefit from favorable conditions in international markets resulting from recent GATT agreements. The challenge is to identify the best investment opportunities.

The strategy being proposed highlights the need to reform agricultural organizations, paying specific attention to the strengthening of public services such as technology, animal and plant health, market information and support to transitional programs to modernize agriculture. Most of these activities could be implemented by nonpublic organizations funded by the public sector.

In addition, the development of financial markets to support medium- and long-term investments is needed to diversify and modernize production. Moreover, the development of land and water markets, basic rural infrastructure and human resources are key elements in the proposed strategy. Most of the options and instruments included in this strategy are similar to those mentioned for the case of small farmers with agricultural potential.

Given the complexity of the current food and agriculture sectors, there is a need to link in a more effective manner several organizations that fund and/or execute public services for agriculture. In addition, from a policy perspective, it is crucial that public organizations take into account not only primary production issues but other aspects such as agroindustry, agribusiness and health. The modernization of the state in the food and agriculture sectors, integrating areas that are currently dispersed, could therefore be an important area for future work.

With respect to public agricultural services, the strategy in preparation highlights three key priority areas: technology development and diffusion, animal and plant health, and market information and export promotion. These areas represent a significant amount of current IDB lending to the sector, and are probably going to remain important in the near future. Support to the Regional Fund for Agricultural Technology, being consolidated by the countries of the region, is part of the IDB strategy to strengthen this area.

Given the ongoing major restructuring of agricultural production in some countries as a consequence of trade liberalization and other economic reforms, there could also be a role for the public sector to play in easing the transaction costs associated with the transition to the production of more competitive products. These programs could be targeted to promote the conversion of subsectors helping to deal with, for example, the high unemployment associated with changes in crop production in specific countries, promoting new production alternatives.

It is expected that the IDB will continue to play an important role in support of the development of sectoral strategies at the country level, as well as to mobilize resources for integration of some regional activities in the sector.

Water Strategy Progress Report

During 1996, nonlending activities in water resources were focused on an extensive internal and external consultation process, which provided the necessary background material to draft the proposed strategy for integrated water resources management. The proposed strategy was widely disseminated in 1997 and consultations with interested groups were carried out. In addition, some of its principles were initially brought into practice in actual projects and activities (see the review of operations in Chapter III). Example include support for subregional and national water resources strategies and policies in Central America, Haiti and Paraguay, through technical cooperation and Trust Fund financing; medium-term institutional innovation and capacity building and short-term financing of water-related projects in El Salvador and Costa Rica; and coordination with international organizations active in the region such as the UNDP, the World Bank and the Global Water Partnership. Guidelines and good practice material were also commissioned through Trust Fund and administrative financing.

Short articles highlighting the main aspects of the proposed strategy were written and presented in three forums covering the region: North and Central America, in Costa Rica; the Caribbean in Trinidad and Tobago; and South America in Brazil. These events were cosponsored by the Bank with other international and national organizations. Financing was made available for the participation of national experts as well as Bank staff. An article outlining the strategy was also published by IDB News and was later displayed in the Bank's World Wide Web Home Page.³

³ See the sections discussing water resources in Chapters IV and V for more information.

The proposed strategy was presented to and approved by the Programming Committee of the Bank in 1997, and was distributed to the Policy Committee of the Board for its consideration. The Policy Committee scheduled an early 1998 first review of the strategy and its accompanying background paper.

Coastal and Marine Strategy Progress Report

Building on the policy and sector review studies undertaken in 1996, a draft coastal and marine resources management strategy was prepared in early 1997 and widely circulated within the Bank, among concerned agencies, special interest groups and experts in the region. The draft strategy was also presented at various ocean-related conferences held in Latin America (e.g. the Workshop on Southwest Atlantic Systems hosted by the Intergovernmental Oceanographic Commission of the United Nations held in Rio Grande, Brazil) and major international forums such as Coastal Zone '97 in Boston. The National Oceanic and Atmospheric Administration (NOAA) was invited to present its programs in January, and an exhibit on coral reefs in the Caribbean Basin was held at the Bank in May in an effort to raise awareness of coastal and marine issues.

Two complementary policy studies were approved and launched in 1997. One is on the application of conflict resolution mechanisms for coastal management and the other on national fisheries policy (see Chapter III). In addition, the strategy's principles and innovative directions were incorporated into several operations being prepared with the regional departments. These include a decentralized coastal management initiative in Brazil, a capacity-building program for coastal management in Haiti, and the Galapagos environmental management program in Ecuador.

A revised strategy document was prepared in October and presented to the Bank's Programming Committee in December 1997 with approval by the Policy Committee foreseen in early 1998.

Indigenous Communities

During 1997, the Bank continued to focus on developing opportunities to foster the social and economic advancement of indigenous communities. It also aims at mitigating adverse impacts due to infrastructure projects by creating specific measures that address the needs and demands of indigenous people.

At present, the Bank is preparing a strategy on indigenous development that will systematize its approach on indigenous issues. An extensive database on all past and present Bank operations affecting or targeting indigenous communities is currently being finalized which, along with a technical cooperation on indigenous poverty assessment, will be a significant input to the strategy on indigenous development. The development of the strategy has been enriched by the contributions of the indigenous interns who worked in SDS/IND during 1997, whose participation in these activities was financed by the Indigenous Peoples Fund. In addition, the strategy will undergo an extensive consultation process with indigenous communities and organizations, and with NGOs and experts in other organizations, as well as with Bank staff. The strategy will reinforce the Bank's recent efforts to broaden its approach and seek out opportunities for the genuine participation of indigenous communities in Bank projects by (i) mainstreaming indigenous needs, concerns and demands into regular Bank operations; (ii) developing specific initiatives for indigenous communities; and (iii) strengthening the Bank's procedures and actions to avoid, mitigate and compensate for negative impacts on indigenous communities.

During 1997, Bank practice on indigenous issues developed in three ways. First, where possible and appropriate, the Bank incorporated indigenous needs, concerns and demands into the regular operations, particularly in the social sector. That is, the Bank is facilitating access by indigenous communities to these programs, from which they often have been excluded for sociocultural reasons, prejudice or the urban bias prevalent in many of them. A \$5,000,000

indigenous component in a \$33,000,000 Program of Attention to Vulnerable Groups (AR-0161) seeks, for example, to improve the quality of life of vulnerable groups through institutional strengthening, training, and small productive projects. Other programs, such as The Social Impact Mitigation Program (GY-0025) have indigenous components that finance locally-designed and community-managed projects with systems of self-help using local labor and materials. Finally, a \$1,260,000 Training Program for Rural Youth (ATN/MH-5646-PR) aims to promote the participation of rural youth in the labor force by strengthening training programs to which they have access. This includes specific measures and training courses to ensure high participation of indigenous youth. In addition, the program offers technical assistance to strengthen training institutions and develop courses on environmentally sustainable agricultural management.

Second, the Bank is currently undertaking stand-alone initiatives developed specifically for indigenous communities to address those cases where, because of high vulnerability or the lack of appropriate mainstreaming opportunities, indigenous communities need access to resources that will enable them to address their demands. Examples of recent initiatives of this type are technical cooperation financing and the indigenous poverty study which will be a key input to the indigenous strategy of the Bank and the Indigenous Peoples Fund.

At present, the Bank is also supporting the design and implementation of a strategy to achieve the financial sustainability of the Indigenous Peoples Fund⁴ by means of creating an endowment fund

⁴ The Bank played a decisive role in the creation of the Indigenous Peoples Fund (Fondo Indígena) during IDB-7 and this has carried on in IDB-8. The Fondo Indígena is a regional organization that promotes the development of indigenous communities, and provides it with constant follow-up and active support. The Indigenous Peoples Fund was created in 1992 at the initiative of the Ibero-American Summit of Heads of State, with a membership of 22 signatory countries. The political support this initiative has received from member countries is demonstrated by the fact that the legislative bodies of 19 countries have already ratified

which will be administered by the Bank. The endowment fund would generate annual revenues to cover non-recoverable costs related to technical assistance, institutional strengthening, training, project identification and consensus building efforts with indigenous organizations as well as for the operational costs related to the Technical Secretariat and the governing bodies of the Fund.

Third, the Bank is continuing to strengthen its procedures and actions in an effort to avoid, mitigate and compensate for negative impacts on indigenous communities. Particular attention is being paid to the

effects of large infrastructure projects. A recent example of these activities is the environmental and social technical assistance program developed to mitigate the potential negative impacts associated with paving the Southern Highway in Belize (See Chapter III).

their membership. The Indigenous Peoples Fund is a tripartite organization, with equal representation of the governments and indigenous communities of the region and donor countries. It provides a forum for the exchange of information, strategy definition, negotiation and conflict resolution at the national and international level, and it provides technical expertise in the identification and design of genuinely indigenous projects.

III. HIGHLIGHTS FROM THE REGION

HIGHLIGHTS FROM REGION I

The National Environment Fund in Brazil: Lessons Learned

Since the early 1990s, national environmental funds have emerged as a promising approach to conserving natural resources and improving environmental amenities. A potentially powerful tool to protect endangered ecosystems, improve access to parks and natural reserves, and stimulate awareness of conservation issues, environmental funds are being established around the world. It is estimated that over 40 environmental funds are now in operation, with another 40 at different stages of planning.

As one of the first environmental funds, the *Fundo Nacional do Meio Ambiente* (FNMA) of Brazil is in a unique position to offer lessons from its early experience. Since its inception in 1989, FNMA has financed over 450 projects, providing more than \$25 million to nongovernmental organizations, municipalities, and state and federal agencies. FNMA has funded a wide variety of projects and executors, ranging from public health and environmental awareness with *Saúde e Alegria* in the Amazon, to biodiversity conservation with *Fundação SOS Mata Atlântica*, to demarcating indigenous lands with *Centro Ecumênico de Documentação e Informação*. Over the years, FNMA has become a major source of funding for environmental projects in Brazil. It is unlikely that any other fund in Brazil has a similar breadth of representation on its roster of participants.

Dedicated to increasing the role of civil society in improving the environment and conserving natural resources, FNMA has strong social objectives distinguishing it from other environmental funds. With its emphasis on long-term investments in strengthening civil society, it has targeted small municipalities and nongovernmental organizations to

undertake investments in environmental education, conservation, and research that have large “public good” components. Environmental public goods such as clean air, clean water, parks, and litter-free cities provide important benefits to the population, but unlike private goods are accessible to all. Because these benefits are “positive externalities” or nonmarket in nature, market forces by themselves will tend to undersupply them. FNMA not only aims to increase the supply of these types of environmental amenities, but equally important, to foster long-run demand for them.

In 1992 the Inter-American Development Bank approved Loan 883/SF-BR for \$22 million to support the FNMA. In 1997, the Environment Division of Region 1 completed a review of the Fund’s administrative procedure and performance, based on data from FNMA, project reports from IDB field staff, and other documents. The overall picture is positive: overcoming initial logistical difficulties associated with administering a large number of small projects, FNMA appears to have reached a point on the learning curve where it is operating efficiently and can maintain a comparative advantage in funding small-scale environmental projects in Brazil. The lessons drawn from FNMA’s early experience are relevant to a number of other countries considering establishing environmental funds.

A number of key findings about FNMA’s early performance emerged from this review:

- *Nongovernmental organizations are the largest beneficiaries of FNMA:* According to the most recent data obtained from FMNA, nongovernmental organizations accounted for over 50% of the total number of projects and volume of funding. These figures indicate that FNMA has largely fulfilled its mandate to target NGOs and municipalities.

- *Environmental education received the largest share of FNMA funding:* Of the six thematic areas covered by FNMA, environmental education received the largest share (33%) of total funding. Research and technology development received about 20%, and forestry extension received another 16%; the remaining 30% was allocated to conservation, environmental control projects, and institutional strengthening. The emphasis on education represents a commitment to investing in human capital resources and strengthening civil society, a primary objective of FNMA.
- *Project size is growing over time:* Since 1991, the average size of FNMA projects has grown from \$24,000 to \$81,000 in 1996. Combined with an increasing number of projects, total annual volume of funding has grown from \$1.5 million to \$8 million in 1996. The FNMA is consequently able to finance a larger volume of environmental projects at a presumably lower level of overhead.
- *Contribution of local counterpart is increasing over time:* Local counterpart contributions have increased over time, from an average of \$5,000 to \$50,000 per project, totaling over \$5 million in 1996. This promising trend could signal higher leverage for scarce IDB funds, but requires scrutiny and validation mechanisms to determine whether estimates are accurate. If measured accurately, counterpart contributions can serve as an important indicator of an executor's ability to attract funds and carry out successful projects.
- *FNMA administration of projects is improving:* Based on available evidence, FNMA appears to be overcoming initial difficulties in administering its diverse portfolio of environmental projects. Two key indicators are the time necessary to process applications, and the status of projects. First, processing time for project requests has dropped from 14 to 20 months in 1991/92 to 6 to 8 months in 1995/96, signaling a large improvement in efficiency.

Second, the number of projects classified as "pending" from the period 1992-1995 has dropped significantly since the administrative reforms in 1995. However, to evaluate the past performance of FNMA projects more information is needed on the status of these "pending" projects. Both cases underline the importance of tracking project data more carefully, thereby providing FNMA administrators with concrete measures of their performance.

To increase long-term viability, FNMA and other environmental funds will need to leverage their resources more fully. Internally, there are a number of options which could reduce its overhead, increase efficiency and improve transparency. These include incorporating indicators of administrative performance and actual benefits resulting from its investments into a comprehensive data management system, and simplifying application form and filing requirements, especially for smaller projects. Externally, there exist several sources of untapped funds which could potentially contribute to the long-term self-sufficiency of the Fund. Tapping other, external sources will require efforts to increase publicity and awareness about the Fund and its activities, while maintaining high performance standards, in order to attract potential contributors, as well as to develop a broad-based constituency within Brazil for environmental quality.

Ecotourism and the Mercosur

The Inter-American Development Bank supports its borrowing members in environmental management, including maintenance of biodiversity, establishment and management of protected areas and fostering locally sustainable economic development. Ecotourism holds excellent potential for the protection of the environment and may have a significant role to play in these efforts. In addition to the environmental benefits, ecotourism can provide excellent opportunities for private sector development and, when properly planned and monitored, can prevent improper forms of development while generating positive local and regional

economic benefits.

Ecotourism and the "New" Tourist

Ecotourism (including all of its derivatives such as adventure travel, scientific travel, nature tourism, etc.) is one of the fastest growing segments within the tourism industry. Tourism is now widely considered to be the world's biggest industry, accounting for over 10% of world GNP and providing employment for 7% of the world's workforce, more than any other single industrial sector (World Tourism and Travel Council, 1993).

Despite its potential, ecotourism is largely undeveloped in much of Latin America, with notable, high profile exceptions such as Costa Rica and the Galapagos Islands. Interest is growing rapidly, however, as governments become aware of ecotourism's potential to provide a sound basis for sustainable economic development that includes conservation and preservation of natural environments, which provide the basis for the benefits of ecotourism. The private sector has become increasingly active as well, responding to the growing demand for ecotourism.

In order to respond to this opportunity, the Environment Division of Region 1 commissioned a study to provide background and strategic issues related to ecotourism development in the Mercosur, as a first step in developing a strategy for how the region can work with its members to integrate ecotourism into their economic development. Some highlights of the study are discussed below.

By their size, diversity and unique natural resource base, the Mercosur countries hold considerable ecotourism potential. Trends indicate that for Chile, Argentina, Bolivia and Brazil, growth in tourism both from within the region and from overseas will occur, as these countries devote resources to bring the sector into the global tourism market. Ecotourism

can be expected to grow as well, fueled by growing demand and the emergence of the "new" tourist (see box).

The implications of the evolution of the new tourist with respect to the future of Latin American tourism are several. The new tourist wants to feel safe. Image is a key area that the countries of Latin America will need to focus on in the future, in developing tourism. Latin America is still a mysterious place for many, and has a wealth of opportunities to develop and promote destinations that are unique in a world sense: the exciting flora and fauna of the Pantanal and Amazonia; the breathtaking scenery and vast coastal resources of Patagonia; and

the range of climbing, skiing, hiking opportunities associated with the Andes, to name a few.

The new tourist is relatively affluent, and is willing to pay for a unique, high quality experience. Tourism development that accommodates the high-end, low-volume market in essence focusing strongly on the potential ecotourism markets can capture this growing demand. The new tourist wants quality of service for their dollar. Consequently, new destinations and developments will need to focus

The New Tourist

From the late 1980s onwards, signs of a major change the global tourism market were increasingly observed, including a shift to mature, critical and emancipated "new" tourists (Krippendorf 1987:175). New tourists can be characterized as

- mature and experienced travelers who are looking for individual, as opposed to group, experiences;
- wanting variety and unique vacation experiences, rather than the stale, homogeneous packages that have traditionally been offered;
- keen to learn about new cultures and to have a rewarding, enriching and authentic vacation;
- having great care for conservation of the natural environment ; and
- demanding more customized vacations, which allow for spontaneity, novelty and safe adventure.

strongly on training, etc. to ensure a competitive and successful product. Access is fundamental to tourism. Many of the spectacular destinations in Latin America are presently inaccessible, and careful choices regarding the location of infrastructure investments will have to be made.

A Framework for Ecotourism Development

While ecotourism can generate economic benefits, it can also generate unwanted negative environmental and soci impacts, if not planned and executed within an appropriate framework. Unplanned ecotourism development has resulted in overexploitation of fragile ecological areas, and excessive demand on public services such as water, sewage and transportation. It has also led to increased tensions between local populations and tourists, and a significant proportion of its benefits have accrued to foreign operators at the expense of the local population. This illustrates why ecotourism can have strong critics. Despite cases of ecotourism “gone wrong,” however, there is evidence that well-conceived, authentic and properly managed ecotourism has significant potential as a tool to protect the environment while benefitting local populations. To summarily dismiss ecotourism as a potential sustainable development tool is not the answer, given the inevitability of its continued growth. Rather, ways must be found both to maximize its benefits while breaking down the barriers and constraints that can undermine its success.

Thus, the question is not so much whether growth will occur, but how it can be anticipated and managed to ensure sustainable development. A first

step should be the development of an ecotourism strategy for each country based on a sound assessment of strengths, weaknesses and opportunities (see box).

An ecotourism management scale, indicating what levels or types of ecotourism development would be

A Strategic Assessment of Ecotourism
<ul style="list-style-type: none"> • Identify ecotourism markets for the country; identify and assess the country's ecotourism resources. • Identify and assess the linkages between ecotourism, the other productive sectors of the economy, infrastructural investments and culture, and identify where linkages can be strengthened to benefit the other sectors at the same time as ecotourism is developing. • Assess the institutional setting of the country, and the institutional capacities available, or required, for supporting ecotourism. • Include development of an action plan, providing the rationale for ecotourism in the country, definition of an ecotourism scale, definition of opportunities and constraints, and definition of specific steps to implement the

appropriate for a given area, based on its carrying capacity, can be developed as part of the strategy for a specific country to act as a prescriptive tool to assist decisionmakers in evaluating ecotourism resources, managing development, and controlling levels of use within the strategic framework. Such a scale will serve as an analysis and planning tool to permit the identification of key decision parameters for ecotourism development. It will also highlight the need for policies, regulations, development standards and planning and operational criteria that should be applied at different "levels" of sites to ensure that over development does not occur. Similarly, it will become a useful tool in monitoring and enforcement to ensure

adherence to the various standards that are put in place. The development of an ecotourism scale for a country need not be an expensive or overwhelming task, but rather a process that can be carried out over a period of time as resources become available. An initial framework can be developed using information existing in each country and updated/refined as new research is carried out.

Opportunities for the Bank

Given the nature of the extensive resource base throughout many areas of Latin America, it is clear that there are a great many opportunities for

ecotourism development and that ecotourism will be a growth industry for many years to come. Overall, ecotourism is considered to be a positive phenomenon, evolving in response to market demand from travellers interested in the environment and supplied by a natural resource base that is being made increasingly accessible by the governments of developing countries. While there are several potential economic and environmental benefits that can accrue from well-conceived and carefully operated development, it is also apparent that uncontrolled, poorly planned and mismanaged ecotourism activities can have adverse affects.

The IDB faces the challenge of strategically assisting developing countries in overcoming the barriers and capitalizing on the opportunities associated with the growth of the industry. The Bank can play a positive role to promote a shift away from unsustainable practices towards sustainable ones, related to both ecotourism and increasingly responsible mass tourism development. Region 1 will continue to develop and refine its role in working with its borrowers in developing a sound strategy for ecotourism development, beginning with Argentina and Brazil in 1998.

HIGHLIGHTS FROM REGION 2

Actions to Improve the Response Capacity of the Bank in Environmental Management

Rising to the challenge of sustainable development in the region, the Bank, in search of increased efficiency and efficacy, has promoted several initiatives. The Environment and Natural Resources Division of Region 2 (Central America, Mexico, Haiti, and Dominican Republic) held a meeting in San José, Costa Rica, June 11-13, 1997 with the environmental and natural resources specialists from the region and headquarters. Specialists in environmental management from Central America also participated and provided insights about trends and needs in the region that the Bank should consider in its environmental operations.

A specific objective of the meeting was to analyze the environmental requirements and priorities of the region and the way the Bank can marshal its staff to most effectively undertake its activities given budgetary and human resources constraints. Staff from headquarters, the regional environmental advisors (ARMAs), and the specialists in the field discussed mechanisms to organize and optimize the financial and human resources allocated to the environment in order to efficiently comply with the region's new challenges.

As part of the meeting, a plan of action was prepared which made several salient recommendations. Country environmental strategies should be prepared and incorporated into Country Papers. Exchange of experiences across projects and countries should increase and training programs should be developed. Finally, new financing instruments should be utilized in support of environmental policy reforms, including the possibility of designing a regional fund for environmental incentives linked to environmental policy reform and environmental quality improvement.

Calls on the Bank to respond to demands from clients in the region is a growing challenge. The type of environmental management that has been unfolding creates new demands, opening new avenues and opportunities, such as municipal and local management, that go beyond the macro regulatory framework. Some examples of the Bank's efforts in 1997 include:

Support for the Central American Alliance for Sustainable Development (ALIDES).

ALIDES is a successful organization working within the framework of Central American integration. In 1997, the Bank provided support for projects, resources, ideas and the conceptualization of operations in strategic areas of ALIDES activity, such as institutional and legal strengthening. For example, the Bank cooperated in the establishment of National Councils on Sustainable Development (CONADES) in Honduras, Nicaragua, Costa Rica and El Salvador. These councils are

important vehicles for coordination and building consensus on sustainable development.

Support to Environmental Authorities. The Bank is actively collaborating in the consolidation of the Environment and Natural Resources Ministries in El Salvador, Honduras, and Nicaragua. In Central America, environmental legislation and authorities exist in Guatemala, El Salvador, Honduras, Nicaragua, Costa Rica and Belize. Panama is the only country with no environmental authority or legislation. In Panama, the Bank is assisting authorities in the design of a technical cooperation to develop an environmental strategy which is expected to be completed by early 1998.

Interinstitutional Cooperation. In 1997 the Bank provided the Central American Bank for Economic Integration (BCIE) with support to strengthen its management capacity in the area of sustainable development. This exercise has produced environmental guidelines and procedures and the inclusion of sustainable development management in BCIE's Projects Department. BCIE staff have been trained at IDB headquarters in the application of environmental policies, guidelines and procedures and also attended meetings of the CESI to observe how socioenvironmental criteria are applied in IDB projects.

Support for Project Administration. In 1997 the region introduced some innovations in project administration to maximize beneficial project impacts. For example, in the case of watershed management projects, a workshop, with the participation of executors and local NGOs, took place in El Salvador to gather and share experiences about projects in execution financed by the Bank in Honduras, Guatemala, El Salvador and Costa Rica. The major strengths and weaknesses of various support mechanisms for the adoption of conservation and agroforestry technologies were analyzed during the workshop. Some that stand out are the

introduction of auctions for the allocation of forestry incentives; community participation during the decision-making process, and more flexibility in technology transfer to better respond to beneficiaries' needs.

Close environmental monitoring of Bank projects during 1997 facilitated the achievement of environmental goals. Examples include: (i) a significant reduction of pollution from the management and use of fuels and lubricants in thermoelectric plants in Honduras; (ii) reinjection of 100% of the wastewater from geothermal plants in the Miravalles project in Costa Rica; (iii) reduction of pollutant discharges from 80% in 1996 to only 10% in 1997 by improving efficiency in the use of geothermal wells rather than direct wastewater discharge to Lake Managua in the Momotombo geothermal project.

Important Events Held in Support of Sustainable Agriculture

In Guatemala, the Bank organized a conference entitled "Agribusiness in an Era of Open Markets." Private and public sector leaders from every country in Region 2 met to discuss the implications of economic globalization, especially the roles that should be played by government, the private sector and international organizations like the IDB. Globalization presents both opportunities and challenges, compelling the countries to adapt their overall view of the food and agriculture sector, and encourage a more competitive environment. In this connection, a public-private alliance is crucial to making the sector competitive. The role of the state is limited to public health and safety, administration of the law, and provision of those services and infrastructure that are public goods, thus leaving investment, production and distribution to the private sector. The Bank must respond to this situation in a broad-minded fashion, supporting the formulation of an agenda for competitiveness. Motivated by this meeting, other similar national events were held in several other countries in the region.

For instance, with Bank support, El Salvador is undertaking a series of forums to facilitate a national dialogue about a strategy for rural and agricultural development in the new context of economic openness and globalization. The first Salvadorean meeting, held in September under the joint aegis of the Ministry of Agriculture and the Farmers Association, brought together groups of growers representing all scales of operation, big to small. Four alternative strategies were developed that reflected the different points of view and political orientations of attendee coalitions. Interestingly, the four strategies shared many points in common, especially that general macroeconomic stabilization and free market policies must be supplemented with concrete strategies for enhancing the competitiveness of agriculture under transparent rules of the game. The importance of eliminating structural restrictions that impede the proper operation of markets for land, labor and capital was emphasized, as was the need to protect the natural resource base and promote sustainable agricultural practices.

Support for Reform in Water Resource Sub-Sectors, Potable Water and Sanitation

In 1996, the Bank supported a regional conference on potable water and sanitation that was held in San Pedro Sula, Honduras. Following up on that effort, in 1997 several Region 2 countries received help from the Bank to ensure effective sector reform processes that embody efficient private sector participation under an adequate regulatory framework. For example, in Honduras, the Dominican Republic and Panama, the Bank sponsored a series of events to develop a consensus about reform processes involving major institutional changes in the provision of water-related services. As a result, innovative forms of private and public participation were uncovered that may satisfy the ultimate objective of improving service quality and maximizing the potential for private investment in financially sustainable service expansion.

HIGHLIGHTS FROM REGION 3

Andean Regional Biodiversity Issues

The varied ecosystems of the Andean region are home to the highest levels of biodiversity on Earth. The Andean countries have the highest diversity of species in the world for many groups of species. Three of them (Colombia, Ecuador, and Peru) have been classified as “megadiverse” countries, belonging to a group of about 10 countries holding close to 80% of the world’s biodiversity. In terms of avian diversity, for example, Colombia with nearly 1,800 species, has the highest in the world, while Peru, with approximately 1,700 species, is in second place. In Colombia alone there are more plant species than in all of sub-Saharan Africa. Colombia’s 2,890 species of vertebrates rank it third in the world. These figures are all the more impressive when one considers the relatively small size of the countries involved.

The reasons for these high levels of biodiversity are many, but the most important one is the wide variety of habitats and ecosystems found in the Andean countries. The Amazon basin, with its extremely high levels of biodiversity, touches all four countries, including the foothills of Peru, Colombia and Ecuador. The Andes themselves are home to an enormous variety of species. As elevation changes on Andean slopes, vegetation types and habitats change, and species composition changes with them. Furthermore, species composition on the east slope of the Andes is often different than that on the west slope. The superwet forests of the Choco region add yet again to the region’s total biodiversity, as do the dry forests of southwest Ecuador and northwest Peru, the desert areas of northeast Colombia and northwest Venezuela, the high altitude grasslands (puna) of Peru, and the Pacific and Caribbean coasts.

Another important aspect of the region’s biodiversity is the high level of endemism found. A high proportion of the species found in the Andean region occur nowhere else, and many of these have restricted ranges within the region itself. Particularly important centers of endemism include the *tepui* and

the coastal *cordillera* in Venezuela, the Sierra Nevada de Santa Marta of Colombia, the Choco region, the Tumbesian region (southwest Ecuador and northwest Peru), the Napo area of Amazonian Ecuador and Peru, as well as several areas within the Andes themselves.

By far the most important threat to biodiversity in the Andean region is habitat destruction, which in most cases is synonymous with deforestation. Because of their biological importance and the threat levels that they face, high conservation priorities include the Tumbesian region (high levels of threat and high endemism), the Choco (high endemism and overall biodiversity), and the Amazonian forest (very high overall levels of biodiversity).

Efforts to protect biodiversity in the region by setting aside protected areas have had mixed results. While in some countries impressive percentages of the national territory are classified as protected (40.1% in Ecuador and 29.8% in Venezuela), these numbers mask the fact that in reality many protected areas are in fact “paper parks” with little if any infrastructure or effective protection. Furthermore, there is often a lack of resources, both human and financial, to properly manage these areas. Protected areas as a percentage of national territory are far less extensive in Colombia (9%) and Peru (3.3%). The importance of biodiversity has only recently come to the forefront. As a result, the Andean countries do not, for the most part, have an effective framework for biodiversity protection and strategies, though efforts are underway to remedy this.

All the tropical Andean countries have ratified the Convention on Biological Diversity (CBD). Some countries are working on biodiversity laws that are likely to establish a legal framework for developing strategies, while others are developing biodiversity strategies and action plans through lengthy and thorough consultation processes with all stakeholders.

From the standpoint of IDB support, one of the central issues and target areas for natural resource management is biodiversity conservation. The report

on the Eighth General Increase in Financial Resources provides the IDB with a clear mandate. The document commits the Bank to actively pursue new opportunities to implement conservation of biological diversity programs that involve local communities.

Taking into account the international commitment to biodiversity expressed by the signing of the CBD by the Andean countries, and the Eighth Replenishment mandate, the Environment Division of Region 3 has begun a process to bring together experts from nongovernment organizations, government sectors and regional integration agencies to develop a regional biodiversity strategy and action plan. The aim is to assist in the identification and definition of regionally important biodiversity issues and bring them to the attention of the countries that are currently working on their national strategies.

The process required to develop the regional biodiversity strategy and action plan will build upon the individual country processes and benefit from the contribution of experts working on national biodiversity strategies, but it will not replicate their efforts. The activities will focus on issues of regional importance, such as the identification of conservation priority areas shared by several nations; the management of these areas; access to genetic resources; infrastructure development trends; land use issues such as deforestation, oil, and mining; and the identification and management of multinational protected areas and pollution trends. The regional biodiversity strategy and action plan could be used shape lending and bilateral assistance for biodiversity programs as well as influence development policy for the Andean region.

The activities will be supported with a regional technical cooperation to be funded by the Bank and executed by the General Secretariat of the Andean Community in close collaboration with the Committee of Andean Environmental Authorities which will be formally established in early 1998. The program will have a positive impact at the national level by supporting and shaping the discussions in each country, and promoting dialogue between

governments and society. This will be one of the first systemic efforts to cope with the issues and the answers that will improve the management and conservation of this megabiodiverse region.

Water and Sanitation

Rapid urbanization in the region (75% of the population considered urban) poses a threat to public health and the environment. The most striking urban problems are health impacts resulting from inadequate or nonexistent water, sanitation, drainage and solid waste services. Perhaps the most worrying development has been the deterioration of water and sanitation services in urban areas. In Colombia, Ecuador and Venezuela, the percentage of the urban population with access to safe water and sanitation has dropped in the last decade. The most dramatic decline was in Venezuela where it fell from 88% to 68%. This is in marked contrast with global trends, which show improvements in these indicators almost everywhere.

Another characteristic of the region is the sometimes striking disparity between rural and urban access to sanitation and safe water. In the case of sanitation, large gaps exist in every country in the region. For example, 70% of the urban population of Colombia has access to sanitation, while only 33% of the rural population does. The figures for Ecuador are 69% and 38% respectively, while in Venezuela they are 55% and 30% respectively. The country with the lowest percentage of rural population with access to sanitation is Peru with only 25% coverage. These data also emphasize the fact that access to sanitation in the region is not available for a significant proportion of the population.

Latin America's population growth rate requires annual investment of as much as 0.2 to 0.5 points of GDP in order maintain coverage. However, extending the services to the whole population would cost as much as 4.5 to 8 points of GDP. Utilities, facing problems such as low efficiency, inadequate and insufficient tariff structure, and lack of managerial autonomy, do not seem able to generate the necessary funds to finance these investments.

Weak institutional development, policy deficiencies and modest private sector participation are major obstacles in the region. The institutional framework in many cases has grouped the planning, regulation and service functions together, leading to obvious conflicts of interest. In most cases there is no regulatory framework governing the relationship between service providers and service users. Most service providers are inefficient, subject to considerable political intervention and not financially self-supporting. This environment has led to deficient services in terms of quality and reliability, and the need to search for new approaches and strategies to boost the sector's operational and financial efficiency, to encourage service providers to respond appropriately to users and authorities, and to support private sector participation in financing and operation.

The Bank's Public Utilities Policy relies on a private sector participation model for services to achieve long-term sustainability. However, it also acknowledges the difficulty of meeting this objective while simultaneously expanding access to services in the short term. The operations approved during 1997 were geared toward restructuring the water supply and sanitation sector by decentralizing service to make it more efficient, consolidating the financial sustainability of the sector, and establishing the proper institutional framework to obtain adequate levels of efficiency and create a suitable environment for private sector participation.

In accordance with the Bank policy, an operation for Guayaquil, Ecuador proposes to improve water and sewerage services through a long-term concession agreement with the private sector. The specific objectives are (i) to award a concession for Guayaquil's water supply and sewerage services to a private operator; (ii) ensure that sufficient staff with the appropriate skills are available to implement and administer the concession; and (iii) upgrade the operation and maintenance of the water and sewerage systems. An operation with Venezuela includes an institutional strategy to: (i) boost the sector's operational and financial efficiency; (ii) encourage a service provider to take responsibility

for the functions, assets, and services entrusted to them and respond appropriately to users and authorities; and (iii) support private sector participation in the operation of the systems.

ENVIRONMENTAL OPERATIONS

Urban Environment and Pollution Control

- **ARGENTINA:** Aguas Provinciales de Santa Fe

The Inter-American Development Bank approved two loans totaling \$85 million to Aguas Provinciales de Santa Fe S.A. (APSF), an Argentine water and sewerage consortium that has been awarded a thirty-year concession contract to provide potable water and sewerage services to fifteen districts in Santa Fe. The consortium consists of Lyonnaise des Eaux, S.A. (32.8%), Sociedad Comercial del Plata, S.A.(19.2%), Sociedad General de Aguas de Barcelona S.A. (16.4%), Banco de Galicia y Buenos Aires, S.A. (12%), Meller S.A. (9.6%), and DIPOS employees through an employee ownership program (10%).

The Bank will provide one loan of \$30 million from ordinary capital. A second \$55 million loan will be extended both by the Bank and a consortium of European and Japanese Banks.

The financing is the first by the IDB's Private Sector Department for a water and sanitation project, and it was also the first IDB financing for an Argentine utility company outside of the Buenos Aires metropolitan area.

The resources will finance the 1996-98 capital expenditure program for Aguas Provinciales de Santa Fe. APSF is a private company that intends to rehabilitate and expand existing water and sewerage facilities and to increase the quality and efficiency of services provided.

The company currently delivers services in conjunction with a network of more than 170 small independent operators, 110 of which are organized as service cooperatives. Approximately 74% of the

province's population has access to water services, while 30% has access to sewerage services. The provincial government retains ownership of the assets in each case. A regulatory entity Ente Regulador de Servicios Sanitarios [Sanitation Services Regulatory Agency] is responsible for inspection and supervision of service providers.

A \$600,000 technical cooperation will provide institutional strengthening to ENRESS. Upon completion of the project, the regulatory agency's ability to execute its functions will be improved. It will rely on trained staff and policy instruments to facilitate the performance of its regulatory functions.

- **ARGENTINA:** Environmental Management of the Matanza-Riachuelo River Basin

The Matanza-Riachuelo basin drains Argentina's industrial heartland and is highly contaminated. This \$250 million loan will help to improve management of the basin through improved coordination of environmental actions. The financing is part of a \$500 million program.

The project is to be executed by the Comité Ejecutor del Plan de Gestión Ambiental y Manejo de la Cuenca Hídrica Matanza-Riachuelo (CEMR). It will assist in curbing industrial pollution, improve environmental management, and control flooding in the basin.

A \$328.8 million component of the program will support the construction of macro drainage works, including dikes and pumping stations along the Matanza and Riachuelo rivers and their tributaries. Micro drainage works, such as pipe networks and drain inlets, will also be financed. Thirty-seven families will be resettled where drainage works will be constructed. Effluent control programs for the basin's 65 largest industries will be put in place, and 1,000 industries that discharge waste into the basin will be inventoried, licensed and monitored. Other components include developing a management plan for domestic waste disposal, and the conversion of four illegal dump sites to sanitary landfills. Land use and road infrastructure plans for the basin will be

developed and implemented.

A part of the program includes urban rehabilitation and improvements in tourist areas and restoration of the Transbordador Bridge in the La Boca neighborhood of Buenos Aires. Improvements will also be made in the fish market, Isla Maciel, Puente Alsina station, Puente de la Noria area and Villa Diamante.

The program also includes institutional support for the Environmental Secretariat of the Province of Buenos Aires and the Subsecretariat of the Environment of the city of Buenos Aires.

The program will have a significant effect on the environment for those 3 million people residing in the basin. By providing a critical mass of drainage and flood control works, the program will largely resolve flooding problems in the most flood prone areas, greatly enhancing the quality of life of residents. Industrial effluents will be reduced, water quality and land use will be improved, real estate values will increase, and key public spaces will be upgraded.

- BAHAMAS: Preparation of a Solid Waste Management Program

The Bank approved a \$100,000 technical cooperation to provide funds for the preparation of a Solid Waste Management Program to improve services for New Providence, Grand Bahama and the other Family Islands. The aim is to make the systems efficient and financially sustainable, reduce the risk of pollution of underground freshwater sources, and control the transmission of communicable diseases. The project would also contribute to improving the visual aspect of the environment so important for the tourism industry.

Specifically, the program envisions the expansion of existing sanitary landfills, composting, recycling, hazardous and special waste treatment, storage facilities, and possible dry waste landfill, as well as the closure of all existing dump sites. Program components include regulatory adjustments, institutional strengthening, priority investments for

disposal, facilities and a health and environmental education and awareness program.

The project will produce significant environmental and social benefits. All the activities are directed to solve, control or reduce the negative health and environmental impacts arising from the way in which solid waste is currently collected and disposed of in The Bahamas. It will also help to maintain tourism in the islands.

- BRAZIL: Rio de Janeiro State Neighborhood Upgrading Program “Baixada-Viva”

The Bank approved a \$180 million loan to the state of Rio de Janeiro, Brazil, to improve the quality of life of the population in target neighborhoods of the “Baixada Fluminense” region, in particular, sanitation and health conditions. Approximately 360,000 low-income persons are expected to benefit from the program, which will be carried out by the state Planning and Coordination Secretariat. In addition to financing improvements in infrastructure for such services as basic sanitation, street paving and recreation, the program will also provide technical assistance to the governments of four participating municipalities to better equip them to organize and operate services and establish financial control systems. The program is both an urban environment initiative and a poverty alleviation effort and is meant to create a lasting impact on the urban landscape and urban management practices. Activities will include the introduction of a decentralized urban management model with community involvement in solid waste collection systems, urban maintenance and other municipal services. Improvements in sanitary conditions and health care systems will lead to the reduction in water-borne diseases and infant mortality. Environmental education and small business promotion will also be financed.

The program introduces an integrated urban development approach, with participation of the affected communities, that will have a significant impact on the quality of local services and the

sustainability of investments. The program addresses the infrastructure and social services requirements of entire neighborhoods, thus maximizing its environmental, social and urban impact and increasing the useful lifespan of the investment.

- COLOMBIA: Wastewater Treatment Plant for Bogota

The Bank approved a private sector partial risk guarantee project, a \$31.25 million guarantee to senior debt noteholders investing in Bogotana de Aguas y Saneamiento S.C.A., E.S.P., for a wastewater treatment plant serving the Bogota area. This operation is the first private sector financing guarantee ever granted by the Bank and the first private sector project in which the principal source of debt financing is the private placement of securities.

The guarantee provides a component in the project financing package that is expected to help clean up the Bogota River. The river is highly contaminate; 15 cubic meters of raw sewage are discharged per second, containing waste from residential communities in the northern districts, as well as business and industrial waste from the central and southern areas. Bogotana de Aguas y Saneamiento (BAS) has been established as a special purpose company to develop the project. Located at the junction of the Bogota and Salitre Rivers, the plant will process four cubic meters of wastewater per second and remove sedimentation. Phase II of the project will further purify the water through secondary or biological treatment.

The shareholders of BAS are Lyonnaise des Eaux and Degremont S.A., a Lyonnaise subsidiary and a world leader in the design and construction of water treatment plants. The company has a 30-year concession to own, operate and maintain Phase I and Phase II of the project.

The IDB partial political risk guarantee ensures compensation to certain senior debt noteholders in case of an early termination of the concession or restrictions on foreign exchange convertibility.

- ECUADOR: Private Sector Concession for Water Supply and Sewerage Services in Guayaquil

The Bank approved a \$40 million loan to Ecuador to improve the water and sewerage services of the city of Guayaquil. The program includes the granting of a long-term concession to the private sector to improve efficiency and increase investment.

This loan will enable the Empresa Cantonal de Agua Potable y Alcantarillado de Guayaquil (Ecapag), a municipal agency, to undertake technical, legal and financial studies and prepare bid specifications to award the concession. Ecapag will be reorganized to function as an oversight agency, while the private sector will be responsible for operating the water and sewerage system.

A \$19.8 million program will improve customer service and the quality and volume of water supplied. It will also help establish a more efficient rate structure and provide financial sustainability. The program will also improve water distribution in marginal neighborhoods, reduce leakages, and upgrade the sewerage system to prevent flooding in the downtown area.

- ECUADOR: Environmental Impact Studies in the Second Stage of a Master Plan of Water Supply and Sanitation

Cuenca, the capital of Ecuador's Azuay province, is the country's third largest city and the largest southern city. Demographic projections indicate that the city's population will reach 300,000 by the year 2000 and 460,000 by 2015. Existing services will not be able to provide increased coverage as will be required. Insufficient individual sanitation systems and deficiencies in the provision of services are major causes of water-borne diseases.

As a result, various municipal authorities, including the water supply and sewerage company (ETAPA) drew up master plans to be carried out in two stages. Most of the first stage works have been completed and are presently under operation. The first phase

included a \$50 million Bank-financed project, that expanded water coverage.

The objective of this \$110,000 technical cooperation is to prepare an evaluation of the environmental impact of the second stage of a water supply and sanitation program. The program includes expansion of potable capacity and distribution, as well as collection of sewerage waters and institutional strengthening for ETAPA.

- **HONDURAS: Puerto Cortes Sewerage Program**

The Bank approved a \$12.6 million concessional loan for a pilot program in the city of Puerto Cortes to contribute towards the design of an efficient model for potable water and sanitation services. The project aims to ensure that Puerto Cortes has an efficient and sustainable arrangement for potable water supply and wastewater disposal services, including the sewerage infrastructure to ensure the safe, environmentally acceptable disposal of liquid waste.

This loan is to serve as a model for additional IDB lending to the water and sanitation sector in Honduras. The municipal water division, DAMCO, will be converted into a commercial company, owned by the municipality and the private sector. DAMCO will sign an agreement with the Puerto Cortes municipality for the leasing of the water and sewerage infrastructure to provide water and wastewater services at affordable prices. The municipality will retain ownership of the infrastructure.

A \$10.84 million component will finance the construction of sewerage systems that will confer considerable immediate and long-term benefits. The health and the general quality of life of the people will be improved as the contamination caused by the lack of a proper disposal system is removed. The contamination of surface water, groundwater and coastal waters will also be significantly reduced.

This pilot project will demonstrate autonomy of the service provider, regulatory reform, financial

sustainability and community involvement.

- **HONDURAS: Privatization of Solid Waste Management Services in San Pedro Sula**

This \$360,000 technical cooperation will support the municipality of San Pedro Sula in the preparation and execution of a solid waste management services privatization project. The technical cooperation will finance the hiring of a specialized firm to prepare and manage the process, as well as the hiring of consultant services to supervise the private concessionaire. Privatization will save the municipality up to \$0.8 million a year and will provide more efficient services for the population, thus diminishing public health problems.

- **MEXICO: Studies for the Water Supply Program for the Metropolitan Zone of the Valley of Mexico**

Since 1970, the Metropolitan Zone of the Valley of Mexico (M.Z.V.M.) has had an acute shortage of potable water. To increase the level of service to the population and to reduce overexploitation of the aquifers, the Mexican government has asked the IDB to finance a project to construct the necessary infrastructure to supply the M.Z.V.M. with an additional flow of 5m³/sec. This new flow, combined with more efficient operation of the present potable water system, will supply the estimated demand up to the year 2010. The objective of this \$280,000 nonreimbursable technical cooperation is to help the government of Mexico prepare the information required by the Bank to analyze the viability of the project.

- **PANAMA: Water Sector Restructuring**

The Bank approved a \$45 million loan to Panama to support the reform of the water supply and sanitation sector, improving efficiency and service quality. The resources will help finance the restructuring of the water and sanitation operating agency, the Instituto de Acueductos y Alcantarillados Nacionales (IDAAN), and bring in private sector financing and management.

IDAAN will be transformed into a mixed corporation, with 51% of the stock owned by a private investor. In addition, the water supply and sanitation systems in Metropolitan Panama City and other areas will be rehabilitated as a part of the sector reform process. Steps will also be taken to protect the water resources of the interoceanic region basin. A master plan and feasibility studies will be drawn up for the Panama City sewer system.

- PANAMA: Urban Greening in Panama City

The purpose of this \$50,000 technical cooperation is to create an urban greening plan for Panama City. The project will not only contribute material and social benefits but will also reverse the deterioration of green areas. A general plan for urban greening will include the participation of local residents and the private sector. The project aims to improve the aesthetic value and environmental quality of Panama City with flower beds and a city park.

- VENEZUELA: Modernization and Rehabilitation of the Water Supply and Sanitation Sector

This \$30 million loan will finance the modernization and rehabilitation of the potable water and sanitation sector and will encourage private investment. The program is designed to promote efficiency and financial sustainability during a structural transformation period of five years, establishing the institutional framework necessary for the sector to evolve gradually and consistently toward desired levels of efficiency.

The initiative is designed to lay the groundwork for the establishment of an autonomous regulatory agency and the implementation of a new legal and institutional framework. Decentralization through establishment of at least four new enterprises, is also a goal.

The project will support the consolidation of an operating company, Hidrolara (HL), through the contracting of a specialized private company. HL

will be in charge of rehabilitating and improving potable water and sewerage systems as well as updating tariff and billing systems, hook-up registration, metering, and service enhancements to consumers. In addition, under the technical assistance component, the restructuring of other operators, which will be able to participate in a second rehabilitation program, will be started.

The objective of the program is to consolidate regulatory and structural reforms and efficient institutional and regional decentralization of the service, and to encourage participation by users and private companies.

Water Strategy

The proposed strategy for integrated water resources management recently submitted to the Policy Committee of the Board, includes actions to support some of its more important basic principles in those countries that have expressed an interest. Technical operations, both national and regional, are included among those actions. Activities that are supported by technical cooperations include: formation of a Latin America and Caribbean technical advisory group within the Global Water Partnership, to promote the Dublin principles of integrated water resources management, conflict resolution and efficient use of water in the region. This will be undertaken in collaboration with the Swedish international cooperation agency (SIDA), the World Bank and UNDP, and will include drafting of an action plan for South America. Other activities include support for the development of a Central American subregional strategy and an action plan for integrated water resources management, as well as similar national efforts in Haiti. Finally, it involves the development of guidelines for the application of the analytical framework proposed in the strategy, to be used by project teams in water related operations in Latin America and the Caribbean. The technical cooperations approved in 1997 are as follows:

ATN/SF-5756-RG *Reunión Latinoamericana y del Caribe del Comité Técnico Asesor (TAC) del Grupo Mundial del Agua (GWP)*. Total cost: \$305,000.

Bank contribution: \$150,000 (FSO Brazil local currency).

ATN/SF-5758-RG *Apoyo para Políticas y Estrategias de Manejo Integrado de Recursos Hídricos en América Central*. Total cost \$150,000. Bank contribution \$95,000 (FSO USD).

ATN/SF-5465-HA *Water Policy Formulation*. Total cost \$336,000. Bank contribution \$300,000 (FSO USD).

ATN/NE-5661-RG *Assessment of Institutional Framework for Integrated Water Resources Management*. Total cost: DFL200,000 equivalent to \$100,000. Bank contribution: DFL200,000 equivalent to \$100,000 (DFL from The Netherlands Technical Cooperation Environmental Trust Fund).

Natural Resources Conservation and Rural Development

- NICARAGUA: National Rural Development Program

The objective of this \$40 million operation is to contribute to a sustainable increase in the competitiveness of the food and agriculture sector in order to maximize its contribution to economic growth, a condition *sine qua non* for alleviating poverty. The underlying premise of the program is that productive revitalization of the food and agriculture sector is the most effective way to accomplish poverty reduction objectives, since the sector accounts for the largest share of the value of exports, represents an important percentage of the economy, can react quickly to investment stimuli, is labor intensive and accounts for the largest percentage of total employment. As the specific objective is to increase rural income and employment, measures are planned to spur the Nicaraguan *campesino* family to be more productive.

The program helps remove the disadvantages that small- and mid-size producers face as a result of the inadequacy of their own fixed and human capital. The goals of the strategy are to (i) improve human

and institutional capital and foster a more efficient use of productive technology; (ii) promote a better use of natural resources, (iii) promote the rehabilitation and improvement of productive physical capital, and (iv) improve access of small producers to markets for products and inputs. The program supports community participation and decentralization. Local governments, and private specialized institutions and nongovernmental organizations may help the communities develop and execute their investment projects.

- PANAMA: Darién Sustainable Development Program

In August, the Bank approved a \$1,300,000 reimbursable technical cooperation to complement the funding required to support the preparation of the Darién Sustainable Development Program, an investment and technical assistance operation due to be ready in 1998. The program objectives include the protection of the natural and cultural heritage of the Darién region; the support of sustainable economic and employment generating activities, the establishment of regulatory and institutional structures that promote sustainable and private sector investments; the rehabilitation of infrastructure and the establishment of a planning, and decision-making structure based on community participation and consensus-building.

The preparatory phase involves seven different diagnostic and design studies covering the productive and social sectors, multi-modal transportation, natural resource management and protection, land tenure and indigenous territories, and a participatory institutional structure designed to coordinate and guide the sustainable development effort over the long run.

It is already evident from the design phase that the Darién Sustainable Development Program will incorporate new concepts in land use planning, participatory decision-making processes, innovations in delivery systems for technical and financial services, lessons learned from integrated

development efforts of the past, and the most advanced technologies in remote sensing and environmental monitoring.

- **BELIZE: The Environment and Social Technical Assistance Project**

This \$2,600,000 program was designed to mitigate the adverse environmental consequences and indirect social impacts of the rehabilitation of the Southern highway. It aims to ensure the sustainable development of the southern region of Belize through a strong participatory regional planning process based on an extensive community consultation process involving the K'ekchi, Mopan and Garifuna indigenous communities. The three program components respond to the main concerns of the indigenous communities in the area. The land use planning component includes the preparation of a regional development plan, a map of potential land uses, a demarcation plan for the two-mile corridor that runs along the highway, and the planning and establishment of new special development zones (ZDE). The environment protection component includes technical support, implementation of a regional plan of environmental surveillance, collaboration with the National Environmental Assessment Council (NEAC) in the evaluation of environmental impacts, and implementation and an evaluation of protected areas. Finally, community participation includes strengthening and supporting existing community-based organizations, improving the development capacity of different institutions through training, facilitation of community contributions to planning and decision-making, and training on land tenure issues and titling procedures.

- **BELIZE: Land Administration Project**

The objective of this \$902,000 program to be executed by the Department of Lands and Surveys of the Ministry of Natural Resources, is to manage property rights and land titling to promote increased productivity and private sector investment in agriculture.

The investment environment in Belize is severely constrained because of uncertainties created by poor

land records, a large backlog of unsurveyed land, inadequate documentation and insufficient capacity among private sector surveyors. This project aims to correct these problems through specific components such as land records management, land tenure adjudication and a review of legislation on land and capital gain taxes. The program has an important GIS based environmental monitoring component and considerations for indigenous communities.

- **REGIONAL: Financing Biodiversity Conservation**

The objective of this \$90,000 nonreimbursable technical cooperation, financed with resources from the Netherlands Environment Technical Cooperation Trust Fund, is to contribute to the conservation of biodiversity through the development and application of financial instruments. In order to achieve this objective, the operation will finance a study to analyze the use of financial instruments which support sustainable use and conservation of biodiversity, and assist in developing the Bank's role in financing biodiversity conservation. The study will analyze and review existing and new approaches to financing conservation of biodiversity, and develop and support promising innovative approaches within the available mechanisms of the IDB. These include loans to governments, technical cooperations and conditionalities in loan contracts. It will also analyze business opportunities in biodiversity which also yield clear biodiversity benefits (such as alternative agriculture, sustainable forestry, nontimber products, biodiversity prospecting, and ecotourism) and the use of mechanisms for commercial investments in biodiversity conservation, such as the development of markets for biodiversity.

Coastal Zone Management

- **REGIONAL: Coastal Zone Management and Resolution of Environmental Conflicts**

This \$75,000 nonreimbursable technical cooperation will analyze consensus building and dispute

resolution processes in coastal and marine resources management with the intent of including such processes in operations financed by the Bank. The project will formulate tools and techniques applicable in coastal management aimed specifically at avoiding or resolving conflicts through a balanced set of objectives for allocation of land, ocean space or resources. Such processes may be used along with land use zoning restrictions, closed access regimes and other resource allocation tools for multiple use of coastal areas.

- **REGIONAL:** Support for the Implementation of International Fisheries Management Agreements

The Bank approved a \$200,000 technical cooperation to support the implementation of international fisheries management agreements. This technical cooperation will include research and consultation toward the definition of quantifiable indicators for sustainable fisheries and a study of the effect of international trade on the sustainability of production. The overall objective of the technical cooperation is to assist national fisheries administrations in Latin America in meeting their new responsibilities for the implementation of international agreements for sustainable fisheries management and conservation.

The executing agency for the operation will be the Latin American Organization for Fisheries Development (Organizacion de America Latina para el Desarrollo Pesquero - OLDEPESCA) based in Lima, Peru, which will work closely with its network of national fisheries administrations. Three recent international fisheries agreements will fall within the scope of the project: (i) the FAO Code of Conduct for Responsible Fisheries, (ii) the United Nations Agreement on Straddling Fish Stocks and Highly Migratory Fish Stocks, and (iii) the Agreement to Promote Compliance and Management Measures by Fishing Vessels on the High Seas. Five countries have been selected as demonstration cases based on the representative nature of their fisheries: they are Peru, Uruguay, Venezuela, Costa Rica and Mexico. The results of these five cases will serve as a basis

for preparing a regional action plan aimed at accelerating national implementation of key provisions of each agreement. Because it examines ways to further specific management policies (such as restricted access regimes for shared stocks, by-catch reduction and conflict prevention related to international trade of fisheries products), this operation is viewed as a first toward meeting the principles of the Bank's draft coastal and marine resources management strategy.

Energy

- **COLOMBIA:** Energy Efficiency

This \$10 million loan is the Bank's first project dedicated exclusively to energy conservation and rational energy consumption through the adoption of environmentally sustainable energy development strategies. The resources will help the Colombian government implement a strategy intended to optimize the cost of service and the financial needs of the sector; promote greater private sector participation; reduce the environmental impact resulting from the production and use of energy; and adequately orient the supply and demand of the country's energy resources, including the use of alternative energy resources.

Activities will focus on orchestrating demand, optimizing generation and fuel substitution. This will be achieved by formulating policies designed to create a market that ensures rational and efficient energy use at attractive prices. The project will help develop these market mechanisms by encouraging private sector participation within the bounds of a legal, regulatory and institutional framework.

Environmental Information Systems

The Digital Mapping and Geographic Information Systems Pilot Project aimed at transferring technology to the countries of the region was approved in 1997 (\$633,000). Its objective is to increase the benefits of using the latest geomatics

technology for decision-making in sustainable development. Through Internet, the project will link several data bases developed by various countries and organizations, to provide fast and direct access to decisionmakers and educators in the region. Eleven electronic atlases for distribution using CD-ROM and/or the Internet will be produced, and local capacity building will be provided. The project will have the support of the Pan American Institute of Geography and History based in Mexico City, the USGS EROS Data Center, Carleton University in Canada and other specialized institutions in Argentina, Brazil, Chile, Costa Rica, El Salvador, Mexico, Panama and Peru.

- **REGIONAL:** Information Systems and Telecommunications

The Bank has accumulated significant experience in the area of environmental investment and environmental quality control over the past seven years, since the establishment of the first formal Environmental Unit. Both environmental projects and environmental components of sector-specific projects generate copious data and information, which are collected and systematized at different depths and by different means by their implementors. As a rule, however, the wealth of experience and information accumulated in Bank headquarters, as well as in the field, only reaches a small fraction of potential users, affecting the final result of new projects since experience gained through implementation is not readily available to influence project design.

The purpose of this \$58,000 nonreimbursable technical cooperation is to analyze and design an environmental information system capable of capturing and disseminating information among Bank staff and executing agencies.

- **BAHAMAS:** Geographic Information Systems

This \$992,000 nonreimbursable technical cooperation granted by the Japanese Grant Fund will promote and advance the efficient and practical use

of integrated geographically referenced land information to support decisions regarding land resource management and physical development.

The project will assist the government of Bahamas in an ongoing effort to modernize public administration in the areas of property valuation and taxation, management of economic and social statistics, and public safety.

This technical assistance project will provide major benefits in the areas of geographic information policy, training, geographic database and institutional agreements for collaboration among agencies.

Environmental Institutions and Management

- **REGIONAL:** Strengthening of Environmental Policy and Management

In the context of the Meeting of Ministers of the Environment of Latin America and the Caribbean (the Forum of Ministers), the Ministers have met periodically since 1982 to evaluate and design policies and strategies to guide the activities of the United Nations Environmental Program (UNEP). During its Ninth Meeting (Cuba, September 1995), the Forum decided to consolidate and strengthen its role and to broaden the scope of issues discussed to include regional cooperation activities on environmental matters. This decision was reinforced at the Tenth Meeting, held in Buenos Aires, Argentina (November 1996), where the Ministers declared that the Forum has "the capacity and firm determination to consolidate and strengthen its role as the principal intergovernmental political forum for analysis and regional agenda-setting in relation to crucial environmental issues."

Responding to this decision of the Forum, the Bank approved a \$90,000 nonreimbursable regional technical cooperation to contribute to the improvement of environmental management in LAC by supporting the Forum. The financing will strengthen the Forum's role in problem areas

pertinent to environmental management and enable it to serve as the primary channel for a substantive dialogue and exchange of experience on environmental management in the region. It will also become a vehicle for the exchange of innovative ideas and partnerships among national ministries.

The operation will be executed by UNEP (Regional Office for Latin America and the Caribbean) with the active collaboration of the Bank and UNDP. It will finance the preparation of a background paper on the major challenges of environmental management to be addressed by the Forum, and will make recommendations on suggested lines of action for both the Forum and the ministers. The second stage of the operation will finance selected in-depth studies on the priorities identified. These studies will also serve to demonstrate the value added of engaging in a structured dialogue on critical, commonly shared issues in environmental management. It is expected that the Forum of Ministers will adopt a formal process under which it will continue to identify, analyze and discuss the major issues in environmental management, including the preparation and formulation of possible projects to support environmental management.

- REGIONAL: Regional Consultation Process in Preparation for the Summit of the Americas

The purpose of this \$110,000 nonreimbursable technical cooperation is to promote civil society involvement in preparations for the Summit of the Americas to be held in Santiago, Chile, in April 1998. In November 1997, a regional consultation took place with approximately 80 civil society and government representatives to discuss the issues on the Summit's agenda. Recommendations are being drawn up for the areas of poverty reduction and community involvement in environmental management for submission to the governments represented at the Summit.

- REGIONAL: Training in Ecologically Sustainable Industrial Development

The objective of this \$108,000 technical cooperation

is to promote cleaner production processes by training professionals who design and develop industrial production techniques and are involved in preparing and/or executing Bank loans dealing with pollution control. The first stage of the project consists of a "Training-of-Trainers" course that will take place in São Paulo, Brazil, where professionals from universities, government, the private sector and NGOs will learn about cleaner production techniques. In a second stage, participants will be required to organize regional courses to further disseminate the use of cleaner production techniques.

- REGIONAL: Assessment of Institutional Framework for Integrated Water Resources Management

This \$100,000 regional grant will support development of an analytical framework for assessing the institutional setting for integrated water resources management. The Bank will be able to incorporate it into capacity building exercises for future water-related projects.

Information about the institutional and legal framework of Guatemala, Jamaica, Colombia and Chile will be compiled. The project also includes an analysis of the existing framework and an assessment of its capabilities regarding water resources management.

Environmental Funds

- MEXICO

The Multilateral Investment Fund approved a \$4 million investment in a risk capital fund that will support small companies in Mexico whose activities enhance the environment.

The North American Environmental Fund will provide capital to firms engaged in such activities as recycling of wastes, cleanup of air and water pollution, and production of commercial industrial purifiers, solar energy systems, and products that are biodegradable.

The Overseas Economic Cooperation Fund of Japan and Nacional Financiera of Mexico are each providing \$2 million in cofinancing for the project.

- **ENVIRONMENTAL BUSINESS FUND**

The Multilateral Investment Fund approved \$4 million in financing to help establish the Enterprise Development Fund, an NGO that will promote and support conservation ventures of microenterprise and small businesses in Latin America and the Caribbean.

The financing consists of \$3.25 million in risk capital and a technical cooperation grant of \$1.75 million to strengthen the Fund's structure and provide entrepreneurial assistance to the enterprises. The Fund will finance ventures by NGOs that are designed to both contribute to environmental conservation and make a profit.

The project sponsor is the Nature Conservancy, an organization dedicated to preserving the environment. Other donors are expected to make financial contributions to the program equal to that of the IDB. The manager of the Fund will be based in Costa Rica.

Most of the eligible business ventures are expected to be NGOs, but the Fund will also be available to help other enterprises that meet its economic and environmental criteria. Among the possible eligible projects are those in such sectors as organic farming, ecotourism and sustainable forestry.

Environmental Strategies

As a result of two small technical cooperations approved in 1997, Region 1 is now developing country environmental strategies for Argentina and Paraguay. Financed by the Italian Trust Fund, the strategies will use quantitative survey methods to evaluate needs and capacities in five general areas: key environmental issues, enforcement, recurrent financing, information systems, and planning. By reviewing previous Bank initiatives affecting environmental management (such as institutional

strengthening) the strategies will provide an overarching framework and context for programming future IDB activities in the sector.

One of the innovative features of these operations is that they adopt a highly decentralized approach to developing the strategies. For example, IDB Environmental Specialists stationed in Bank Country Offices will assume leadership roles for both operations. This attention to local concerns will be the centerpiece of the strategies, so that national concerns and priorities are adequately reflected in the IDB country environmental strategy. Consultations with government and civil society representatives will culminate in a series of roundtable discussions, to be held in the country, to present survey results and discuss priorities for Bank initiatives in the environment.

Natural Disasters

- **ECUADOR: El Niño Emergency Loan**

The Bank approved \$70.8 million to provide financing to restore areas affected by El Niño. The specific objectives of the program are to take measures to prevent, avert and mitigate the effects of abnormal flooding caused by the El Niño event which is causing loss of life and property, deterioration in the living conditions of affected low-income groups, and damage to infrastructure and the environment.

Resources will finance relief efforts to minimize the loss of life and property, as well as rehabilitation measures. Activities that will be financed by the IDB include protection and rehabilitation of the national and local road system; water protection and rehabilitation works; emergency shelters and temporary housing; protection and rehabilitation of sanitation works; national clean-up and waste management; urban rehabilitation; protection and rehabilitation of energy supply, health care services, education services and the food supply; and humanitarian aid to affected communities.

In addition, government agencies and the civil

defense system will be strengthened to better plan for and respond to the emergency. The program will be carried out by the Office of the President through the Program Coordinating Unit.

The activities of rehabilitation and reconstruction will include preventive actions to avert or mitigate the adverse effects of similar natural disasters that may recur in the future and to address their environmental consequences. Financing will also be provided for activities geared to partial or full recovery of the losses sustained by the most vulnerable socioeconomic groups as a result of El Niño.

- PERU: El Niño Emergency Loan

The Bank approved \$150 million to carry out activities to prevent or reduce the harm inflicted by El Niño which has caused abnormal droughts and flooding, and fisheries losses.

In the country's northern area, which is prone to flooding, the resources will be used for channeling, drainage works in agricultural and urban areas, cleaning of ditches and sewers, highway construction, reinforcement of bridges, protection of schools, historic monuments and archeological sites and the relocation of small communities to higher ground.

In the southern region that is prone to drought, the financing will support irrigation, plowing, planting, food storage, and other agricultural activities.

In addition the program will provide humanitarian aid to disaster victims and rehabilitate services in such areas as transportation, sanitation, health care and public health infrastructure. The program will help reduce economic losses resulting from the impact of the El Niño phenomenon by keeping roads open and ports and airports operational, and by building other infrastructure such as irrigation and drainage works. The program will also help minimize the loss of lives and prevent famine and epidemics during and after the emergency.

Involuntary Resettlement

An operational policy on involuntary resettlement is currently being discussed by the Board of Directors. The proposed Policy would define the Bank's involuntary resettlement objectives in order to mitigate, when it is not possible to prevent, the economic and social hardships created by projects that affect some communities' economic activities and way of life while attempting to achieve development objectives that are intended for the benefit of the wider community. It would also define the scope and criteria for Bank action in those projects that cause resettlement and provide a framework for systematic monitoring and evaluation of involuntary resettlement resulting from Bank projects. Finally, it would support Management's dialogue with borrowers on the activities and investments that need to be incorporated into projects that cause involuntary resettlement.

In addition, a draft of the operational guidelines on involuntary resettlement in Bank-financed projects has been updated and will be issued in final form once the policy is approved. These guidelines are meant to assist the Bank and borrowers in mitigating the negative impact of compulsory relocation on individuals and communities, and in assisting the affected population to establish a sustainable society and economy.

As directed by the IDB-8 Agreement, a comprehensive database on all past and present Bank infrastructure projects that involve involuntary resettlement has been completed. A review of the database of projects involving involuntary resettlement reveals that the information available regarding the design, implementation and outcomes of the resettlement components is very scarce.

Since 1970, at least 120 Bank projects have involved or are expected to involve involuntary resettlement. Of these, 52 projects have been completed, 56 are in execution, and 12 are in the pipeline. Information on the number of people affected is available for 77 of these projects, involving a total of over 650,000 people, of whom some 465,000 are affected by the projects presently in execution. However, considering that there is no information available for

the remaining 43 projects, the total number of people affected may be much higher. The majority of the people affected are generally from low-income groups, and most of the projects involving involuntary resettlement are in group A countries. In addition, the analysis shows a significant increase in the number of urban infrastructure projects, especially water and urban development, in the Bank's portfolio. This has resulted in an increase in the proportion of urban versus rural resettlement. Also noted is a gradual shift in the types of loans from specific to global multiple works, sector loans and time-slice operations. Moreover, there is a scarcity of information available regarding involuntary resettlement components in Bank

projects. Finally, a steady improvement in both the preparation of resettlement plans and the level of participation of affected communities are also evident. The last finding confirms the need expressed in the IDB-8 Agreement for improvements in the planning and implementation of resettlement components and underscores the importance of developing a more systematic approach to the documentation, monitoring and evaluation of resettlement activities.

During 1997, approximately 20 projects in the pipeline involved involuntary resettlement. Of those, eight were approved.

Table 5. IDB Projects with Involuntary Resettlement Approved in 1997

Project Number	Project Name	Approval Date	Amount (millions)	Families Resettled
PN-0105	Panama-Colon Toll Road Project	APR/97	\$75	N/A
BR-0253	Vial Program for the State of Ceara II	JUL/97	\$115	360
BR-0242	Rio de Janeiro State Neighborhood Upgrading Program "Baixada Viva"	SEP/97	\$180	400
BR-0275	North-South Interconexion	NOV/97	\$307	32
AR-0136	Environmental Management of the Matanza-Riachuelo River Basin	NOV/97	\$200	35
BR-0271	The Hydroelectric Power Plant of Itá	DEC/97	\$280	4,000
AR-0151	Integrated Development Program of Big Cities	DEC/97	\$260	500
BR-0272	Dos Lagos Toll Road	DEC/97	\$80	40

IV. COOPERATION FOR SUSTAINABLE DEVELOPMENT

IDB and the Global Water Partnership

The Bank collaborates with institutions and international organizations to exchange experiences and coordinate viewpoints as part of an integrated approach to the management of water resources. The Global Water Partnership (GWP), an organization established in August 1996 with funds from the World Bank, UNDP and the Swedish Agency for Development (SIDA), has a Technical Advisory Committee (TAC) formed by professionals from all over the world, including Latin America. This group creates regional technical groups for the exchange of ideas and experiences, the preparation of regional action plans and the publication of “good practices” papers. Experts from the Bank met with the Consultative Group of the Partnership at the 7th Stockholm Water Symposium held in August to review progress and to debate the future development of the organization, its services to member organizations, and the implications of membership.

A technical group for Latin America was established in November. The initial meeting was held in Brazil. It was co-sponsored by the GWP/SIDA, the IDB and the Brazilian Water Resources Association (ABRH). The technical group will accelerate the process of integrated water resources management in the region and promote community participation as encouraged in the Bank Water Resources Strategy (see the next chapter for a summary of the strategy).

Water Resource Management: Institutional and Policy Reform

A seminar on integrated water resource management was held in Port of Spain, Trinidad on 24-27 June 1997. Representatives of water and sewerage authorities, ministries of agriculture, environment, health, planning and finance from 23 Caribbean countries attended the seminar, as did seven experts from the Bank’s Country Offices and headquarters.

A panel of field specialists shared experiences in water resources management in the Caribbean, networks for cooperation and existing programs for regional cooperation. After attending sessions on several issues in water resources management, the participants worked together in groups to formulate strategies for promoting integrated water resources management. Four key areas for action were identified: public awareness and education, institutional coordination, water resources policy, and legislation and innovative financing.

The workshop represented the fulfilment of a mandate of the fourteenth plenary session of the Caribbean Council for Science and Technology (CCST), and was sponsored by the CCST, the Caribbean Development Bank, the Commonwealth Science Council, the Economic Development Institute of the World Bank, the IDB, the Organization of American States, the Government of Trinidad and Tobago and the World Meteorological Organization.

Meeting of River Basin Organizations

Eighty-six participants from six Central American countries, Cuba, the Dominican Republic, Mexico, France, Spain, UNDP, the World Bank and the IDB met in San José, Costa Rica, in May to discuss the role of river basin organizations in the integrated management of water resources. Fourteen experts from Bank headquarters and the Country Offices participated in the discussions, which supported an integrated water resources action plan, as encouraged in the Bank’s water resources strategy. The meeting was sponsored by the IDB, the International Water Center in Nancy, France, the Costa Rican Tarcoles River Basin Commission, the Costa Rican Urban Development Foundation, and the Central America, Panama and Dominican Republic Coordinating Committee for Water Supply and Sanitation Institutions.

Summit of the Americas

In preparation for the Chile Summit of the Americas which will take place in Santiago on April 18-19, 1998, a regional consultative process will be undertaken to promote the involvement of civil society. To this end, the Bank granted a \$110,000 nonreimbursable technical cooperation to support a regional meeting in Santiago in November where approximately 80 civil society and government representatives discussed the issues on the Summit's agenda. Recommendations in the areas of poverty reduction and community involvement in environmental management were drawn up and will be submitted to the governments represented at the Summit.

With this operation, the Bank continued its tradition of supporting civil society participation in the Summit process, in much the same way as it did in the context of the Bolivia Summit on Sustainable Development held in 1996. The Bank is an active member of the Inter-Agency Task Force to Support Implementation of the Plan of Action of the Summit on Sustainable Development. This task force meets regularly under the chairmanship of the Organization of American States to serve as a coordinating mechanism to advocate and promote financing and technical assistance for projects within the framework of the plan of action of the Bolivia Summit. The OAS is coordinating an interagency report on the implementation of the Bolivia Summit to be presented at the Chile Summit with the IDB taking the lead on innovative financing instruments for sustainable development.

Commission on Sustainable Development

The Bank participated in the Fifth Session of the United Nations Commission on Sustainable Development (8-25 April, 1997) during which a high-level representative of the Bank delivered a short statement on the progress achieved in the implementation of Agenda 21 in Latin America and the Caribbean, and the role of the IDB. The statement noted that Agenda 21 called upon the international financial institutions to review their

policies and programs in light of the objectives of sustainable development. Subsequently, in 1994 the Bank received a renewed mandate on sustainable development. As a result, over the past few years, sustainable development projects have become a more prominent area of the Bank's activities. Examples include innovative projects to finance community participation and environmental conservation. In addition to this statement, the Bank submitted written observations to the CSD regarding its report to the Special Session of the UN General Assembly for Review and Appraisal of Agenda 21 (June 23-27, 1997). A Bank representative participated in that meeting as an observer.

Private Sector

In March, a Bank representative participated in the American Bar Association/Inter-American Bar Association's "Conference on Development, the Environment and Dispute Resolution in the Americas: New Directions for the Private Sector." The role of the Bank Groups was discussed in a panel on the role of international financial institutions in promoting environmentally sustainable private investment. Among the areas discussed were Bank support for improved environmental performance by the private sector, increasing private sector initiatives in human resources development, and developing sustainable financing sources for community based and privately sponsored projects that can make a significant contribution to environmental management.

The Environment Division commissioned a study to assess environmental evaluation practices and the social impact of privatization in the region. The study will evaluate and contrast these practices and impacts with those that have taken place globally. The lessons learned will yield valid and effective alternatives as well as options and guidelines for future Bank privatization projects.

On November 13-14, private sector executives and government officials from the Western Hemisphere and Europe exchanged views on the privatization of the sanitation sector in Latin America during a

conference held in Washington. The conference, titled “Social Acceptance and Political Consensus in the Process of Private Sector Participation in Water and Sanitation Services,” provided discussion and information from three distinct viewpoints: executives of newly privatized companies, government officials involved in successful privatization efforts, and others who encountered social and political resistance to privatization. A goal of the conference was to explore the social and political costs of privatization in the water and sanitation sector and examine ways in which these can be addressed and mitigated. Participants discussed measures to enhance the political and social acceptability of various forms of private participation in the water and sanitation sector.

Sustainable Markets for Sustainable Energy

In 1996, the Bank initiated the Sustainable Markets for Sustainable Energy Program (SMSE) to act as a catalyst for the development of sustainable markets for energy efficiency and renewable energy technologies in Latin America and the Caribbean. The SMSE is coordinated through the Environment Division. The program focuses on three main areas: efficient energy use, rural energy and urban transportation.

The IDB has been working for several years to try to ensure that the loan program includes energy efficiency and renewable energy projects or project components. Recent loans to Jamaica, Bahamas, Colombia, Costa Rica, El Salvador and Mexico (in preparation) include funds set aside for energy efficiency in electric utilities.

The SMSE program is the latest and most unique effort to meet these goals. Several countries are now actively working with the SMSE program to develop action plans. Specifically, Brazil is attempting to devise an action plan for rural energy services, Argentina and El Salvador for energy efficiency opportunities, and Peru for energy efficiency services for industrial customers. Urban transport screening activities are under way in Argentina, Brazil and Ecuador. Discussions are also under way with

Guatemala about applying lessons learned in Brazil to its rural energy services needs. Finally, efforts to develop a regional hotel Energy Services Company (ESCO) concept enterprise for small tourist destination countries are bearing fruit. Possible projects are being discussed with Bahamas and Jamaica, two IDB energy efficiency loan recipients, possibly using a regional aggregator such as the Caribbean Investment Bank.

Energy and Urban Transportation

Central American ministers met in April for a presentation and discussion on environmental and sustainable development considerations in infrastructure development (transport and energy). A priority of the meeting’s agenda was the critical role of transport ministries in environmental management. Ministers agreed to pursue integrated regional planning, strengthen regional and national transportation agencies, train human resources, and establish institutional mechanisms and fiscal measures to promote private investment for transport infrastructure and sustainable regional development.

The transportation sector is particularly important to the SMSE because it is the largest energy consumer and the largest contributor to atmospheric emissions in Latin America and the Caribbean. Furthermore, urban transportation has become one of the key issues the region will face in the next century because of skyrocketing investment and maintenance costs, increasing air pollution, growing traffic congestion and the diminishing access of the poor to transport services.

The SMSE’s urban transportation objective is to facilitate an integrated approach to meeting urban transport needs in a sustainable way. Tools for achieving sustainability in urban transportation are not limited to clean fuels and efficient vehicles, but involve combining good land-use management, public transit and nonmotorized transport, among others. Taking these considerations into account fuel efficiency and planning experts from automobile manufacturing firms, research institutions and the public sector were invited to an October meeting to

share their experiences and ideas with SMSE and the staff of the IDB.

Forestry and Protected Areas

The Bank participated in two major forestry and protected areas events. An IDB representative gave a keynote address at the First Conference on Parks and Other Protected Areas in Latin America and the Caribbean which was held in Santa Marta, Colombia, and presided over the sessions on international cooperation at the World Forestry Congress in Antalya, Turkey.

In Santa Marta it was noted that while the total number of protected areas has grown significantly over the past ten years, the area in strictly conserved areas has not increased, largely because government investments in these areas diminished. Social concerns, especially those relating to indigenous peoples, have gained importance as has public participation. Also, new opportunities for cooperation are available in the form of private sector investments in protected areas.

The World Congress participants gave their support to the International Forum of Forests as a consultation mechanism to reach an agreement on an international convention in forestry. Coordination of international cooperation should also occur on two other fronts: through regional commissions (such as the CCAD in Central America and the Amazon Treaty), and donor coordination, especially in project work, that could be effectively carried out only under the leadership of each recipient country.

IDB staff visited several European donors (GTZ and KfW of Germany, the European Commission and the European Investment Bank, and the government of The Netherlands) to promote interinstitutional cooperation. Several areas for cooperation were identified in information exchange about policies, strategies and best practices, and project preparation and implementation.

Desertification Convention

Latin America is affected by the degradation of arid, semiarid and subhumid dry lands in extensive geographical areas. An estimated 100 million people, mainly low-income families, are affected by desertification.

In December 1996, 115 countries, including 19 Latin America countries, ratified the Desertification Convention which promotes the creation and implementation of national action programs, subregional programs, and regional programs. Three regional conferences have already taken place, and were held in Buenos Aires, in January 1996; Mexico City, in June 1996, and Havana in March 1997. The Regional Commission of the Convention was formed by Argentina, Cuba, Honduras, Mexico and Peru, and the current regional action program was approved at the Havana conference.

The Bank has given technical and financial support to countries affected by degraded lands. Countries are expected to formulate their national action plans, subregional programs and regional programs. In 1996, a regional technical cooperation granted funds to Argentina, Bolivia, Brazil, Chile, Ecuador and Peru to develop such plans.

In 1997, a technical cooperation will support the development of desertification action plans in El Salvador, Guatemala, Honduras, Nicaragua and the Dominican Republic. The Bank also approved a \$40,000 nonreimbursable technical cooperation for an education training program in Chile. Twenty-five professionals will identify alternative sustainable management practices in regions with desertification problems.

Devolution in Environmental Policy

The Resource Policy Consortium, whose members include researchers, policy analysts, and administrators from universities, private organizations and government agencies around the world, meets annually to exchange ideas on socioeconomic research related to natural resources and environmental policy. The 1997 symposium examined concepts and experiences with devolution,

which refers to the level of government at which environmental policy should be developed and enforced. A representative of the IDB moderated the session on environmental policy devolution in the developing world.

Presenters and discussants highlighted that, although the notion of a diminished role of the central government in environmental policy has gained support in recent years, sector reform and the dismantling of the central government apparatus in developing countries has, in many cases, created an environmental policy gap. More generally, devolution is not an effective strategy when environmental impact boundaries overlap several political jurisdictions, or when responsibility is devolved to lower levels but decision-making authority and financial resources to implement policies and programs are not provided at the same time.

Bank Briefings

On June 19 Bank staff participated on a panel on business and consulting opportunities in the growing Brazilian environmental services and technologies sector. The forum, titled “Brazil/New England Matchmaking Meetings” was sponsored by the Massachusetts Port Authority, the U.S. Trade and Development Agency, and the U.S. Commercial Service.

A senior Bank officer specializing in the environment and natural resources spoke on project trade finance during the U.S.-Brazil Environmental Opportunities Conference held on June 15-18 at Pittsburgh’s World Trade Center. The World Trade Center is coordinating the Pittsburgh segment of a program sponsored by the U.S. Trade and Development Agency, which is bringing together U.S. suppliers and Brazilian buyers of environmental technology.

The New England-Latin American Business Council, The World Trade Institute and Massport cosponsored a briefing held at the World Trade Institute in Boston on October 28 on opportunities that result from the Bank’s \$7 billion annual lending

program to Latin America and the Caribbean. A Bank specialist in projects in the environment and natural resources explained how companies can track IDB projects and compete for the more than 4,500 contracts that result annually from Bank lending.

Film Festival

The Inter-American Development Bank showed three films, two on April 10 and one on April 15, in conjunction with the 1997 Environmental Film Festival of the Nation’s Capital. On April 10 the Bank exhibited *Return to Tambopata*, the story of a man who, inspired by the wisdom of his grandmother, an Amazonian native, awakens to the need to prevent ecological devastation as he travels the Tambopata River in Peru. On the same day the Bank presented *Yepi* (Help), a call to protect the rainforests of Suriname, a country with a higher percentage of intact forest than any other country in the world.

On April 15 the Bank showed *World Heritage in South America*, a video that introduces 12 UNESCO-designated cultural and natural World Heritage sites in Brazil, Argentina, Paraguay and Bolivia. The presentation was designed to convey the universal value of these sites and to increase awareness of the need to protect them for future generations. The film was followed by a panel discussion on IDB initiatives related to cultural and natural preservation.

Web Page

The Environment Division of the Sustainable Development Department is in the process of updating and improving its Web page (<http://www.iadb.org/sds>) to include more information and make it more easily accessible to the interested public. In particular, most of the publications listed in Chapter 5 will be readily available.

Under the new structure, the Main Page will contain the objectives of the Division; guidelines and

environmental assessments prepared by the Bank; a list of publications prepared by the Division; upcoming events; areas of special interest including the Bank's GIS and Remote Sensing lab, Sustainable Markets for Sustainable Energy, and a link to the Regional Fund for Agriculture Technology⁵ and an area with related links. The Web page will be divided in sections with information on: integrated water resources management, urban environment and pollution control, forestry and biodiversity conservation and management, coastal and marine resources management, sustainable agriculture and rural development, energy conservation/alternative sources of energy, and environmental management, law and economics. Each section will have the

following structure: news, upcoming events, publications, and related links. The information will be sector-specific. The new structure will allow the Division to maintain an up-to-date Web page with all of its products available in Hyper-Text Markup Language (HTML), Rich Text Format (RTF) and Portable Document Format (PDF).

In addition, the Bank's main web page (<http://www.iadb.org>) periodically contains abstracts of strategy and policy work done in environment and natural resources. In the past a summary of the coastal and marine resources strategy was posted, and most recently, an abstract of the integrated water resources management strategy appeared.

⁵ The Regional Fund for Agriculture Technology is a consortia to promote strategic agricultural research of relevance for Latin American and Caribbean, with direct participation of the countries of the region in priority setting and funding of research projects.

V. PUBLICATIONS

Of Special Interest

Agricultura, Medio Ambiente y Pobreza Rural en América Latina,⁶ a book compiled by Lucio G. Reca (Research Fellow at IFPRI) and Ruben G. Echeverría (Environment Division of the IDB), is a joint publication of the International Food Policy Research Institute (IFPRI) and the Inter-American Development Bank. The book is based on several national and regional studies prepared and presented in technical workshops in Latin America during 1996. The publication includes a vision of current strategic agriculture, natural resource and environment issues. It also includes discussions of the need for new and innovative rural institutions, and trade and food security issues in Central America. An analysis of rural poverty in the Andean zone, and an overview of agriculture development, technology and poverty in the MERCOSUR countries, complete the publication.

Publications of other Entities Undertaken with IDB Financial Support

The first *Medium Term Plan of the Regional Fund for Agricultural Technology* was prepared during 1997 by a regional team of experts with support from the IDB, the Rockefeller Foundation, the International Development Research Centre of Canada, and the Interamerican Institute for Cooperation on Agriculture. The Medium-Term Plan 1998-2000 provides the basic framework for investment by the Fund in regional research. The plan links the main objectives of the Fund, which are increasing the competitiveness of agriculture in a sustainable manner and reducing poverty, with regional research opportunities where the Fund's investments can have the largest impact. This effort included the characterization of the region into

“research domains” which are areas relatively homogeneous in terms of research opportunities, and the identification of “families of technologies” which represent types of technology development activities needed to address the objectives of the Fund. The Regional Fund operates as an endowment adding resources and national research efforts to address research opportunities of regional interest. It is an autonomous regional program whose Secretariat is based at the IDB during its initial phase of three years of operations. The Medium-Term Plan and other Fund documents can be obtained at <http://www.fondoregional.org>.

Organized by the University of Panama and the Smithsonian Tropical Research Institution, the 8th International Coral Reef Symposium assembled 1220 marine scientists and resource managers from 62 countries to discuss recent advancements in tropical reef science. Released in August 1997, the *Proceedings* include over 300 papers on topics ranging from the status of coral reefs worldwide, nutrient dynamics and other chemical cycles, natural and anthropogenic disturbances to the use of remote sensing for monitoring coral bleaching, the impact of fisheries reserves and restoration techniques. For the first time, representation from the marine science community of Latin America and the Caribbean was significant with regional assessments for Central America, the Caribbean and Brazil, and site-specific papers on coral bleaching, disease outbreaks and heavy metal concentrations in Belize, Jamaica, Venezuela and northern Bahia, Brazil. Several papers reviewed early findings from Caribbean Coastal Marine Productivity, the marine research and monitoring network linking marine laboratories, parks and reserves in the wider Caribbean. In all, the collection includes over 75 research papers from Latin America and the Caribbean.

⁶ Available only in Spanish.

The Bank provided support to the Fourth Experts

Group Meeting on Financial Issues of Agenda 21, held in Santiago, Chile, 8-10 January 1997, which was organized by the United Nations (Division for Sustainable Development) with the support of other international and bilateral agencies. The proceedings of this meeting, *Finance for Sustainable Development: The Road Ahead*, were made available prior to the June 1997 Special Session of the United Nations General Assembly to Review Implementation of Agenda 21. The publication reviews the main financial issues of Agenda 21 by identifying institutional and political obstacles to reform and developing policy options for improvement of international and domestic financial policies, thereby providing policy makers in government, the private sector and others with an in-depth analysis on improved access to external finance, domestic resource mobilization policies, and innovative financial mechanisms for resource mobilization. With the support of the Bank, University of Maryland Professor Ramón López, contributed to the report with an article entitled "Demand-Based Mechanisms to Finance the 'Green' Environment in Latin America and the Caribbean."

Since 1982, the ministries or governmental entities that deal with environment in LAC have been holding annual meetings in coordination with the United Nations Environment Programme (UNEP) to strengthen regional cooperation in environmental matters and coordinate regional positions and activities in the context of sustainable development. In 1996, UNEP established a program for Global Environmental Citizenship to establish venues for effective dialogue on environmental management among governments, the private sector and civil society. A citizen forum on regional environmental management was held in conjunction with the Tenth Meeting of Ministers of Environment of Latin America and the Caribbean in Buenos Aires, Argentina from November 10-12, 1996.

The specific objectives of the citizen forum were to exchange experience on participation among representatives of the various social actors and the ministers of the environment, and to propose effective means of achieving greater dialogue and

consensus regarding social issues. The IDB provided financial support to UNEP for the publication of the *Final Report of the Citizen Forum on Regional Environmental Management*.

Papers by IDB Staff Appearing in Journals or Presented at Professional Meetings

In Latin America, as elsewhere, relationships between civil society and the state are undergoing changes leading to new patterns of behavior and institutional arrangements. From oligarchies to authoritarianism, through crisis to decentralization, innovative partnerships are being formed to deal with current development challenges including poverty reduction and the preservation of environmental quality. Several key issues and successful case studies regarding the management of renewable natural resources are examined in *Local Stewardship of Watershed Resources: An Analysis of Creative Approaches and Positive Results*, a paper delivered by Charles Fortin of the IDB at the 1997 Meeting of the Latin American Studies Association, Guadalajara, Mexico, April 17-19, 1997. Co-management schemes are analyzed with a view to describing some of the parameters of local actions in watersheds and the spheres within which other development organizations, including government, can and do operate. The paper concludes with comments regarding the opportunities for small-scale development projects in natural resources and democratic processes in selected areas. Over 350 papers presented at the meeting will be made available through the University of Pittsburgh's web site (<http://www.pitt.edu/~lasa/>).

An overview paper on *Agricultural Research Policy Issues in Latin America* was prepared by Ruben G. Echeverría for a panel discussion on Agricultural Research and Extension Systems: Past 25 Years, Current Crisis, Future Orientation and Economic and Institutional Implications, at the XXIII Conference of the International Association of Agricultural Economists held in Sacramento, California in August 1997. The paper reviews two critical challenges facing research organizations and governments in the region; namely, rapid institutional change and lack of

stable funding for agricultural, natural resource management and social science research. These are the most important issues in Latin America's current agricultural research policy agenda. The paper focuses on recent trends in research investments and financing alternatives, and on the perceived institutional evolution of research organizations in order to meet those challenges. The current low level of funding for basic, applied and developmental research activities, together with the dramatic organizational changes taking place in several public research organizations in the region, provide an opportunity to develop truly national agriculture innovation systems.

The design, analysis and implementation of projects in water resources supply and management has been an important area of work for governments and the private sector in the region for several decades. The IDB has been a major source of financial assistance for water sector projects during that time, investing an average of one billion dollars per year in water projects since 1961. In June, with the cosponsorship of the IDB, the Caribbean Council for Science and Technology, and the Water Resources Agency of the government of Trinidad and Tobago organized a conference on Integrated Water Resource Management in the Caribbean: Institutional and Policy Reforms that was held in Port-of-Spain, Trinidad.

Luis García, principal IDB water resources specialist, explains the broad water policy changes taking place in the region and the Bank in *Towards an Inter-American Development Bank Strategy for Integrated Water Resources Management in Latin America and the Caribbean*, a paper prepared for the Trinidad conference.

Historically, most countries in LAC have emphasized investments in water resources development. But, increasing populations and economic development, coupled with diminishing possibilities for economical supply expansion, have brought water quantity and quality conflicts to the fore, calling for a change in emphasis. The need for change has been reinforced by the trend toward more

private sector provision of water-based services (potable water, hydropower, irrigation), which requires a careful balancing of private returns and public benefits of alternative allocations and uses, and the choice of appropriate policy instruments and institutional arrangements (like stakeholder participation, tradable water rights and river basin councils, among others) to achieve that balance while giving due importance to cultural and equity issues. Today, an integrated approach to the management of water resources is replacing the narrow subsectoral supply orientation of the past. This implies that the must Bank give institutional analysis at least as much weight as building physical infrastructure, and that it must support the development of integrated water resources strategies, policies and master plans, as well as build capacity and strengthen water resource management institutions in the region.⁷

In another paper for the Trinidad conference, *Current Paradigms in the Economics of Water Resources Management*, IDB economist Sergio Ardila observes that despite the application by many funding agencies of strict ex-ante cost/benefit methods to identify welfare-improving projects, results have often fallen short of expectations. Ardila does not find fault with the basic methodological elements of traditional analysis, but notes in his historical review that while some have fallen into relative disuse (shadow pricing, distributional weighting), and some have become relatively more important over time (fuller accounting of environmental costs and benefits), unpleasant

⁷ A version of the paper in Spanish called *Hacia una estrategia para la participación del Banco Interamericano de Desarrollo en la gestión integrada de los recursos hídricos en América Latina y el Caribe* was presented by Dr. García in May 1997 at the *Primer Encuentro Sobre Organismos de Cuencas de Centro América* in San Jose, Costa Rica. The event was organized by the Comisión Coordinadora del Río Grande de Tárcoles and cosponsored by the Bank. Both Spanish and English versions were also distributed at the meeting of the Global Water Partnership and at the Second Brazilian Water Resources Symposium sponsored by the IDB/Swedish International Development Agency/Asociación Brasileira de Recursos Hídricos held in Espirito Santo in November. A related paper by García, *A Role for River Basin Organizations within an Integrated Water Resources Management Strategy*, that gives more attention to the role of river basin councils appears in the Proceedings of the International Network of Basin Organization's International Technical Seminar on the Financing of Basin Organizations held on October 3 in Valencia, Spain.

surprises in project execution reflect an important omission in the analysis. That is, the failure to understand the institutional setting and anticipate the economic incentives it embodies. Specifically, two issues have been identified as the main source of problems in the provision of WRM project services: the confusion of regulatory and operational roles in state-owned enterprises -the so-called “poacher-gamekeeper problem”- and undue political influence on management. These weaknesses are responsible for the lack of appropriate oversight, soft budget constraints and confusing incentives which have brought about most problems experienced by public utilities.

A more rigorous and realistic new approach to the economic analysis of investment proposals requires that the basic model be enriched with a full description of the objective function of firms, consumers and regulators, the recognition of information asymmetries, and a focus on institutions, rules and the way they are generated and updated. Our ability to understand and address these new issues relies to a great extent on the economics of information, which in little more than a decade has become a distinguishable branch of economics with a growing body of literature. In short, the traditional economic questions of what to produce, how to produce it and for whom, are now complemented by two new questions: how should these decisions be made and who should make them?

Marc Dourojeanni, former Chief of the Environment Division at Bank headquarters and currently with the Brazil Country Office, made three major presentations in 1997 dealing with protected areas and Amazonian development, all of which will become available as published papers in 1998.

Dourojeanni presented *Protected Areas: Historical and Current Problems, New Directions* (original in Spanish) at the First Brazilian Congress for Conservation Units, held in Curitiba, Brazil from the 16th to the 21st of November, 1997. The document analyzes the evolution of protected areas in Latin America over the last twenty-five years, noting outstanding progress in increasing the number of

protected areas, fostering greater community participation in their management, and developing innovative ways to finance them. On the negative side, Dourojeanni feels there is a growing tendency to establish categories of protected areas which permit natural resource use but contribute less to biodiversity conservation. The quality of management has declined, as has the investment per unit of area protected. The document examines criticisms made of strictly protected areas and looks at ways to improve current practices, emphasizing the complementarity between strictly protected areas and those that allow some forms of resource exploitation.

At the same Curitiba Congress, Dourojeanni also discussed *Financing Protected Areas in Latin America* (original in English). Public investment for establishing and maintaining protected areas in Latin America has decreased significantly in the last two decades. The document reviews the options that could be employed for financing protected areas, given the political and economic context of the region. With respect to the latter, it stresses the need for valuing the services provided by natural areas, and charging for these services through taxes, fees or marketable permits.

Old and New Effects of Amazonian Development: Is There Hope for Sustainability? observes that even though there has been much discussion of sustainable development, little if anything has changed in the way development has been applied in Amazonia. Deforestation and natural resource degradation has grown over the last 50 years and, after a period of relative calm during the 1980s, the rate has increased again. Dourojeanni emphasizes the issue of increased urbanization in Amazonia (which has distorted political priorities), and develops a careful study of why existing knowledge and techniques have not been applied. He concludes that priority measures will continue to involve intensive agricultural use of previously deforested land and the proper valuation and payment for the largely nonmarketed environmental services the forest provides. The paper was presented both to the International Amazonian Seminar XXI: An Agenda for a

Sustainable World held in Brazilia, Brazil, from the 24th to the 25th of November, 1997, and to the Amazonian Seminar: Integration, Resources and Problems organized by the Advanced Study Institute of the University of Sao Paulo, Brazil, on the 9th of December, 1997.

Senior IDB Forester Kari Keipi, in "Financing Forest Plantations in Latin America: Government Incentives" *Unasylva*, Vol. 48,⁸ explains why the issue of public incentives for private investment is particularly complex in the case of planted and natural forests. While most Latin American countries today provide public subsidies in some form to encourage tree planting, many, such as Brazil and Uruguay, have eliminated or reduced subsidies as part of general policy, and others, like Chile, are reviewing their incentive policies.

Plantation forests, most established on abandoned, erosion-prone agricultural land, are only a small part of the solution to a much larger problem. They amount to only about one percent of the region's forested area, and the existing stock of plantation forests, for industrial or social purposes, is only half as large as the amount of natural forest that disappears annually. Because natural and, to a lesser extent, planted, forests provide a multitude of nonmarket benefits (recreation, watershed protection, genetic reservoirs of flora and fauna, carbon storage), the socially optimal level of forested area may well exceed the amount that the private market is willing to provide. Part of the solution is to establish favorable conditions for private investments in tree planting and natural forest conservation to take place. In his dispassionate and practical review of the rationale for plantation forest subsidization, and the forms such subsidies can take, Keipi concludes that incentives should be economically justified on the basis of beneficial social or environmental externalities, and preferably should indirectly promote forestation programs by the

private sector through public support of research, training, extension and provision of information.

In the energy sector, historical developments in the past two decades (including the oil and debt crises, recent moves toward privatization, and heightened environmental awareness) rendered many power system planning tools obsolete. In response, with IDB sponsorship, an up-to-date computer analysis system for generation expansion studies called SUPER was developed in the early 1990s under the umbrella of the Latin American Energy Organization. Bank energy specialist Jaime Millán and co-authors R. A. Campo and G. Sánchez-Sierra describe the main features of the model which, among other things, handles financial risk, demand side management and environmental impacts, in their paper for the *IEEE Transactions on Power Systems* entitled "A Modular System for Decision-Making Support in Generation Expansion Planning."

Evaluation Studies

In June, the Evaluation Office (EVO) issued a final summary report on *Bank-Supported Renewable Natural Resource Management Efforts in Watersheds (Document RE-219)*. The purpose of the evaluation is to provide the Board and Management with an assessment of some of the Bank's experience regarding the management of natural resources in watersheds. The four project performance reviews (PPRs) summarized in this final report serve as a basis for recommendations for improvement in project design and implementation to enhance the effectiveness of natural resource management efforts.

The report recommends that, with respect to the design and execution of natural resource management investments, Bank Management should take into account the livelihood of *campesino* families living in upland watersheds. Project designs should include calculations of the carrying capacity of arable land and agricultural production vis-à-vis farm worker requirements for decent rural living, and measures to ensure compatible population distributions throughout the watershed. If natural conditions are deficient and the resource base cannot

⁸ Another article by Kari Keipi along the same lines can be found in *1997 Southern Hemisphere Forest Industry Yearbook* published by Trade and Media Services Limited, Rotorua, New Zealand.

support occupation on slopes, then alternative arrangements should be proposed and consensus reached regarding settlement in areas conducive to productive activities, economic autonomy, and provision of services.

Large-scale infrastructure (whether measured by size, cost, or "command area") and major natural resource project investments can be highly complex, increasing the risk of not achieving total project effectiveness. Therefore, the report suggests that the Bank should also promote sound watershed management by means of increased support for components, including pilot projects, whose scale and complexity do not exceed the (actual or potential) institutional capacity of implementation agencies. Where appropriate, technical cooperation and the financing of institutional strengthening projects should be frontloaded, that is, they should precede or parallel investments in infrastructure.

Projects within watersheds (including large-scale water projects) should be conceived as catalysts or as fitting into and reinforcing positive, productive activities and sound natural resources management already under way in hillside settlements. In conjunction with government authorities, Bank Management, therefore, should establish policies and actively engage in pipeline co-programming in order to define projects which are consistent with and part of long-term watershed development plans and processes. These would include compensation for potential losses to current populations as well as the preservation of natural capital to ensure intergenerational equity.

The Business of Respectful Exploitation - Good Practices in the Management of Natural Resources in Watersheds, a working paper by Charles Fortin and Daniel Engelberg, surveys project experiences by entities other than the Bank. The Bank has invested considerable resources in water impoundment projects directed at hydroelectric power generation, irrigation and urban water supply. More recently, the Bank has followed up several of these infrastructure investments with support for natural resource management in the basins supplying

water to these impoundments. In addition to knowledge acquired from assessment of these projects, this working paper recognizes that much could also be learned from good practices and positive results generated by non-Bank projects. Therefore, the aim of the paper is to incorporate and systematize for analysis the inner workings and outer circumstances of a wide variety of successful processes and projects related to natural resources. The main objective of this research is to discover how and why certain watershed-related activities can generate positive results in sustainable ways.

The Evaluation Office also initiated an effort to evaluate the environmental management of Bank-supported public infrastructure investments. The purpose of this program is to learn lessons about the usefulness and adequacy of Bank guidelines and to examine how it oversees compliance regarding infrastructure projects. Analysis and evaluation of environmental management impacts, conformity with loan contracts, instruments, will lead to recommendations for strengthening country capacity to implement Bank-supported investments, particularly public infrastructure projects. Five project performance reviews are contemplated over the 1997 to 1998 period. Two were completed for the transport sector in 1997: Highway Improvement Program Chile (CH-0041), Arica - Tambo Quemado (Loan 613/OC-CH) and Road Rehabilitation Program for the State of Ceará (Loans 587/OC-BR and 833/SF-BR).

Regional Research Network Studies

After five years of national and regional activities a major study on *Strengthening Capacities to Prioritize Agricultural Research Investments in Latin America* ended in 1997 with several relevant products and findings. The project was coordinated by the Inter-American Institute for Cooperation on Agriculture with IDB regional technical cooperation support, and the collaboration of all national public research institutes of the region (INIAs in their Spanish acronym), as well as with the assistance of regional research cooperative programs (PROCIIs) and regional and international agricultural research

centers, especially the International Food Policy Research Institute (IFPRI) and the Centro Internacional de Agricultura Tropical (CIAT). The main goal of the project was to stimulate the development and use of technical methods for evaluating the impact of agricultural research. These methods are based on basic economic and biological principles, and applied in an ex-ante fashion, help in setting priorities among competing research alternatives. As a result of the project, methodologies were developed as a joint effort by all the countries participating in the project, and approximately 60 research staff were trained in the utilization of these methods at the subregional level. Several biophysical, production, trade and macroeconomic databases were set up, and a new impact evaluation computer program for a Windows environment was developed. One of the studies conducted as part of the project shows that during the past 30 years, consumers in the region have benefitted with an annual flow of benefits of \$518 million due to rice research in Latin America.

Four studies in water and sanitation financed by the IDB's Regional Research Network Project were published in the fall of 1997 as working papers by the Office of the Chief Economist.

Organización, Regulación e Incentivos: La Economía Política de los Sistemas de Agua Potable y Desagüe, El Caso Peruano, Working Paper Series, R-308, Office of the Chief Economist, Washington, D.C., September, 1997 (in Spanish), analyzes the water and sanitation sector in Peru since 1990 as it changed from a highly centralized structure to one which assigns primary responsibility to municipalities. The paper shows how the reforms of the water and sanitation sector have been largely driven by political factors external to the sector, whether the APRA government's effort to fragment power in its final days of office or the current government's interruption of the privatization of SEDAPAL prior to elections. It also demonstrates the fragility of financial resources for the sector which depend heavily upon payroll taxes which are themselves subjects of reform debates.

The study also compares the performance of three water companies – SEDAQOSQO, SEDAPAL, and SEDAPIURA – in the face of this changing political-economic context. The comparison of water and sanitation companies demonstrates that SEDAPAL has improved its performance and performs better on various efficiency measures than the municipal firms. This is attributed to the tutelage of external financing agencies interested in efficiency. By contrast, the municipal water companies are unable to break the vicious cycle of low tariffs, insufficient funds, inefficient operation, and political interference. However, SEDAPAL's current arrangement is unlikely to sustain its efficiency gains without continuing external involvement. The study concludes with a discussion of policy alternatives, with special attention to the potential role for the private sector and a new regulatory framework.

Traditionally, Argentina's water sector has been publicly managed. However, in the last ten years, Argentina has experimented with private participation on a scale and at a pace beyond other experiences in Latin America. *Argentina: La regulación económica en las concesiones de agua potable y desagües cloacales en Buenos Aires y Corrientes*, Working Papers Series R-312, Office of the Chief Economist, Washington, D.C., October 1997 (in Spanish) analyzes the first two concessions granted in Argentina, in the province of Corrientes and the city of Buenos Aires. It explores the relative advantages of the two concession processes, regulatory frameworks and institutional contexts. It shows how these differences may have affected both the resulting performance of the two water companies and the post-contract negotiations, although the short time frame limits the ability to make strong conclusions. The study demonstrates the impact of the institutional and political context on the outcomes of concession arrangements, and highlights the strengths and weaknesses of the various actors involved in the process of improving water services with private sector participation.

Los servicios de agua potable en Chile: Condicionantes, institucionalidad, y aspectos de economía política, Working Paper Series R-308,

Office of the Chief Economist, Washington, D.C., 1997 (in Spanish), analyzes the transition of Chile's water and sanitation services from a centralized public sector activity to one which is more decentralized, with a highly developed regulatory framework and with the beginnings of private sector involvement in various forms. The study argues that private sector involvement in the provision of water services has been slower than in other sectors, such as telephones and electricity, because consumers were relatively content with the performance of public firms and private investors were less interested. In reviewing the current debates, the study notes the relative absence of consumers from the discussion, and low resistance from employees. Most of the discussion has been affected by perceived problems with respect to privatization initiatives in other sectors. The study contains detailed information on the legal and regulatory framework, along with comparative data on the various regional water authorities.

Regulation, Organization and Incentives: The Political Economy of Potable Water Services in Honduras, Working Paper Series R-314, Office of the Chief Economist, Washington, D.C., December, 1997 (in English), analyzes the poor performance of the water sector in Honduras, and shows how a "low level equilibrium" is maintained by keeping tariffs too low to finance efficient expansion of services. The study compares the performance of the national water authority (SANAA) with various municipal services and, in this context, reviews the current reform debate over regionalization and municipalization. It documents the sector's continued dependence on external funds to support investment and the gross inefficiencies of operations. It goes on to show that consumers are relatively less willing to accept higher tariffs in return for promises of improved performance when dealing with SANAA than with local entities due to lack of credibility at the national level. The paper concludes with a stakeholder analysis which suggests ways to break out of the low level equilibrium and establish a more efficient sector.

Technical Papers and Guidelines by the

Environment Division (SDS/ENV)

• The Urban Environment

The increasing concentration of human populations in cities can exact a strong toll on a city's fragile natural and environmental resources, particularly in developing countries where resources are scarce. Careful planning and forethought are the keys to ensuring that a city will have healthy natural resources for both today and tomorrow. Local governments, however, cannot undertake the planning and preparation alone. City planners need to involve local communities, including women, in the decision-making process by soliciting public input on topics ranging from siting and design layout of green spaces, to prioritizing the desired environmental benefits and developing a workable upkeep strategy. Cooperation also includes involvement of the private sector, community groups, NGOs, and the international community.

Good Practices for Urban Greening by Mark Sorensen, Jac Smit, Valerie Barzetti and John Williams explains that urban greening offers improvements in air, water and land resources by absorbing air pollutants, increasing water catchment and flood plain surfaces and stabilizing soils. Urban forests provide shade in the summer and wind break in the winter, as well as reduce noise pollution and carbon dioxide levels. The economic benefits include marketable timber and agricultural products, and a variety of non-timber forest products. Lastly, the overall benefits to society, and particularly to the urban poor, include the contribution of trees and vegetation to mental and physical health, recreational opportunities, an outdoor classroom for environmental education and aesthetic improvements to the city scape.

In financing urban greening, private funding is an essential counterpart to public support. There is a diverse range of options, including advertizing opportunities, entrance fees, philanthropic donations, payments in kind, etc. Cost avoidance and reduction mechanisms provide a means of accounting to show the public and city officials how a green area saves

city money. Cost recovery and sharing can be achieved, for example, by renting out agricultural plots or offering firewood collection in exchange for labor inputs. Debt-for-nature swaps and the establishment of trust funds can provide communities with green areas without draining capital-scarce public accounts. The report seeks to provide a broad readership with a strong background on the benefits, challenges and approaches to the development of a sustainable urban greening program. Included are a variety of examples from case studies throughout Latin America and the world. The examples and ideas in the report draw on the expertise and insight of over 300 professionals from 23 countries-people who work in all reaches of the private and public sectors.

Another important facet of the urban environment is the way solid waste is managed. The Bank and the Pan-American Health Organization collaborated to produce a factual regional review of the main technical, operational, economic, health, environmental and social characteristics of the solid waste situation in *Diagnóstico de la situación del manejo de residuos sólidos municipales en América y el Caribe*⁹ by Guido Acurio, Antonio Rossin, Paulo Teixeira and Francisco Zepeda.

Hector Malarin and William J. Vaughan, both IDB economists, take a look at solid waste project analysis issues in *An Approach to the Economic Analysis of Solid Waste Disposal Alternatives*. They propose and explain a mixed integer regional optimization approach to choosing the best configuration of disposal site locations and their storage capacities. The method is illustrated using stylized cost and location information adapted from a real case study. The rationale for the exercise is that individual solid waste disposal site investments should not be viewed in isolation from the spatial setting and their cost relationships with other sites in a regional system. Ignoring these relationships is likely to raise system operating and capital costs. But, because it is difficult to sort through and

prioritize thousands of possible disposal alternatives by inspection or repeated simulation of the total costs of all possible combinations of sites and scales when the region is "large," a least-cost optimization method is recommended which does the sorting automatically once the problem has been properly specified. After reviewing the basics of the heuristic approach to site selection, the optimization model is laid out and solved in the case study context, initially in terms of financial costs. In a subsequent section, a way of incorporating the relative environmental damages of alternative locations into the model is suggested, and the example is re-solved with environmental costs included to show how they can influence the identification of the best set of sites.

• Rural Development

A rural development technical paper *Strategic Elements for Reducing Rural Poverty in Latin America and the Caribbean* has been prepared by the Environment Division with the collaboration of IDB staff and based on regional studies conducted during 1996 and 1997. This document is a background paper to the rural development strategy mentioned in Chapter II and summarized below. The document presents the context of rural poverty in the region and lessons from past efforts to reduce it. Several approaches are reviewed, such as a favorable institutional and policy framework, renewed investments in human capital, and the link between poverty reduction and the preservation of the environment. The main strategic options are based on the diversity of issues that cause rural poverty in the region, and mainly are based on the agricultural potential of rural inhabitants.

It is estimated that about half of the 70 million rural poor in the region do not have an "agricultural solution" but one based on rural nonagriculture activities. Land titling, water markets, technology development, financial services and new markets are some of the key areas for small farmers with agricultural potential; while access to land, rural microenterprises, rural private sector development, infrastructure and training are some of the key aspects in the case of the rural poor without

⁹ Available only in Spanish.

agricultural potential and landless rural inhabitants. The document presents several activities that the Bank could continue to support, such as the promotion of favorable policies, the strengthening of local organizations and a greater involvement of civil society, better coordination among development organizations, and the development of national strategies focused on rural poverty. (*Elementos Estratégicos para la Reducción de la Pobreza Rural en América Latina y el Caribe*, Ruben G. Echeverría, SDS/ENV, December 1997).

The Bank has a long tradition in support of projects to alleviate poverty in the rural sector, and in 1997 developed an explicit strategy to guide its actions in the years ahead. Most of the past efforts were concentrated on integrated rural development projects that had in some cases a weak link with sectoral and overall macroeconomic policies, and did not incorporate broad participation from the beneficiaries. The new strategy focuses on rural poverty from a wider perspective, beyond agriculture and the management of natural resources, to include social programs, rural finance and basic infrastructure, while recognizing the very different types of rural poverty situations in the region. Its goal is to design mid- and long-term rural development programs based on national strategies, promoting institutional strengthening as the first stage of the process.

The strategy reinforces the importance of designing programs that include the decentralization of activities, strengthening civil society and the real participation by beneficiaries, and where warranted, specific components for providing access to land and credit, the promotion of rural microenterprises, both agricultural and nonagricultural. The strategy aims to establish closer coordination with other development, technical cooperation and lending agencies, as well as national, subregional and municipal organizations, and to coordinate the various internal activities of the Bank involving rural poverty reduction, ensuring closer integration of effort. The document also suggests that attention continue to be paid to the execution, monitoring and evaluation of operations, strengthening the executing

agencies working at the municipal and community level, providing the necessary flexibility on ongoing programs. Refer to Chapter II of this report for more on the main issues of the rural development strategy (*Strategy for Reduction of Rural Poverty*, IDB, 1997, Washington D.C.).

• **Forestry, Biodiversity and Habitat Protection**

The areas covered by forests in Latin America and the Caribbean have decreased considerably in the last decades, and forest investments have been low due to past macroeconomic instability, and the high opportunity cost of land caused, in part, by agricultural subsidies. In *Financing Forest Investments in Latin America: The Issue of Incentives*, senior IDB forester Kari Keipi and Olli Haltia explain that, while the most effective vehicles for obtaining significant levels of forest investment are probably macroeconomic, political and institutional reforms that create a better climate for private sector investment, there is still a role to be played by financial incentives for forest investment and conservation because forestation programs may provide important positive ecological and social externalities.

The Eighth General Increase in the Financial Resources of the IDB contains a call to take advantage of "opportunities to aid in the conservation of biological diversity," but also cautions that forest dwellers must share in the "benefits of sustainable forest management" (IDB Document AB-1704, 18 July 1994, page 34). One way to reconcile habitat protection and local economic well-being is to promote economic activities that are both remunerative and environmentally benign. It has been suggested that nature-based tourism, the extraction of nontimber forest products, environmentally sound timber production and genetic prospecting might fit these two criteria.

Douglas Southgate of Ohio State University, in the sobering paper *Alternatives for Habitat Protection and Rural Income Generation*, addresses the

question of whether those four activities truly represent a viable economic alternative in Latin America's environmentally fragile hinterlands. Several cases in each line of activity are analyzed to determine the level and distribution of the net financial returns they generate. Special attention was devoted to examining the degree to which net returns flow to local populations, as opposed to other economic agents.

In general, examination of the rewards that local populations can expect to derive from ecotourism and the harvesting of nontimber forest products suggests that allocating time and effort to those activities is unlikely to be very remunerative since unskilled labor is not particularly scarce in rural areas. In addition, little is to be gained by controlling access to natural resources, which for the most part are abundant. Moreover, making the sector-specific human capital and other investments needed for forest dwellers to capture more of the net returns from ecotourism, genetic prospecting, and so forth would probably not benefit them very much. Instead, Southgate concludes, furnishing them with education and training that is broadly applicable across the entire economy makes more sense.

The IDB has only limited experience with stand-alone biodiversity projects but has worked extensively on the incorporation of biodiversity considerations in regular investment projects. The *Proceedings of a Workshop on Investing in Biodiversity Conservation* held at the Inter-American Development Bank in Washington, D.C., on October 28, 1996, reflects a consensus among participants that the Bank should continue to mainstream biodiversity concerns within its regular development operations. The countries should consider changing remaining government subsidy policies in productive sectors that may distort the economy and have a negative impact on biodiversity conservation. Public participation and involvement of the affected population are essential to the success of any biodiversity conservation investments.

The conferees suggested several courses of action for the IDB including preparation of a report about

Bank experience in biodiversity projects and development programs with biodiversity components; formation of a task force to work on a biodiversity policy or strategy; training IDB staff to understand the biodiversity concept and its implications in project preparation and implementation; and continuing to support national environmental funds and explore cost-effective private sector cofinancing approaches such as bioprospecting, joint implementation projects and commercial enterprise funds.

Many freshwater ecosystems are frequently considered useless, despite their critical importance, decry Enrique Bucher, Gonzalo Castro and Vinio Flores in *Integration of Freshwater Ecosystem Conservation into a Comprehensive Water Resources Management Strategy for Latin America and the Caribbean*. This mistake arises from the failure of project planners and decisionmakers to properly value freshwater ecosystem functions, attributes and products, many of which are public goods not valued in markets. Economic adjustment and privatization efforts in Latin America have paid scant attention to the social and environmental ramifications of unregulated markets. In consequence, erosion and deforestation of catchment basin forests has reached dramatic intensity along the eastern slopes of the Andes, from Colombia to northern Argentina. Rural development, mostly for rice cultivation, is affecting wetlands across the entire region. Water pollution from mining and industry is a growing cause for concern. The construction of dams and river channelization may also undermine important freshwater resources.

Bucher, Castro and Flores report that an assessment performed by a panel of 38 experts found that overall, 88% of the freshwater ecoregions in LAC are likely to be either vulnerable, endangered or critical. The paper identifies them specifically in the text, which contains several maps classifying freshwater ecoregions in terms of their biological distinctiveness, conservation status, and priority for conservation action. The authors use three case studies to illustrate different approaches to the integration of freshwater ecosystem conservation

within sustainable water management, and provide recommendations for Bank action.

- **Coastal and Marine Resources Management**

During the 1960s most governments paid little attention to the development of marine fishery resources, but in the 1970s there were several attempts to develop the resources through the use of large scale parastatal enterprises and public investment in fisheries infrastructure, some with IDB support. The subsequent general failure of state-run fisheries operations throughout the region, and the move toward privatization led to the eventual extinction of IDB investment lending to the public sector for fisheries. Over the past decade, it has become increasingly apparent that most fish stocks in the region suffer from overfishing, in economic and perhaps biological terms, leading many countries to begin to devote increasing attention to fisheries management. Francis T. Christy reviews the evolution of the region's fisheries and the national policies and institutions that govern them in *The Development and Management of Marine Fisheries in Latin America and the Caribbean*. In an accessible fashion, Christy explains the economically wasteful consequences of the open access condition in fisheries and evaluates alternative policy instruments that can be used by resource managers to correct for the market's failure to properly allocate capital and labor to the sector. Finally, he provides suggestions on how the Bank might improve the level and focus of its involvement in fisheries.

- **Integrated Water Resources Management**

Since its creation, the Bank has been active in water with projects predominantly in sanitation, hydropower, and irrigation and drainage, but also in other areas such as watershed management, flood control and waterway projects.

Since 1961, the Bank has invested almost one billion dollars per year in water-related projects, and this trend is expected to increase in the near future. The total amount of financing for water-related projects over the years 1961-1995 amounts to \$32.3 billion (in 1995 US\$) which is 25% of the total value of all

bank loans. Water-related projects presently in the pipeline amount to \$3.9 billion.

The Bank's investments have mostly been subsectoral and project-based developments, with multipurpose projects being the exception rather than the rule. However, useful lessons have been learned during these past 35 years, and some interesting trends can be noted both in LAC as well as in the Bank's financing of water-related projects. In particular, increasing attention is being paid to watersheds, to the quality of receiving waters, to the management aspects within the water-use subsectors, concern for integrated water resources planning and financing of private investments for the provision of services that, for a long time, were the sole domain of the public sector.

Some of these projects, like those related to hydropower, irrigation, water supply and sanitation, deal with the use of a common resource at both ends of the spectrum: the source of supply and the receiving bodies for the wastewater.

Despite advancements made to follow a water management approach when financing projects (water supply and sanitation, for example) one of the main problems still confronted is that the use of water resources has been regarded as one of production and consumption, and not one of integrated management, which would also include its links with other water uses as well as consideration of the quality of the water supply and of wastewater disposal.

In response to the mandates of the Eighth Replenishment, which specifically calls for the Bank to "develop and implement guidelines on water resources management which support an integrated approach to watershed management based on consideration of all sources and uses of water in a particular river basin," a strategy for the Bank's involvement in integrated water resources management in Latin America and the Caribbean was developed for presentation to the Board's Policy Committee. The documents *Strategy for Integrated Water Resources Management* and a related

Integrated Water Resources Management Strategy Background Paper were prepared for that purpose.¹⁰

The strategy contained in these documents was developed through an iterative step-by-step procedure in consultation with country water resources officials, Bank staff, nongovernmental organizations, and international lending and technical assistance organizations. It draws on five background documents available from SDS/ENV (see the publications list below or the Internet home page discussed in the preceding chapter).

There is an international consensus that the efficient and sustainable use of water is one of the major global issues for the next century. Agreements have been reached about what should be done to achieve that purpose: emphasis on integrated management, recognition of water's economic value, stakeholder participation in decision-making, an ecosystem approach, and private sector involvement. Efforts are presently under way in different regions to reach agreements about how to do it, since some of the proposed mechanisms are controversial.

The new elements brought in by these strategy documents therefore, focus on how the Bank:

can incorporate elements of integrated water resources management in its water-related operations, in order to shift the emphasis of its actions in water resources from a project-based supply-augmentation approach to an integrated supply and demand management approach;

using the instruments at its disposal, can help its borrower member countries to achieve integrated water resources management in order to:

more efficiently allocate and conserve water;

solve conflicts among competing uses;

account for the social, economic and environmental value of water;

increase the participation of communities and the private sector in decision-making and financing.

The strategy is conceptualized as a continuum involving a succession of actions of diverse nature, that does not start nor end with these papers. It started with the strategy development and consultation process, whose results are reflected in the documents, and shall continue with an iterative implementation procedure, whose initial supporting actions are described in these documents, and whose results ought to be reflected and periodically evaluated in the field.

To this end, the strategy documents focus on principles and on the flexible application of instruments, not on the instruments themselves, (which include privatization, tradable water rights, river basin councils, community participation, watershed management, or investments in civil works). How the Bank uses these instruments for the objectives it has chosen to pursue, needs to be clearly identified and agreed with each country on a case-by-case basis. However, the dialogue with the countries will not be passive, in the sense that information on the local conditions will be obtained, but at the same time, information about how these instruments operate will be given to the countries.

Although guidelines for analysis of water-related Bank projects are provided, the strategy is flexible. Different countries and regions within countries may be at significantly different levels of development and management with respect to water resources, they may have very different needs, and may have very different resources available to address water problems. The Bank will strive to work within the existing political, legal, economic, and sociocultural frameworks and management practices to the greatest extent possible, but will propose institutional changes in the water resources sector, when

¹⁰ An article summarizing the main goals and components of the strategy was published in the August 1997 issue of *The IDB* by Roger Hamilton, titled *New Currents in Water Resources Management; Water Managers Can No Longer Go with the Flow*. This article was also prominently featured on the IDB Home Page <http://www.iadb.org>.

necessary.

The strategy is also adaptive and recognizes that different water use problems as well as conservation of freshwater ecosystems may be structurally different, each type requiring drastically different approaches. It is a problem-solving strategy that recognizes the substantial contribution that the Bank can make over water resources decision-making in LAC.

Contributions to the Bank's integrated water resources management strategy described above came in part from a seminar on economic instruments for integrated water resources management. The seminar *Proceedings*,¹¹ issued in May 1997, contain papers on privatization, water markets and tradable water rights by several outstanding water resource economists (including Delworth Gardner of Brigham Young University, Charles Howe of the University of Colorado, and Richard Howitt of the University of California at Davis), and a summary of the insights contributed by an expert panel of discussants from the IDB, the Economic Commission on Latin America and the Caribbean, the International Food Policy Research Institute, and the World Bank. Most of the participants agreed that given the right preconditions and adequate implementation, water markets can promote a more efficient allocation of water, but transactions costs must be kept low, concentration of market power must be avoided, and environmental quality and cultural values should be protected.

The effort to integrate freshwater ecosystems considerations into the strategy was aided by the 1996 "Workshop on the Impact of Water Crisis on Freshwater Ecosystems in Latin America and the Caribbean: Predicted Trends and Proposed Policy Responses" held in Buenos Aires, Argentina, during the Second Inter-American Dialogue on Water Management. The Dialogue was organized by the OAS and the Workshop was convened by the World Wildlife Fund. The workshop *Proceedings*, issued in

November 1997, include papers by Gonzalo Castro, Vinio Flores, Enrique Bucher, Henry Lee, William Reilly, Axel Dourojeanni, Antonio Santo Vásquez and Luis García.

Work in water resources in 1997 was not confined to economic policy and general strategy studies; applied analysis tools received some attention as well. In recognition of the advantages of marrying mathematical models of natural systems and the graphical display of spatial information, an application in hydrology was developed for the Bank by Juan Valdés and Pedro Restrepo. Their paper *Interfaz entre modelos hidrológicos y Sistemas de Información Geográfica: Instalación y estudio de caso*¹² describes the installation at the Bank's Geographic Information Systems Lab of three computer models: the modular modeling system (MMS), the precipitation-runoff modeling system (PRMS) and the geographic resource analysis system (GRASS). It also describes an application of the modeling system to a watershed in El Salvador. This paper complements the previous SDS/ENV publication *Aplicación de Sistemas de Información Geográfica a problemas de recursos hidráulicos en cuencas hidrográficas*.

Environmental Guidelines

Environmental guidelines focused on process management with special emphasis on consultation, public participation, environmental management planning and capacity building were developed for microenterprise, municipal solid waste, and the energy and transport sectors. Final publication and distribution is expected in early 1998. Designed for environmental assessment managers, the guidelines provide an overview of IDB trends in environmental quality requirements and procedures, but don't establish technical criteria or standards. References are provided to World Bank manuals and technical specifications manuals.

¹¹ Also available in Spanish.

¹² Only available in Spanish.

Indigenous Peoples and Community Development Unit (SDS/IND)

An overview paper on *Indigenous Peoples and Sustainable Development: The Role of the Inter-American Development Bank* (No. IND97-101) was presented by Anne Deruyttere, Chief of the Indigenous Peoples and Community Development Unit, at the IDB Forum of the Americas in April, 1997. The paper describes the diversity of the indigenous peoples of the Americas in terms of geographic location, ecological environments, and production systems. It illustrates the correlation between indigenous population and poverty levels and examines the main issues and demands of indigenous peoples and how the IDB is responding

with a more proactive approach (available in Spanish and English).

Impacto de Cultivos Ilícitos en Pueblos Indígenas de Colombia, is a summary of the final report presented to the Bank as part of the Alternative Development Program in Colombia approved in 1996. Carlos C. Perafán-Simmonds, consulting anthropologist, describes the methodology used to gather information and analyzes the different types of “impacts” and “involvement” of Colombian indigenous communities with the cultivation of illicit crops. In addition, a diagnosis of pre- and post-conditions are described, and mitigation measures and strategies are proposed.

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