

# Environment matters

AT THE WORLD BANK

17688

## World Bank Environmental Projects

July 1996 - June 1997

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**July 1996 - June 1997**

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# Environment and the World Bank Group

The World Bank, the International Bank for Reconstruction and Development (IBRD) and the International Development Association (IDA), promotes economic and social progress in developing nations by helping raise productivity so that people live better and fuller lives. This is also the aim of the International Finance Corporation (IFC), which works closely with the private sector and invests in commercial enterprises in developing countries, and the Multilateral Investment Guarantee Agency (MIGA), which encourages direct foreign investment in developing countries by protecting investors from non-commercial risk. Collectively, the World Bank, the IFC, and MIGA are known as the World Bank Group.

Of the four institutions, the IBRD, established in 1945, is the oldest and the largest. The IBRD is owned by the governments of 180 countries that have subscribed to its capital, and makes loans only to creditworthy borrowers. Assistance is provided only to those projects that promise high real rates of economic return to the country.

Since 1960, the International Development Association has provided assistance to poorer developing countries on terms that bear less heavily on their balance of payments than IBRD loans. IDA's assistance is concentrated on the very poor countries--mainly those with an annual per capita GNP of less than \$925. Membership in IDA is open to all IBRD members, and 159 have joined. Although IDA is legally and financially distinct from the IBRD, it shares the same staff, and the projects it assists have to meet the same criteria as do the projects supported by the IBRD.

The IFC was established in 1956. Its function is to assist the economic development of developing countries by promoting growth in the private sector of their economies and helping to mobilize domestic and foreign capital for this purpose. The IFC currently has 172 members. Legally and financially, the IFC and the World Bank are separate entities. In its project financing role, the IFC provides loans and makes equity investments.

MIGA, the newest member of the World Bank Group, was established in 1988. Its principal responsibility is promotion of investment for economic development in member countries through guarantees to foreign investors against losses caused by non-commercial risks and through advisory and consultative services to member countries to assist in creating a responsive climate and information base to guide and encourage the flow of capital. MIGA is an entity separate from the World Bank. MIGA currently has 141 members.

The World Bank invests in projects with primarily environmental objectives, in addition to its regular investment portfolio. All proposed investments are screened for potential environmental impacts and categorized accordingly. The World Bank is also an implementing agency of the Global Environment Facility (GEF) and the Multilateral Fund for the Montreal Protocol (MFMP), two important global financing mechanisms which assist developing countries address global environmental concerns.

## **World Bank Group Portfolio of Projects to Protect the Environment**

The following table lists projects with primarily environmental objectives that were approved by the Bank's Board of Executive Directors between July 1, 1996 and June 30, 1997 (FY97), all of which were under implementation during FY97. Each project listing indicates whether the project is being financed through an International Bank for Reconstruction and Development (IBRD) loan, an International Development Agency (IDA) credit, or both; the fiscal year (July-June) in which the project was approved; the Task Manager; the Bank's financial contribution; the total estimated project cost; and the country's implementing agency. The difference between the Bank's commitment and total project cost is financed by domestic public, multilateral, bilateral and/or NGO sources.

# IBRD/IDA Projects with Primarily Environmental Objectives Active FY97

## Africa

### Angola

#### *Lobito-Benguela Urban Environment Rehabilitation (Approved FY92)*

\$46 million, IDA  
\$59 million, total project cost

Implementing Agency: Province of Benguela

Task Manager: Morrell

This project's main objectives are to restore water supply and sanitary services; help in eliminating life-threatening epidemics; improve the health of the population; and halt the degradation of the physical environment. The project will also improve living conditions in squatter settlements by providing access to clean water and improved latrines; strengthen institutions responsible for project management, operation management and control of urban services and the environment by providing technical assistance, logistical support, and training; and assist in policy reform through water and sewer tariffs, land registration, and environmental studies.

### Benin

#### *Natural Resources Management (Approved FY92)*

\$14 million, IDA  
\$24 million, total project cost

Implementing Agency: Ministry of Rural Development

Task Manager: Topa

This project combines institution-building activities on a national level with site-specific field activities of three types: management of three gazetted forests; watershed development at four pilot sites including land tenure operations and research-development activities; and wildlife management at two pilot sites on the border of the national parks and hunting areas.

### Benin

#### *Environmental Management (Approved FY95)*

\$8 million, IDA  
\$9 million, total project cost

Implementing Agency: National Environmental Agency (NEA)

Task Manager: Lewis

Support for this project allows the government to develop the national environmental management capacity required to implement and monitor effectively the priority actions identified in the National Environmental Plan (June 1993). It supports planning and implementation of policies and programs; development of information systems; and promotion of the integration of environmental concerns in socioeconomic development plans. In addition, it seeks to improve the awareness and understanding of environmental issues of various segments of the population and fosters the integration of environmental considerations in the education system.

### Burkina Faso

#### *Environmental Management (Approved FY91)*

\$17 million, IDA  
\$25 million, total project cost

Implementing Agency: Ministry of Agriculture

Task Manager: Lewis

This project seeks to reverse the process of natural resources degradation in order to secure sustainable agricultural growth, restore biodiversity, and manage forests and wildlife. The first five-year phase of a long-term national program, it would identify, design and implement community land management plans in two components in three provinces located in different ecological zones, and in two provinces for protected forest areas and the lands of surrounding communities. Supporting components include: technical support for ongoing natural resources management operations in 18 provinces; establishment of national environmental and project impact monitoring systems; human resources development; and management and studies.

### Burkina Faso

#### *Urban Environment (Approved FY95)*

\$37 million, IDA  
\$40 million, total project cost

Implementing Agency: Ministry of Public Works, Housing and Urban Planning; Office National de l'Eau et de l'assainissement

Task Manager: Diou

This project provides for the rehabilitation or improvement of priority primary drainage networks, the development of piped sewerage and on-site sanitation, the closing or upgrading of existing landfills and construction of new landfills, and the improvement of current toxic and industrial solid waste management systems. The project also aims to strengthen the central government's capacity for urban management.

# IBRD/IDA Projects with Primarily Environmental Objectives Active FY97

## Burundi

### *Energy Sector Rehabilitation (Approved FY91)*

\$23 million, IDA  
\$23 million, total project cost

Implementing Agency: Ministry of  
Energy/Rigie de Distribution d'eau et d'  
electricite (REGIDESO)

Task Manager: Senou

The objectives of the project are to promote rational energy policies and the efficient management of energy resources. Specifically, the project aims to: improve energy efficiency through reforms in the pricing structure of electricity, petroleum products and woodfuels; develop efficient institutions in the sector and improve the quality of public investment; expand access to electricity; and support charcoal efficiency and improved stove programs.

## Central African Republic

### *Natural Resource Management (Approved FY90)*

\$19 million, IDA  
\$34 million, total project cost

Implementing Agency: Forest Ministry

Task Manager: Heimo

The main objective of the project, which will constitute the first phase of a longer-term program, is to reinforce capabilities to protect and manage forest and wildlife resources on a sustainable basis, mainly through further improvements in the legislative framework and fiscal/incentive system for the relevant sector; restructuring of institutions and strengthening of their capacity to effectively implement field controls and promote environmental protection; improving upon knowledge of existing forest resources, as a basis for sound planning; improving upon agro-forestry systems in the forest zone; and support to the protection and management of a dense forest reserve.

## Cote D'Ivoire

### *Rural Land Management and Infrastructure Development (Approved FY97)*

\$45 million, IDA  
\$65 million, total project cost

Implementing Agency: Ministry of Agriculture  
and Livestock (MAL), Ministry of Economy,  
Finance and Planning

Task Manager: Topa

This project will be a vehicle for implementing new governmental policies and programs related to land tenure, decentralization, local community empowerment, natural resources management and rural infrastructure development. Its main components will be community-based natural resources management and village infrastructure development; institutional strengthening and improvement of regulatory frameworks; and environmental monitoring and geographic information.

## Gabon

### *Forestry and Environment (Approved FY93)*

\$23 million, IBRD  
\$38 million, total project cost

Implementing Agency: Ministry of  
Forestry/Ministry of Environment

Task Manager: Valencia

This project represents the first phase of a long-term effort toward promoting the rational use of the natural resource base. It aims to restructure and strengthen the capacity of the Ministry of Waters and Forestry and the Ministry of Environment for planning, monitoring, and supervision; make forestry and environment training more applicable to private sector and conservation needs; support forestry and environment research activities; prepare and implement a management plan in the depleted coastal zone area; and support government creation and maintenance of wildlife reserves.

## Gambia

### *Capacity Building for Environmental Management-Technical Assistance (Approved FY94)*

\$3 million, IDA  
\$5 million, total project cost

Implementing Agency: National Environmental  
Agency

Task Manager: Powers

This project aims to develop an effective system for environmental planning and management within the National Environmental Agency (NEA) and other relevant agencies. It supports the institutional and policy development of the Gambia Environmental Action Plan; development of a public awareness strategy; electronic and print media campaigns; an environmental information and monitoring system; and development of a disaster awareness and contingency planning system.

# IBRD/IDA Projects with Primarily Environmental Objectives Active FY97

## Ghana

### *Forest Resource Management (Approved FY89)*

\$39 million, IDA  
\$65 million, total project cost

Implementing Agency: Ministry of Lands and  
Natural Resources (MLNR)

Task Manager: Epworth

The project is a policy reform, management strengthening and institution building operation aimed at: managing industrial forestry production and export earning in accordance with sustained yield policy; promoting conservation and tree planting on farms to counteract fuelwood shortage and ecological deterioration; and strengthening the sector institutions to enable them to carry out the necessary policy reforms, increase revenue generation, and improve protection and management of the forest and wildlife resources.

## Ghana

### *Environment Resource Management (Approved FY93)*

\$18 million, IDA  
\$36 million, total project cost

Implementing Agency: Environmental  
Protection Council (EPC)

Task Manager: Epworth

This project supports implementation of the National Environmental Action Plan (NEAP) by strengthening institutional and technical capabilities for effective environmental monitoring, policy formulation, and coordination. It includes the development of an Environmental Resource Management System for central and regional coordination, regulatory, and tenurial functions; the development of methodologies to minimize land degradation through community planning and management; and the demarcation and management of five coastal wetlands sites (including inventory, monitoring, public education programs, and studies).

## Kenya

### *Forestry Development (Approved FY91)*

\$20 million, IDA  
\$65 million, total project cost

Implementing Agency: Government of Kenya

Task Manager: Ryan

The objective of the project is to conserve and protect indigenous forest resources, soil, and water on forest, farm and range land; provide technical assistance in forestry extension and integrated agroforestry farming systems; prepare a forestry development master plan; and strengthen planning and implementation capacities of forestry agencies.

## Kenya

### *Protected Areas and Wildlife Services (Approved FY92)*

\$61 million, IDA  
\$143 million, total project cost

Implementing Agency: Wildlife Service

Task Manager: Kiss

This project comprises the development of Kenyan Wildlife Services's (KWS) institutional capacity through material support, technical assistance, and a staff training program; rehabilitation of park and reserve infrastructure; establishment of a Community Wildlife Program; expansion of the wildlife education program; strengthening of KWS's planning capacity by financing the preparation of integrated five-year development plans for regional wildlife parks and reserves; preparation of a national wetlands master plan and technical assistance to improve management of marine parks and reserves; revitalization of KWS's scientific research; and maintenance of the effectiveness of the Wildlife Protection Unit by financing vehicles and facilities.

## Kenya

### *Lake Victoria Environment (Approved FY97)*

\$12.8 million, IDA  
\$12.8 million, total project cost

Implementing Agency: Ministry of  
Environment and Natural Resources

Task Manager: Donovan

The Lake Victoria Environmental Management Project (LVEMP) is a comprehensive program aimed at the rehabilitation of the lake ecosystem for the benefit of the people who live in the catchment, the national economies of which they are a part, and the global community. The program objectives are to maximize the sustainable benefits to riparian communities from using resources within the basin to generate food, employment and income supply safe water, and sustain a disease free environment; and conserve biodiversity and genetic resources for the benefit of the riparian communities and the global community. In order to address the tradeoffs among these objectives which cut across national boundaries, a further project objective is to harmonize national management programs in order to achieve, to a maximum extent possible,

## **IBRD/IDA Projects with Primarily Environmental Objectives Active FY97**

### **Madagascar**

#### ***Environment Program (Approved FY90)***

\$26 million, IDA  
\$86 million, total project cost

Implementing Agency: Ministries of Economy and Planning, Livestock, Fisheries and Forests, Agriculture, and Scientific Research.  
Task Manager: Simeon

This program aims to: protect and manage the most threatened biodiversity and natural ecosystems, and develop surrounding areas; support soil conservation, agroforestry, reforestation and rural development; support mapping and the establishment of a geographic information system; establish clear boundaries for protected areas and improve land security through titling; provide environmental training, education, and awareness; encourage research on land, coastal and marine ecosystems; and support institutional building, establishing EA procedures, strengthening an environmental database, monitoring and evaluation procedures, and studies.

### **Madagascar**

#### ***Antananarivo Plain Development (Approved FY90)***

\$31 million, IDA  
\$69 million, total project cost

Implementing Agency: Government/Ministry of Agriculture, Faritany (Province) and Municipality of Antananarivo  
Task Manager: Wildt

This project finances the improvement of the living conditions of the low-income population in the low-lying areas of Antananarivo and Antananarivo Plain, and increases the productivity of the industries and of the farms in the plain. The project includes: flood protection along the Ikopa River; flood warning systems; drainage structures on the plain; a pumping station to evacuate water from the plain; construction of an irrigation canal; rehabilitation of irrigation systems; rehabilitation and expansion of the sewerage system; and institution building, including privatization of municipal services.

### **Madagascar**

#### ***Environment II Project (Approved FY97)***

\$30 million, IDA  
\$155 million, total project cost

Implementing Agency: National Environment Office

Task Manager: Simeon

The objective of this project is to reverse the current environmental degradation trends and to promote the sustainable use of natural resources, including soil, water, forest cover and biodiversity. The program is defined as components corresponding to field operations, strategic activities and support activities: sustainable soil and water management; multiple use forest ecosystem management; national parks and ecotourism; marine and coastal environment; urban environment; support to local natural resources; support regional program and spatial analysis; regional fund for environmental management; upgrading of legal framework and formulation of environmental policies and ; assisting sector ministries in implementing policies and making the environmental impact assessment (EIA) operational.

### **Malawi**

#### ***Fisheries Development (Approved FY91)***

\$9 million, IDA  
\$16 million, total project cost

Implementing Agency: Department of Fisheries

Task Manager: Kumar

This project increases fish production as a means of improving nutrition and protein supply for the population; generates additional off-farm employment and income to help reduce poverty among women and the rural population; conserves the natural resource base of Malawi's water bodies and prevents environmental degradation; improves the institutional capacity for fisheries sub-sector policy formulation, research, planning, monitoring and control; improves management and conservation of lake resources; strengthens regulatory capacity of the fisheries department; and establishes a lake resources management program.

### **Malawi**

#### ***Environmental Management Project (Approved FY97)***

\$12.4 million, IDA  
\$13.7 million, total project cost

Implementing Agency: Ministry of Research and Environmental Affairs, Ministry of Natural Resources, Ministry of Transport  
Task Manager: Clement-Jones

This project is designed to support the Government of Malawi's efforts to implement their Environmental Support Program (ESP), which aims to integrate environmental concerns into the socioeconomic development of the country. The ESP is intended to support the umbrella framework incorporating strategies, policies and priority programs to address environmental problems. The major components of this project include institutional capacity building and the strengthening of an environmental information system, environmental education, community-based environmental management and environmental actions and studies. An important design element is the gradual transfer of the management of natural resources to local communities, which has been tried on a pilot basis in parts of the country.

# IBRD/IDA Projects with Primarily Environmental Objectives Active FY97

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## Mali

### *Natural Resource Management (Approved FY92)*

\$20 million, IDA  
\$32 million, total project cost

Implementing Agency: Ministry of  
Environment, Rural Development & Livestock

Task Manager: Hall

This project provides for village-level investments to halt degradation of soil, water, and natural vegetation; establishes infrastructure with immediate and direct impact on the communities' quality of life; modifies the boundaries of the Baoule National Park and implements its long-term management plan; supports government services to help villagers manage community natural resources; and supports the newly created Planning, Monitoring and Evaluation Department within the Ministry of Agriculture, Livestock and Environment in establishing an environmental information system.

## Mauritania

### *Water Supply (Approved FY92)*

\$11 million, IDA  
\$15 million, total project cost

Implementing Agency: National Society of  
Electricity (SONELEC)

Task Manager: Jannssens

This project includes the monitoring of salt water intrusion in the Trarza aquifer and a study to establish a groundwater management plan for the new Tenadi wellfield, further from the advancing saline front; a program for leak detection; a repair and rehabilitation program of the distribution network; upgrading of the existing installations; an extension of the distribution system to the northern part of the town in order to supply some of the poorest parts of the population with water; and studies and technical assistance to prepare future parts of the program.

## Mauritania

### *Rainfed Natural Resource Management (Approved FY97)*

\$14 million, IDA  
\$23.5 million, total project cost

Implementing Agency: Ministry of Rural  
Development and Environment (MDRE)

Task Manager: Hall

The project would be the first five-year section of a long-term natural resource management program, aimed at the rehabilitation of land, water and vegetation; and, consequently, the improved production, increased income and better quality of life for communities in nine regions participating in the program. Components include the allocation of funds for community investments, the provision of technical support and strengthening of the institutional environment, the generation and dissemination of appropriate technologies, and the development of required skills at all levels.

## Mauritius

### *Environmental Monitoring and Development (Approved FY91)*

\$12 million, IBRD  
\$21 million, total project cost

Implementing Agency: Government of  
Mauritius

Task Manager: De Naurois

This project initiates a national physical development plan to guide land use, infrastructure investment, and environmental management; establishes laboratories and an industrial park with industrial pollution control; develops a solid waste management plan; supports integrated pest management; encourages marine conservation; and creates a national park.

## Niger

### *Energy (Approved FY88)*

\$32 million, IDA  
\$79 million, total project cost

Implementing Agency: Ministry of Agriculture

Task Manager: Floor

The project promotes firewood conservation, substitution of energy resources and more effective management of natural forest cover. It also promotes the development of renewable energy technologies and the conservation of electric power; provides electricity at minimal cost; and upgrades local capabilities to administer petroleum exploration.

## **IBRD/IDA Projects with Primarily Environmental Objectives Active FY97**

### **Niger**

#### ***Natural Resources Management (Approved FY96)***

\$26.7 million, IDA  
\$42.2 million, total project cost

Implementing Agency: Minister de  
l'Agriculture et de l'Elevage

Task Manager: Topa

This project is the first in a series designed to stop and reverse current natural resource degradation. This will help secure sustainable agricultural production and growth in the region, and improve living conditions of the rural population. Selected rural communities in different agro-ecological zones will be provided with skills training and resources during the project's design and implementation. The Government will also be able to build up its national capacity to support natural resource management initiatives and design a comprehensive set of national policies and strategies.

### **Senegal**

#### ***Sustainable and Participatory Energy Management (Approved FY97)***

\$4.7 million, IDA  
\$4.7 million, total project cost

Implementing Agency: Ministry of  
Environment and Protection of Nature;  
Ministry of Industry and Energy

Task Manager: Utria

The project seeks to meet the increasing urban demand for household fuels, without the loss of forest cover and the ecosystem's carbon sequestration potential and biodiversity. This objective would be met through implementing and monitoring 300,000 hectares of environmentally sustainable forest resource systems managed by the communities; promoting private sector inter-fuel substitution and private sector and NGO-based improved stoves initiatives; and strengthening the institutions managing the sector, and promoting the civil society's participation in sector management.

### **Seychelles**

#### ***Environment and Transport (Approved FY93)***

\$5 million, IBRD  
\$7 million, total project cost

Implementing Agency: Ministry of  
Environment, Economic Planning, and External  
Relations; Seychelles Island Foundation; Land

Task Manager: Teymourian

This project aims to improve the basis for sustained growth of tourism while preserving or restoring environmentally sensitive areas. The project would also support implementation of the Seychelles Environmental Management Plan, focusing on programs in resource management, biodiversity conservation, and marine pollution control; restoration and preservation of the ecosystem of Aldabra atoll; protection of endangered sea turtles; and studies of waste reception facilities at the Port of Victoria. The project also includes the preparation of water resources study and management, outer islands and marine resources management, and an organizational review of the country's Division of Environment.

### **Tanzania**

#### ***Forest Resources Management (Approved FY92)***

\$18 million, IDA  
\$26 million, total project cost

Implementing Agency: Ministry of Natural  
Resources/ Tourism and Natural Resources

Task Manager: Ryan

This project aims to improve forest resource management, and is the first step in implementing the Tanzania Forest Action Plan (TFAP), thereby signaling long-term commitment to forestry development. The project specifically defines the policies needed for the sustainable development of the sector, and develops and puts in place the instruments needed for their execution; builds capacity in the institutions in charge of forestry, land tenure and land use planning; and develops appropriate forestry management techniques by testing different pilot programs for managing natural woodlands and for increasing tree planting by farmers.

### **Tanzania**

#### ***River Basin Management of Smallholder Irrigation (Approved FY97)***

\$26.3 million, IDA  
\$30.8 million, total project cost

Implementing Agency: Ministry of Water,  
Ministry of Agriculture and Cooperatives

Task Manager: Elahi

The objectives of the project are to strengthen the Government of Tanzania's capacity to manage water resources and address water related environmental concerns both at the national level and in the Rufiji and Pangani river basins, and to improve irrigation efficiency of select smallholder traditional irrigation schemes in these two basins. In carrying out these objectives, the project would improve stakeholder participation in basin management and irrigation scheme operation, and strengthen the institutional, regulatory and incentive framework for basin management.

# IBRD/IDA Projects with Primarily Environmental Objectives Active FY97

## Tanzania

### *Lake Victoria Environment (Approved FY97)*

\$10.1 million, IDA  
\$10.1 million, total project cost

Implementing Agency: Vice President's Office

Task Manager: Donovan

The Lake Victoria Environmental Management Project (LVEMP) is a comprehensive program aimed at the rehabilitation of the lake ecosystem for the benefit of the people who live in the catchment, the national economies of which they are a part, and the global community.

The program objectives are to maximize the sustainable benefits to riparian communities from using resources within the basin to generate food, employment and income supply safe water, and sustain a disease free environment; and conserve biodiversity and genetic resources for the benefit of the riparian communities and the global community. In order to address the tradeoffs among these objectives which cut across national boundaries, a further project objective is to harmonize national management programs in order to achieve, to a maximum extent possible,

## Togo

### *Lome Urban Development (Approved FY94)*

\$26 million, IBRD  
\$29 million, total project cost

Implementing Agency: AAAU Agetur (Urban Works Agency) Togo T, Post, and Telephone

Task Manager: Larbi

This project promotes improvement of urban environmental management, environmental and sanitary conditions of the Be Lagoon and community development through capacity building of institutions in the area of urban management. Activities to improve the health of the Be Lagoon includes antierosion works, dredging of the Be Lake, drainage of two pilot zones, and the disposal and treatment of wastes; community participation through training in environmental management; construction of public latrines; miniprojects aimed at improving the urban environment; and improvement of transport and traffic conditions.

## Uganda

### *Environmental Management Capacity Building (Approved FY96)*

\$11.8 million, IDA  
\$23 million, total project cost

Implementing Agency: Ministry of Natural Resources

Task Manager: Evans

Supporting the first 5-year phase of a longer-term national environmental program, the objectives of this project are to build capacity for environmental management at the national, district, and community levels through the establishment of the National Environmental Management Authority (NEMA); to strengthen selected districts; and to initiate a process for communities to address local natural resource degradation problems.

## Uganda

### *Lake Victoria Environment (Approved FY97)*

\$12.1 million, IDA  
\$12.1 million, total project cost

Implementing Agency: Ministry of Natural Resources (Uganda)

Task Manager: Donovan

The Lake Victoria Environmental Management Project (LVEMP) is a comprehensive program aimed at the rehabilitation of the lake ecosystem for the benefit of the people who live in the catchment, the national economies of which they are a part, and the global community.

The program objectives are to maximize the sustainable benefits to riparian communities from using resources within the basin to generate food, employment and income supply safe water, and sustain a disease free environment; and conserve biodiversity and genetic resources for the benefit of the riparian communities and the global community. In order to address the tradeoffs among these objectives which cut across national boundaries, a further project objective is to harmonize national management programs in order to achieve, to a maximum extent possible,

## Zambia

### *Environment Program (Approved FY97)*

\$20 million, IDA  
\$40 million, total project cost

Implementing Agency: Ministry of Environment and Natural Resources

Task Manager: Souhlal

Project will assist in implementation of the Government's environmental program in coordination with other donors. It will provide investment capital and technical assistance in environment and natural resource use problems.

# IBRD/IDA Projects with Primarily Environmental Objectives Active FY97

## East Asia / Pacific

### China

#### *Ship Waste Disposal (Approved FY92)*

\$15 million, IDA  
\$64 million, total project cost

Implementing Agency: The Port Authorities of Dalian, Tianjin, Shanghai, Ningbo, Guangzhou and Xiamen

Task Manager: Tsumi

This project finances activities which will establish data on international ship traffic and waste types by designing and implementing a pilot interport ship waste monitoring system to facilitate enforcement; prepare an accident contingency plan for each port; initiate a Large Marine Ecosystems monitoring program for the Yellow Sea; undertake a study of the treatment of chemically contaminated water; provide and promote coordination among the authorities to upgrade environmental monitoring at the ports; and provide consultants' services and training related to the project. Other components define, design and provide landbased collection and disposal facilities; and establish or upgrade environmental monitoring and enforcement capabilities of port authorities.

### China

#### *Tianjin Urban Development and Environment (Approved FY92)*

\$100 million, IDA  
\$195 million, total project cost

Implementing Agency: Tianjin Municipal Government

Task Manager: Choi

This project supports technical assistance and training to improve project planning and evaluation, budgeting and management, and monitoring of urban development and infrastructure. The project also supports technical assistance and training in sub-sectoral management, including solid waste disposal and public transport management. It supports physical works to improve drainage, sewerage, solid waste management, roads, traffic management, and public bus operations. It also includes the resettlement of households as required for the physical works, which result in improved housing and environmental health conditions.

### China

#### *Beijing Environment (Approved FY92)*

\$45 million, IBRD  
\$80 million, IDA  
\$299 million, total project cost

Implementing Agency: Beijing Municipality (BM)

Task Manager: Choi

This project's objectives are to assist the Beijing Municipality (BM) in improving its environmental planning and management capabilities, and to plan and carry out specific pollution abatement efforts in the municipality. The project is designed to demonstrate cost-effective interventions in the areas of water, air, hazardous waste and solid waste pollution; improve investment planning; establish effective measures for regulatory control; set up requirements for the efficient operation and maintenance of communal facilities for pollution control and abatement; and includes methods to recover costs from the users of these facilities.

### China

#### *Environment Technical Assistance (Approved FY93)*

\$50 million, IDA  
\$70 million, total project cost

Implementing Agency: National Environmental Protection Agency (NEPA) and Chinese Academy of Sciences (CAS)

Task Manager: Crooks

This project improves the coordination of environmental monitoring and ecological research; promotes cleaner industrial production and technology to prevent pollution and minimize waste; improves economic policy instruments for pollution control, specifically the pollution levy system; and strengthens the system for environmental assessment.

### China

#### *South Jiangsu Environment Protection (Approved FY93)*

\$250 million, IBRD  
\$584 million, total project cost

Implementing Agency: Jiangsu Province

Task Manager: Motte

This project assists authorities in strengthening environmental planning and management and in carrying out initiatives in the regional environmental strategy. It provides a line of credit for industrial pollution control and environmental management subprojects; supports the construction of municipal facilities for urban wastewater management; establishes solid- and hazardous- waste management and registration centers, emergency response centers, and hazardous materials storage and transshipment facilities; and provides technical assistance and training for the institutes responsible for environmental protection.

## **IBRD/IDA Projects with Primarily Environmental Objectives Active FY97**

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### **China**

#### ***Loess Plateau Watershed Rehabilitation (Approved FY94)***

\$150 million, IDA  
\$259 million, total project cost

Implementing Agency: Ministry of Water Resources

Task Manager: Voegelé

This project aims to reduce erosion and inflows of sediment to the Yellow River by encouraging sustainable crop production on high-yielding level farmland; planting the slope lands with a variety of trees, shrubs, and grasses for land stabilization; afforestation of degraded agricultural lands in the area; and improved livestock management. It will also provide institutional support such as training, technological transfer and research to the Upper and Middle Reach Bureau to strengthen its capacity as a leading agency for soil and water conservation.

### **China**

#### ***Shanghai Environment (Approved FY94)***

\$160 million, IBRD  
\$457 million, total project cost

Implementing Agency: Shanghai Municipality (SM)

Task Manager: Read

This project supports financial and policy initiatives and planning and management reforms, supported by an investment program of environmentally oriented capital works and institutional strengthening. The financial and policy initiatives developed as part of project preparation would focus on improving operational efficiency of urban services; mobilizing resources through tariff increases and service charges; and long-term environmental planning and investment programs.

### **China**

#### ***Forest Resource Development and Protection (Approved FY94)***

\$200 million, IDA  
\$356 million, total project cost

Implementing Agency: Ministry of Forestry

Task Manager: Scobey

This project seeks to develop institutional capacity through preparation of national management plans, related technical assistance, preparation of policy studies, and strengthening of information and research services on key issues in biodiversity conservation. Biodiversity conservation will be enhanced by establishing protected forests and nature reserves; developing afforestation models that promote biodiversity and reduce disease damage; promoting development of canopy levels; and developing multitiered vertically stratified canopies to minimize soil erosion and water runoff.

### **China**

#### ***Liaoning Environment (Approved FY95)***

\$110 million, IBRD  
\$351 million, total project cost

Implementing Agency: Liaoning Province (LP) and the Municipalities of Anshan, Bendi, Dalian, Fushun, Jinxi, and Jinzhou

Task Manager: Read

This project assists the government in reducing pollution and improving operational efficiency through the upgrading of technology, minimization of waste, and reuse of resources. It strengthens local capabilities in monitoring and enforcing environmental regulations and corporate sewerage utilities, and establishes a sound cost-recovery policy for pollution abatement services. It also includes an environmental protection fund for eligible pollution control subprojects of industrial enterprises and enhances institutional development through technical assistance and training. An additional component finances the rehabilitation and conservation of cultural heritage sites.

### **China**

#### ***Chongqing Industrial Reform and Pollution Control (Approved FY96)***

\$170 million, IBRD  
\$478.1 million, total project cost

Implementing Agency: Chongqing Municipal Project Management Office

Task Manager: Kahn, Z

The project supports the Bank's lending strategy in China within a policy framework that focuses on enhanced industrial pollution control linked to enterprise reform and technological restructuring. The project helps the Chongqing Municipality establish a strategy and prepare a long-term plan to achieve a major reduction in pollution for the whole industrial sector by increasing the effectiveness of environmental regulatory frameworks and pollution management capacity; reduce pollution and restructure productive facilities from iron and steel industries; and initiate a pilot effort to assist industrial enterprises in other industrial sectors to restructure their productive facilities, control pollution and transform themselves into modern corporations.

## **IBRD/IDA Projects with Primarily Environmental Objectives Active FY97**

### **China**

#### ***Yunnan Environment (Approved FY96)***

\$135 million, IBRD  
\$25 million, IDA  
\$307 million, total project cost  
Implementing Agency: Municipal Governments

Task Manager: Fritz

The project is part of a phased development program of Yunnan Province (YP) to improve environmental conditions and sustain urban services management. The principal objective is to provide a sustainable environmental framework for the economic and social development of the Province, while providing a conducive foundation for industrial growth. Specific objectives include: institutional strengthening for pollution control, and municipal water, wastewater, solid waste and nightsoil management; support for the improvement of lakes to allow the water to be used for potable supply, industry or agriculture; investments in pollution control and municipally-provided urban environmental services; and a comprehensive approach to management and financing of urban environmental infrastructure investments.

### **China**

#### ***Hubei Urban Environmental Protection (Approved FY96)***

\$125 million, IBRD  
\$25 million, IDA  
\$370 million, total project cost  
Implementing Agency: Hubei Finance Bureau  
Municipal Government

Task Manager: Travers

This project strengthens and finances investment in wastewater and municipal solid waste management, as well as nightsoil handling and disposal; helps to abate industrial air pollution; and improves planning and financing of urban environmental services in the cities of Wuhan, Huangshi, Xiangfa, and Yichang.

### **China**

#### ***Second Shanghai Sewerage (Approved FY96)***

\$250 million, IBRD  
\$633.3 million, total project cost  
Implementing Agency: Shanghai Municipal  
Sewerage Company, Ltd.

Task Manager: Read

This project follows up the first phase of Shanghai Municipality's development program to improve environmental conditions and management. Specific objectives of the project are to enhance wastewater and stormwater management through expanding wastewater collection, pretreatment and disposal capacity, and stormwater drainage facilities; reduce urban pollution impact while facilitating pollution control; improve wastewater utility financial and operational management; and strengthen sector institutions through training, feasibility studies, and future investment project preparation.

### **Indonesia**

#### ***Yogyakarta Upland Area Development (Approved FY91)***

\$16 million, IBRD  
\$25 million, total project cost  
Implementing Agency: Directorate General of  
Regional Development (BANGDA), Ministry  
of Home Affairs

Task Manager: Wiranto

This project improves upland productivity of the Yogyakarta region through conservation stabilization measures; provides on-farm technology displays covering vegetative conservation (such as fodder legumes to stabilize slopes), and alley-cropping to strengthen the technical basis for intensive microwatershed development in the uplands.

### **Indonesia**

#### ***BAPEDAL Development Technical Assistance (Approved FY92)***

\$12 million, IBRD  
\$15 million, total project cost  
Implementing Agency: Environmental Impact  
Management Agency

Task Manager: Walton

The primary objective of this project is to assist the Government of Indonesia (GOI) in implementing the Five Year BAPEDAL Development Plan, through strengthening the institutional capacity and role of BADEPAL and other agencies responsible for environmental management and pollution control; and designing and implementing pollution control measures at the central and regional levels.

# IBRD/IDA Projects with Primarily Environmental Objectives Active FY97

## Indonesia

### *Integrated Pest Management (Approved FY93)*

\$32 million, IBRD  
\$53 million, total project cost

Implementing Agency: Ministry of Agriculture

Task Manager: Gapasin

This project promotes environmentally sound crop production systems through a five-year program to train at least 800,000 farmers in the theory and application of Integrated Pest Management (IPM); supports occupational health studies and field investigations; and strengthens the regulatory and environmental management framework, primarily for IPM policies to reduce the risks associated with the manufacture, distribution, and application of pesticides.

## Indonesia

### *Surabaya Urban Development (Approved FY94)*

\$175 million, IBRD  
\$618 million, total project cost

Implementing Agency: Surabaya Municipality

Task Manager: Coulthart

This project improves urban environmental quality by assisting the local government's capacity to plan, implement, and operate infrastructure in an environmentally sound fashion and by enhancing community participation through management, staffing, and the financial ability of the government water authority for water supply and human waste disposal. It also protects and improves water quality in the Kali Surabaya; improves onsite wastewater disposal; provides offsite sewerage; demonstrates and evaluates the potential for conventional and low-cost offsite sanitation and cost recovery in human waste services; and improves waste collection and landfill disposal techniques. In addition, the project finances mechanisms that will protect resettlers' rights.

## Indonesia

### *National Watershed Management and Conservation (Approved FY94)*

\$57 million, IBRD  
\$488 million, total project cost

Implementing Agency: Ministry of Forestry (MOF), Ministry of Agriculture (MOA), and Ministry of Home Affairs (MOHA)

Task Manager: Silverman

This project aims to raise the living standards of poor upland farmers by improving and restoring the productive potential of the resource base, while at the same time improving watershed environmental quality and protecting downstream watershed resources. It provides institutional strengthening through improvement of planning, management, and natural resource information systems; supports the creation of a multidisciplinary upland research program, and training and extension; develops a watershed on West Java; and invests for reforestation.

## Indonesia

### *Kerinci-Seblat Biodiversity Integrated Conservation and Development (Approved FY96)*

\$19.1 million, IBRD  
\$47.2 million, total project cost

Implementing Agency: Ministry of Forestry and Home Affairs, and local governments in four participating provinces

Task Manager: Silverman

This project aims to protect biodiversity, prohibit habitat fragmentation through protection and management, and include the involvement of local communities in Kerinci-Seblat National Park. It develops an ICDP model to reconcile conservation, and regional and district development, that follows a two pronged approach to stabilize the boundary and protect biodiversity within the Park, and to enhance the livelihoods of poor households by providing them with alternative opportunities consistent with conservation. Its design meets this objective through institutional strengthening in integrated planning, coordinated implementation and regular monitoring and enforcement; building institutional capacity through increased staffing and in-service training; and resource management.

## Indonesia

### *Solar Home Systems Project (Approved FY97)*

\$20 million, IBRD  
\$111.8 million, total project cost

Implementing Agency: TBD

Task Manager: Sanghvi

This project aims to catalyze the rapid penetration of solar photo-voltaic (PV) systems by formulating a minimal cost rural electrification strategy; facilitating participation of the private sector, cooperatives and NGOs in advancing renewable energy commercialization through the creation of a sustainable "market conforming" framework and promoting environmentally sound energy resource development and reducing the energy sector's dependence on fossil fuels; and strengthening institutional capacity to sustain solar PV development.

# IBRD/IDA Projects with Primarily Environmental Objectives Active FY97

## Indonesia

### *Renewable Energy Small Power Project (Approved FY97)*

\$66.4 million, IBRD  
\$141 million, total project cost

Implementing Agency: Developers of small renewable energy projects selling electricity to the State Electricity Corporation

Task Manager: Sanghvi

Through investment and technical assistance, this project aims to catalyze the creation of private sector markets for small-scale renewable energy power projects and to reduce the costs of rural electrification operations outside Java-Bali. This initiative, whose initial size is sufficiently large to establish a baseline penetration of such renewables while also providing a demonstration effect that can support a critical mass of commercially sustainable projects, was developed by non-utility generators, which could be a variety of entities such as private firms, state-owned non-utility firms, NGOs, cooperatives or even an independent joint utility-private enterprise.

## Korea, Republic of

### *Kwangju and Seoul Sewerage (Approved FY93)*

\$110 million, IBRD  
\$530 million, total project cost

Implementing Agency: Seoul Metro Government

Task Manager: Altaf

This project expands wastewater treatment facilities in Kwangju and Seoul; reduces pollution in two major rivers by supporting institutional development for wastewater management; and promotes innovative technological and policy initiatives for water conservation. The projects objectives include assistance in cleaning the Yongsan and Han Rivers in order to reduce health hazards and attain water quality needed for the cities' population and for those using water downstream; focusing the attention of the water agencies on conservation to reduce wastewater; encouraging the cities to develop self-financing efficiency for wastewater activity; and supporting technological and institutional improvements in the sector.

## Korea, Republic of

### *Environmental Research and Education (Approved FY93)*

\$60 million, IBRD  
\$97 million, total project cost

Implementing Agency: Ministry of Education (MOE)

Task Manager: McGough

This project provides specialized equipment, training, and library materials to upgrade the capacity of twelve national agricultural colleges and nine national veterinary colleges to undertake research into key environmental problems; reinforces the colleges' programs to strengthen professional training in environmental fields; and supports improved environment-related research and teaching programs.

## Korea, Republic of

### *Environmental Technology Development (Approved FY94)*

\$90 million, IBRD  
\$156 million, total project cost

Implementing Agency: Ministry of Education (MOE)

Task Manager: McGough

This project strengthens selected national research institutes to adequately address environmental issues and to undertake environmental research and design activities. It provides institutional support to the policy and planning role of the Ministry of Environment by providing overseas training, visiting experts, and library materials, as well as equipment and equipment-related inputs and civil works to house the equipment.

## Korea, Republic of

### *Ports Devel. & Env. Improvement (Approved FY95)*

\$100 million, IBRD  
\$1107 million, total project cost

Implementing Agency: Korea Maritime & Ports

Task Manager: Arnold

This project provides comprehensive support for addressing environmental issues in port and harbor development. It also finances facilities to collect, manage, and treat ship waste and to remove timber- and fish-processing plants that cause air, noise, and traffic pollution; provides training and technical assistance to strengthen the environmental capabilities of the Korea Maritime and Port Authority, and to a program which monitors pollution and ecosystem productivity in the Yellow Sea.

## **IBRD/IDA Projects with Primarily Environmental Objectives Active FY97**

### **Korea, Republic of**

#### ***Waste Disposal (Approved FY95)***

\$75 million, IBRD  
\$305 million, total project cost

Implementing Agency: Ministry of Construction

This project assists the governments in Pusan and Chubak Province in addressing environmental, institutional, and technological concerns regarding wastewater and specified waste disposal, the health hazards of surface and groundwater contamination, and the reuse of treated effluent. The Pusan waste disposal plant will ensure satisfactory management of most hazardous waste substances generated in industries.

Task Manager: Altaf

### **Laos, Peoples Democratic Rep.**

#### ***Forest Management and Conservation (Approved FY94)***

\$9 million, IDA  
\$20 million, total project cost

Implementing Agency: Department of Forestry (DOF)

This project assists the introduction of a sustainable natural resource management system and conservation of the country's forest resources through support of an institutional framework and the formulation of the regulatory framework for the forestry sector; implementation of national programs on forest resource inventory and planning; sustainable forest management and protection; establishment and management of protected areas; and provision of the necessary technical assistance and human resource development.

Task Manager: Shen

### **Philippines**

#### ***Environment & Natural Resource Management (Approved FY91)***

\$158 million, IBRD  
\$66 million, IDA  
\$369 million, total project cost

Implementing Agency: Department of Environment and Natural Resources (DENR) and Department of Agriculture (DA)

Task Manager: Shen

Aiming to preserve Philippines' biodiversity this project finances the re-establishment of natural resources where they have been degraded, and introduces sustainable land use practices. The objectives are to determine what areas must be preserved and introduce a management system; introduce user fees for public resources which discourage rent-seeking behavior; improve enforcement of logging regulations; provide secure tenure rights to users in return for sustainable resource use; provide extension services to upland populations; and establish mechanisms to support small-scale, community-based resource management and livelihood projects.

### **Thailand**

#### ***Clean Fuels & Environmental Improvement (Approved FY95)***

\$90 million, IBRD  
\$370 million, total project cost

Implementing Agency: The Bangchak Petroleum Public Company Limited (BPPCL)

This project supports the reduction of air pollution attributable to petroleum fuels in Thailand by assisting the government in meeting reformulated gasoline and diesel oil specifications and improving its refinery operations through the installation of appropriate facilities and equipment to reduce refinery emissions and ensure safety.

Task Manager: Malhotra

## **Eastern Europe / Central Asia**

### **Croatia**

#### ***Coastal Forest Reconstruction and Protection Project (Approved FY97)***

\$42 million, IBRD  
\$60 million, total project cost

Implementing Agency: Ministry of Agriculture and Forestry

Task Manager: Wencelius

The main objective of this project is to restore and protect forest land in the coastal zone of Croatia to enhance the landscape and recreational values of the region. Other objectives are to: restore the environmental role of coastal forests destroyed by the war, by protecting soil and water and initiate the restoration of natural vegetation; address the forest fire problem; and develop the knowledge base for improved management and protection of coastal forests. The project, to be implemented over 5 years, will include the following three components: reconstruction of coastal forests, a nursery and an arboretum; forest fire management in coastal areas; and support servicing including the development of GIS for forest fire management, coastal forestry research, institutional support and project management / monitoring.

# IBRD/IDA Projects with Primarily Environmental Objectives Active FY97

## Cyprus

### *Southeast Coast Sewerage and Drainage (Approved FY92)*

\$32 million, IBRD  
\$103 million, total project cost

Implementing Agency: Larnaca Sewerage and Drainage Board (LSBD), Ayia Napa Sewerage Board (ANSB), Paralimni Sewerage Board

Task Manager: George

This project provides drainage and the first phase of a sewage system for Larnaca, and sewerage systems for the communities of Ayia Napa and Paralimni. The project consists of central sewerage collection, treatment, and disposal systems; the distribution of treated effluent for re-use; upgrading the existing stormwater drainage system in Larnaca; and technical assistance and training and provision of related equipment to the sewerage boards.

## Czech Republic

### *Power and Environmental Improvement (Approved FY92)*

\$246 million, IBRD  
\$246 million, total project cost

Implementing Agency: CEZ and Sep

Task Manager: Gray

This project improves power plant efficiency to reduce air pollution in northern Bohemia, and health of the population; modernizes the transmission system; and facilitates interconnection of the CEZ and German power grids. These objectives will be accomplished in the context of overall reform of the energy sector. To this end, the project reduces total consumption of pollution-causing lignite through power plant efficiency improvements; curtails power plant SO<sub>2</sub> emissions by means of flu gas desulfurization; reduces dust and fly-ash pollution; increases the reliability, efficiency and economy of the CEZ transmission system; and assists in improving investment planning and corporate management and organization.

## Estonia

### *District Heating Rehabilitation (Approved FY94)*

\$38 million, IBRD  
\$65 million, total project cost

Implementing Agency: State Energy Department

Task Manager: Gochenour

This project promotes energy efficiency and the economy by supporting the conversion and replacement of small boilers for use of peat and wood, to be harvested and used in an environmentally sustainable manner; reduces wastewater in the district heating systems; installs new substations with regulators and heat meters; and strengthens and restructures the district heating institutions.

## Estonia

### *Haapsalu and Matsalu Bays Environment (Approved FY95)*

\$2 million, IBRD  
\$8.3 million, total project cost

Implementing Agency: Ministry of Environment

Task Manager: Soderstrom

This project improves water and wastewater treatment in Haapsalu and promotes management of point and nonpoint source pollution in the catchment areas of Haapsalu and Matsalu Bays, with a view to reducing pollution in the Baltic Sea. It also supports the planning and management of ecotourism and implementation of the management plan for the Matsalu State Nature Reserve. This project is part of the Bank's support for the Baltic Sea Environment Program.

## Latvia

### *Liepaja Environment (Approved FY95)*

\$4 million, IBRD  
\$21 million, total project cost

Implementing Agency: Ministry of Environment

Task Manager: Soderstrom

This project includes water and wastewater investment components, which are complemented by an environmental management component. It also restores and enhances water quality in the city of Liepaja and the northern portion of Lake Liepaja and promotes environmentally sustainable development, of the coastal zone and protected areas in and around Liepaja, Ventspils, and Talsi. The project is part of the Bank's support for the Baltic Sea Environment Program.

## **IBRD/IDA Projects with Primarily Environmental Objectives Active FY97**

### **Lithuania**

#### ***Klaipeda Environment (Approved FY95)***

\$7 million, IBRD  
\$23.1 million, total project cost

Implementing Agency: Environment Protection  
DG

Task Manager: Soderstrom

This project focuses on the city of Klaipeda. It improves water supply and sanitation services in the city as well as the operational efficiency and management of the Klaipeda State Water Supply Enterprise; promotes environmentally sustainable management and development of the Kursiu Lagoon and adjacent coastal areas. This project is part of the Bank's support for the Baltic Sea Environment Program.

### **Lithuania**

#### ***Klaipeda Geothermal Demonstration (Approved FY96)***

\$5.9 million, IBRD  
\$18 million, total project cost

Implementing Agency: Enterprise Geoterma

Task Manager: Halldin

The project comprises two components to optimize use of the available geothermal energy resources in Klaipeda. A technical assistance and training component, is complemented by an investment component for implementation of the Klaipeda Geothermal Demonstration Plant. The Demonstration Plant component includes investments in production and injection wells, above ground facilities and piping for the extraction and distribution system. The technical assistance component includes: design of the equipment for extraction and transfer of geothermal energy; preparation of a drilling program; management support for Enterprise Geoterma; training; and supervision of the project's implementation.

### **Lithuania**

#### ***Siauliai Environment (Approved FY96)***

\$6.2 million, IBRD  
\$22.9 million, total project cost

Implementing Agency: Siauliai Water (SW),  
Ministry of Environmental Protection (MoEP)

Task Manager: Soderstrom

This project aims to control pollution from the Upper Lielupe River Basin, a pollution source in the Baltic Sea, by promoting environmentally sustainable management and development and regional cooperation. The project improves the quality, reliability, and cost-efficiency of water supply and wastewater services in the municipality; demonstrates financially sustainable and socially responsible provision of municipal services; and environmental quality monitoring programs and enforcement systems. Components include the rehabilitation of water and wastewater systems; construction of water treatment; completion of a wastewater treatment plant; and institutional strengthening and training. This is part of the Bank's support for the Baltic Sea Environment Program.

### **Poland**

#### ***Energy Resource Development (Approved FY90)***

\$250 million, IBRD  
\$590 million, total project cost

Implementing Agency: Coal & Gas/ Oil  
Companies

Task Manager: Wilberg

This project improves the convertible currency earnings of Poland by increasing domestic production of natural gas and encouraging energy conservation for all forms of energy and fuel substitution through energy price reform. It also contributes to a reduction of environmental pollution related to energy use, and improves the competitive, regulatory, and financial framework of the sector entities by supporting the implementation of appropriate restructuring programs for the coal, gas, power, and heat sectors.

### **Poland**

#### ***Environment Management (Approved FY90)***

\$18 million, IBRD  
\$27 million, total project cost

Implementing Agency: Ministry of  
Environment and Natural Resources

Task Manager: Schreiber

This project provides an umbrella framework for addressing the highest priority environmental concerns in Poland, and for moving toward a decentralized system of management. Furthermore, it strengthens environmental management by helping to establish the institutional, regulatory and informational basis for immediate corrective actions and longer-term extensive investments supported through bilateral and multilateral assistance. It also reduces health risks, decreases economic costs from environmental degradation and improves environmental quality. Support for these objectives is provided through financial and technical assistance, training and equipment.

## **IBRD/IDA Projects with Primarily Environmental Objectives Active FY97**

### **Poland**

#### ***Heat Supply Restructuring and Conservation (Approved FY91)***

\$340 million, IBRD  
\$739 million, total project cost

Implementing Agency: District Heat  
Companeat Companies

Task Manager: Benmessauod

This project supports implementation of a comprehensive restructuring of the energy sector, commercialization and privatization of restructured enterprises and of petroleum exploration and production, introduction of a regulatory framework and improvement in energy pricing policies; extends the life of district heating assets through rehabilitation; promotes energy conservation through financing appropriate investments; and reduces environmental pollution by investing in energy-efficient equipment and systems and by supporting programs to replace small coal-fired boilers with gas-fired boilers.

### **Poland**

#### ***Forest Development Support (Approved FY94)***

\$146 million, IBRD  
\$335 million, total project cost

Implementing Agency: Ministry of  
Environment

Task Manager: Wencelius

The project's assists the Government in executing its program of the development of selected forestry branches and protection of ecosystems in National Parks for 1993- 1997, thereby ensuring the protection of Poland's forest ecological capital, providing for social benefits, and accommodating sustainable forestry. Objectives include assistance in introducing biologically and environmentally sound management practices in the forestry sector; improvement of the efficiency of forestry activities; and improvement in the organization, management and financial structure of the General Directorate of State Forests and the Government's programs to modernize, restructure and privatize elements of the GDSF.

### **Poland**

#### ***Katowice Heat Supply (Approved FY95)***

\$45 million, IBRD  
\$92.9 million, total project cost

Implementing Agency: REC-Katowice, The  
Katowice District Heating Enterprise

Task Manager: Benmessauod

This project addresses the environmental, health, and economic problems caused by soot and dust particulates generated by energy production. It enhances energy conservation and efficiency in the district heating sector by extending the life of existing district heating assets through rehabilitation and introduction of modern technologies and by reducing environmental pollution through investments in energy-efficient equipment and systems as well as by supporting a program to eliminate coal-fired, heat-only boilers.

### **Russian Federation**

#### ***Environmental Management (Approved FY95)***

\$110 million, IBRD  
\$195 million, total project cost

Implementing Agency: Ministry of  
Environment

Task Manager: Batstone

This project supports the Russian Federation's Environmental Framework Program, which addresses environmental and natural resource management issues at federal, regional, and local levels and mainstreams them into the economic, social, and political adjustment process. It also includes policy and regulatory support and environmental epidemiology; water quality management; hazardous waste management; the creation and capitalization of a National Pollution Abatement Facility for the funding of economically and financially viable projects; and the creation of a Center for Project Preparation and Implementation under the Ministry of Environmental Protection and Natural Resources.

### **Russian Federation**

#### ***Emergency Oil Spill (Approved FY95)***

\$99 million, IBRD  
\$140 million, total project cost

Implementing Agency: Komineft

Task Manager: Mckay

This project assists the Russian Federation and the pipeline operator in stabilizing the oil spill area and preventing ecological damage in the Pechora River Basin. It will continue to clean up in an environmentally appropriate way, provide short-term support for safe pipeline operations, evaluate the need for a replacement pipeline, and identify and implement other measures to mitigate against possible oil spills in the future.

# IBRD/IDA Projects with Primarily Environmental Objectives Active FY97

## Slovenia

### *Environment (Approved FY96)*

\$34.6 million, IBRD  
\$55.4 million, total project cost

Implementing Agency: Ministry of Environment

Task Manager: Schreiber

This project's two main objectives are to support air pollution abatement in polluted cities in Slovenia and to provide for Geographical Information Systems in the Ministry of Environment and Planning. The Air Pollution Abatement Program assists households and boilerhouse operators in polluted cities to convert to cleaner fuels or heating systems by providing loans that would cover 80% of the conversion costs. Based on lessons learnt from a pilot phase in Maribor, this Program will be a self-sustaining revolving loan fund. The objective of the GIS Component is to collect, organize, and manage information for improved development and land-use planning, particularly in areas experiencing rapid development. It would also motivate municipalities to build local GIS centers as a part of the national GIS infrastructure.

## Turkey

### *Istanbul Water Supply and Sewerage (Approved FY88)*

\$218 million, IBRD  
\$570 million, total project cost

Implementing Agency: Istanbul Water Supply and Sewerage General Directorate (ISKI)

Task Manager: Coyaud

This project completed during fiscal 1996, improved and extended sewerage service to 70% of the population of Istanbul, provided for appropriate disposal of sewage to protect the waters and shorelines of the Sea of Marmara and the Bosphorus; reduced unaccounted-for water; and strengthened Istanbul Water Supply and Sewerage General Directorate's (ISKI) operation, and maintenance and industrial waste management capabilities. The project included rehabilitation of parts of water distribution systems; installation of a system for water supply monitoring and control; and construction of sewage collection and treatment facilities.

## Turkey

### *Ankara Sewerage (Approved FY90)*

\$173 million, IBRD  
\$557 million, total project cost

Implementing Agency: Ankara Water Supply and Sewerage Administration (ASKI)

Task Manager: Ikegami

This project provides new facilities and rehabilitates existing ones to promote environmental improvements and reduce health hazards in the Greater Ankara region. This will be achieved by: expanding sewage collection services to benefit 850,000 people; improving present sewerage services to about 500,000 people; and constructing drainage systems to reduce the risk of flooding. In addition, technical assistance and training would be provided to ASKI to strengthen its capability to carry out expanding operations.

## Turkey

### *Eastern Anatolia Watershed Rehabilitation (Approved FY93)*

\$77 million, IBRD  
\$121 million, total project cost

Implementing Agency: Ministry of Forestry (MOF) and Ministry of Agriculture and Rural Affairs (MARA)

Task Manager: Kadiresan

This project addresses problems of rural poverty and natural resource degradation by helping to improve the productivity of range and forest land; promotes the production of fuelwood, cultivated fodder, and sustainable use of marginal farmlands; facilitates the adoption of treatments for range and forest land; and supports the increased responsibility and involvement of local communities in planning and managing their resources.

## Turkey

### *Bursa Water Supply and Sanitation (Approved FY93)*

\$130 million, IBRD  
\$258 million, total project cost

Implementing Agency: Bursa Water Supply and Sewerage Authority (BUSKI), Bursa Metropolitan Municipality (BMM), and

Task Manager: Coyaud

This project improves environmental conditions, reduces health hazards, and increases the efficiency of water usage by building water supply and waste treatment and transfer works, improves waste collection and disposal, and provides technical assistance for project implementation and institutional strengthening.

## **Latin America and the Caribbean**

### **Argentina**

#### *Native Forests and Protected Areas (Approved FY97)*

\$19.5 million, IBRD  
\$30 million, total project cost

Implementing Agency: Secretaria de Recursos Naturales y Ambiente Human (SRNyAH) and Administracion de Parques Nacionales (APN)

Task Manager: Kirmse

The objectives of the projects are to help Argentina's Secretariat of Natural Resources and Human Environment prioritize its actions concerning national forests; facilitate the development of an incentive and regulatory framework which would encourage decision makers (both public and private) to more fully internalize the full range of social costs and benefits associated with their decisions and actions affecting native forests; develop a plan for transforming the National Parks Administration into a world-class park management organization; and increase the environmentally sustainable level of tourism in four national parks.

### **Bolivia**

#### *Eastern Lowlands Regional Development (Approved FY90)*

\$35 million, IDA  
\$55 million, total project cost

Implementing Agency: Govt./Cordecruz

Task Manager: McMahon

This project supports the planning and management of natural resources by preparing a land-use plan for the region that encompasses the results of agroecological zoning, soil studies and mapping, and studies on water, forestry, livestock, and land tenure. It also protects forest reserves and national parks (such as Noel Kempf Mercado National Park) and indigenous people by demarcating tribal lands.

### **Bolivia**

#### *Environmental Technical Assistance (Approved FY93)*

\$5 million, IDA  
\$9 million, total project cost

Implementing Agency: National Environment Fund

Task Manager: Plaza

This project strengthens key government-related institutions through training for planning, management, environmental assessment, and evaluation. It also supports the development and strengthening of an environmental legal and regulatory framework; and helps to develop the capacity of the primary school system to provide environmental education.

### **Bolivia**

#### *Environment, Industry, & Mining (Approved FY96)*

\$11 million, IDA  
\$50 million, total project cost

Implementing Agency: Ministerio de Minas y Metalurgia

Task Manager: Barham

This project supports the implementation and refinement of a regulatory framework to assure that privately-led mining and industrial activities grow in an environmentally-friendly fashion. It also helps remediate contamination from past mining activities for which the State accepts liability, including remediation activities that help to facilitate private investment in the mining sector, and assists in attracting other financial resources for investments for mining community environmental problems which are otherwise ineligible for financing.

### **Brazil**

#### *Minas Gerais Forestry Development (Approved FY88)*

\$49 million, IBRD  
\$100 million, total project cost

Implementing Agency: Minas Gerais Dev. Bank (BDMG), State Forest

Task Manager: Kirmse

The project finances the establishment of up to 165,000 ha of forest plantations for industrial purposes and the building of charcoal manufacturing kilns and infrastructure through a line of credit; planting of about 40,000 ha of woodlots on small and medium-sized farms; staff, equipment and consulting services for forestry conservation including control, supervision and management of forest harvesting and wood utilization, conservation education, and development of parks and reserves. The project also finances institutional development.

## **IBRD/IDA Projects with Primarily Environmental Objectives Active FY97**

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### **Brazil**

#### ***Land Management I - Parana (Approved FY89)***

\$63 million, IBRD  
\$138 million, total project cost

Implementing Agency: State Secretariat of  
Agriculture and Supply of Parana

Task Manager: Carroll

This project increases agricultural production and farm incomes by promoting the adoption of sustainable, modern forms of land management and soil and water conservation, thus safeguarding farmer incomes and the state's natural resources. This is achieved through increasing the extent and duration of vegetative cover of the soil, better protecting it from intense rainfall; improving internal soil structure and drainage, thus increasing water infiltration; and safely disposing of any remaining runoffs.

### **Brazil**

#### ***National Environment (Approved FY90)***

\$117 million, IBRD  
\$166 million, total project cost

Implementing Agency: Ministry of Planning

Task Manager: Gross

This project strengthens the protection of the country's most important conservation areas and imminently endangered ecosystems, with special emphasis on the reduction of economic and environmental losses associated with uncontrolled deforestation, soil erosion, and air and water pollution in the Pantanal, Legal Amazon, Atlantic Forest and Brazilian Coast; the institutions of the environmental sector, with special emphasis on the strengthening of National Environmental Agency (IBAMA) and State Agencies in the Legal Amazon and Pantanal; and the regulatory framework of the environmental sector.

### **Brazil**

#### ***Land Management II (Approved FY90)***

\$33 million, IBRD  
\$72 million, total project cost

Implementing Agency: State Secretariat of  
Agriculture and Supply of Santa Catarina

Task Manager: Lituma

This project provides land use mapping, planning, and monitoring for 520 project microcatchments. It develops an incentive program for land management, soil conservation, and pollution control to help farmers belonging to a microcatchment association properly plan land management and implement collective soil conservation and agricultural pollution control measures; plans erosion control along rural roads to be implemented as parts of microcatchment management plans; supports forestry development and protection of natural resources through forestry conservation; develops environmental legislation concerning land use, soil conservation, and agricultural pollution; supports management of state parks and protection of biological reserves.

### **Brazil**

#### ***Mato Grosso Natural Resource Management (Approved FY92)***

\$205 million, IBRD  
\$286 million, total project cost

Implementing Agency: Secretariat of Regional  
Development, Presidency of the Republic  
Secretariat of Planning of Mato Grosso

Task Manager: Vita

This project supports changes in policies, regulations and public investment programs; improves the knowledge of natural resources by providing more detailed data on land capability and land tenure; reduces environmental degradation and ensures biodiversity preservation; protects and enforces the borders of conservation units, indigenous reserves, public forests and controls and prevents illegal deforestation, wood transport, and forest fires; develops sustainable agriculture in suitable areas; and consolidates the technical operational capacity of institutions, particularly those responsible for management of natural resources, and the protection and management of forests and indigenous reserves, and agricultural services.

### **Brazil**

#### ***National Industrial Pollution Control (Approved FY92)***

\$50 million, IBRD  
\$150 million, total project cost

Implementing Agency: Banco de  
Desenvolvimento Economico e Social  
(BNDES)

Task Manager: Tlaiye

The project improves public health and living conditions of the population in and around industrialized areas. It also devises a regulatory framework for pollution control; obtains a political commitment from State authorities to improve the environment; supports a capable State Environmental Protection Agency (SEPA); familiarizes the banking system with financing free-standing pollution control investments, allowing industry to have access to pollution control financing. It strengthens the institutional capabilities of active SEPAs in monitoring and analyzing environmental problems and strengthens the National Development Bank's (BNDES) ability to process free-standing pollution abatement loans.

## **IBRD/IDA Projects with Primarily Environmental Objectives Active FY97**

### **Brazil**

#### ***Rondonia Natural Resource Management (Approved FY92)***

\$167 million, IBRD  
\$228 million, total project cost

Implementing Agency: Secretariat of Regional  
Development, Presidency of the Republic  
Rondonia State Secretariat of Planning

Task Manager: Lituma

This project implements an improved approach to natural resource management, conservation and development in the State of Rondonia. It assist the government to institute a series of changes in policies, regulations and public investment programs; conserves the biodiversity of the state; protects and enforces the borders of conservation units, Amerindian reserves, public forests and extractive reserves, and controls and prevents illegal deforestation, wood transport and forest fires; develops intensive and integrated farming systems in areas of agriculture and agro-forestry; supports priority investments in socio-economic infrastructure and services needed to implement the State's agro-ecological zoning.

### **Brazil**

#### ***Water Quality and Pollution Control-Sao Paulo/Parana (Approved FY93)***

\$245 million, IBRD  
\$494 million, total project cost

Implementing Agency: Fedarative Republic of  
Brazil, and the local State Governments of Sao  
Paulo and Parana

Task Manager: Rodriguez

This project reduces current levels of water pollution and preserves water quality through river regularization and flood control drainage; provides for basic sanitation services, and the collection and disposal of solid waste. It helps establish policy for water pollution control and creates water basin management, develops the financial capacity to provide services, and sets up project preparation facilities to help start water pollution control projects in the most congested urban areas of Brazil.

### **Brazil**

#### ***Minas Gerais Water Quality and Pollution Control (Approved FY93)***

\$145 million, IBRD  
\$308 million, total project cost

Implementing Agency: Secretariats of State

Task Manager: Rodriguez

This project helps to recuperate environmentally deteriorated river basins through improved flood control and urban drainage, and the collection, treatment and disposal of municipal and industrial sewage and solid waste; strengthens environmental protection and water basin management; and promotes institutional strengthening of the State Environmental Agency.

### **Brazil**

#### ***Espirito Santo Water Supply and Coastal Pollution Management (Approved FY94)***

\$154 million, IBRD  
\$308 million, total project cost

Implementing Agency: State Water Company  
of Espirito Santo (CESAN) and State  
Secretariat of the Environment (SEAMA)

Task Manager: Velez

The project comprises an investment component to help finance CESAN in 1994-1999 investment program and an institutional program to strengthen the capabilities of both CESAN and the State Secretariat of the Environment (SEAMA), through studies, technical assistance and training in selected areas, and to provide appropriate water and sanitation infrastructure in low-income urban areas of Grande Vitoria and Guarapari.

### **Brazil**

#### ***Environmental Conservation and Rehabilitation (Approved FY96)***

\$50 million, IBRD  
\$109 million, total project cost

Implementing Agency: Compania Vale Do Rio  
Doce (CVRD)

Task Manager: Manibog

This project consists of air, water and soil pollution control and land reclamation investments in CVRD's mining, industrial, rail and port operations throughout the country; natural resource investments; socially oriented investments, studies in research, training, and technical assistance; implementation of a comprehensive corporate environmental information, control, monitoring and auditing system; further sub-projects and studies aimed at reducing pollution and environmental degradation, and conserving natural ecosystems, sustainable management of natural forests; environmental education, and social programs aimed at improving the welfare of communities.

# IBRD/IDA Projects with Primarily Environmental Objectives Active FY97

## Colombia

### *Natural Resource Management Program (Approved FY94)*

\$39 million, IBRD  
\$65 million, total project cost

Implementing Agency: National Planning  
Department

Task Manager: Hazelton

This project aims to arrest the degradation of natural renewable resources through the development of a national forest policy and a strategy for natural resource management in the Choco Region; ecological zoning; establishment of an environmental monitoring system; titling and demarcation of land; and institutional support to Black and Amerindian communities. It also supports local projects to protect and rehabilitate watershed areas through technical assistance, and it strengthens the capacity of National Parks Services to protect threatened ecosystems by funding for staff, infrastructure, and technical assistance.

## Colombia

### *Urban Environment Technical Assistance (Approved FY96)*

\$20 million, IBRD  
\$40 million, total project cost

Implementing Agency: Min. of Environment,  
Depts of Env't of Bogota, Cali & Barranquilla;  
Metro Planning Agency of Aburra Valley.

Task Manager: Serra

This project supports the implementation of Colombia's National Environmental Policy and improvement of environmental management in urban areas through strengthening the capacity of the MinAmbiente to provide policy advice and technical assistance to Colombian cities, and strengthening environmental management agencies in the urban centers of Bogota, Cali, Medellin, and Barranquilla. In support of this objective, the project also helps establish the National Environmental Information System, at the national and local levels, which is instrumental in improving urban environmental management.

## Chile

### *Second Valparaiso Water Supply and Sewerage (Approved FY91)*

\$50 million, IBRD  
\$142 million, total project cost

Implementing Agency: Empresa de Obras  
Sanitarias de Valparaiso S.A. (ESVAL)

Task Manager: Chang

This project seeks to achieve investments in infrastructure through improved maintenance and rehabilitation; increased efficiency in public services; and alleviation of environmental pollution that adversely affects public health and hinders economic development. Objectives include increasing the sanitary conditions of streams, public beaches, and the marine environment in the Greater Valparaiso area by reducing water losses, improving water quality, and increasing the efficiency of the city's water utility. It also supports expansion of the water supply services and the increase of ESVAL's operational efficiency and capacity to successfully implement the proposed investment and development program.

## Chile

### *Environment Institutions Development (Approved FY93)*

\$12 million, IBRD  
\$33 million, total project cost

Implementing Agency: National Environmental  
Commission

Task Manager: Manibog

This project establishes an institutional framework to manage activities for environmental protection and the conservation of natural resources, including updating the legal environment framework, incorporating environmental assessment in public and private sector activities, training professionals in environmental and natural resource management, and establishing an environmental information system. It also supports institutional strengthening and the economic analysis of selected environmental problems and strengthens the environmental management capacity of priority sectors.

## Ecuador

### *Lower Guayas Flood Control (Approved FY91)*

\$59 million, IBRD  
\$98 million, total project cost

Implementing Agency: The Commission for  
the Development of the Guayas River Basin  
(CEDEGE)

Task Manager: Vaccari

The project's flood control system benefits urban and rural inhabitants in an area of 170,000 ha through protection from catastrophic flooding. To ensure sustainability, it includes an Agricultural Development Plan to improve production systems for smallholders. A multi-institutional effort coordinated by CEDEGE includes research programs in rice, cocoa, and small-scale mechanization; seed production; extension; strengthening smallholder farmer organizations; and on-farm investments to be financed with farmers' own resources or with commercial credit. It also provides support to environmental protection and conservation initiatives. Support focuses on studies; monitors environmental impact on water bodies, soil, and fauna; and develops integrated pest management.

## **IBRD/IDA Projects with Primarily Environmental Objectives Active FY97**

### **Ecuador**

#### ***Mining Development and Environmental Control -- Technical Assistance (Approved FY94)***

\$14 million, IBRD  
\$24 million, total project cost

Implementing Agency: Ministry of Energy  
and Mines

Task Manager: Richter

This project attracts new mining investment and supports the development of increased, yet environmentally sustainable, mineral production. Environmental Assessment (EA) recommendations have been used extensively in project design. Components of the project are dedicated to environmental improvements through monitoring pollution and occupational health issues; removal of contaminating wastes in the most-sensitive areas; and a technology-upgrading subcomponent that helps to introduce and encourage environmentally sound mining and processing methods among artisanal and small-scale miners.

### **Ecuador**

#### ***Environment Management (Approved FY96)***

\$15 million, IBRD  
\$20 million, total project cost

Implementing Agency: The Presidency /  
Environmental Advisory Commission (CAAM)

Task Manager: Dabbagh

This project implements a national environmental strategy; assists the Government to build up an environmental management capacity in areas within the National Environmental Action Plan: urban areas, the Gulf of Guayaquil, and the Amazon. Objectives strengthen the environmental policy analysis, program design and management capability of ministries; establish and strengthen urban environmental management capability; build institutional capacity; and carry out the participatory process and technical analysis to resolve Ecuador's serious environmental problems. These objectives are achieved through the implementation of studies, workshops, public relations campaigns, demonstration sub-projects, and database development.

### **Haiti**

#### ***Forestry and Parks Protection Technical Assistance Project (Approved FY97)***

\$21.5 million, IDA  
\$22.5 million, total project cost

Implementing Agency: Ministry of Agriculture

Task Manager: Moreau

The overall objectives of the project is to start the initial phase of intervention for the protection of critical remnants of Haiti's forest ecosystems and for slowing the pace of degradation of Haiti's natural resources. Three specific objectives of the project are to provide institutional support for strengthening the Government's capacity to develop, monitor, and enforce a national forest and parks protection system; initiate key activities to protect and manage 2 national parks and 1 national forest reserve; and to reduce pressure on protected areas by increasing on-farm productivity and off-farm employment options, and enhancing the management capacity of local organizations in the buffer areas of the three targeted areas.

### **Honduras**

#### ***Environment Development (Approved FY95)***

\$10.8 million, IDA  
\$12.5 million, total project cost

Implementing Agency: Seda

Task Manager: Quintero

This project strengthens the governmental agencies' capacity in environmental and natural resource planning; policy, legal, and regulatory framework development; environmental monitoring; and the enforcement of environmental laws and regulations. It assists with strengthening and implementation of a national system of environmental impact assessment that engages NGOs, communities, and the private sector in the review process and develops the environmental management capacity of selected municipalities in a manner that increases the involvement of affected organizations and individuals.

### **Honduras**

#### ***Land and Natural Resources Mgt (Approved FY97)***

\$35 million, IBRD  
\$40 million, total project cost

Implementing Agency: Secretariat of  
Agriculture and Livestock (SAG), State  
Forestry Administration - Honduran Forestry

Task Manager: Molnar

The objectives of the Rural Land Management Project are to modernize the system of rural land registration; strengthen the forest administration of the State Forestry Administration-Honduran Forestry Development Corporation and promote local participation in managing natural resources; improve agriculture and forestry practices in upland farms; and d) rationalize the national protected areas systems. The project will finance a five year program with two components: land administration modernization and natural resources management which will finance forest management with local participation, improved upland agriculture and forestry, building capacity in producer organizations and NGOs, and management of key protected areas and design of strategies for self financing in the protected areas systems.

# IBRD/IDA Projects with Primarily Environmental Objectives Active FY97

## Mexico

### *Environment and Natural Resources (Approved FY92)*

\$50 million, IBRD  
\$127 million, total project cost

Implementing Agency: Secretariat of Urban  
Development and Ecology (SEDUE)

Task Manager: Demayo

This project supports the government's strategy of transforming SEDUE/SE over time into an organization that supervises and coordinates environmental work carried out by other levels of government, federal agencies, or under contract to private sector firms. The project's specific objectives support areas where preinvestment work is well developed and institutional absorptive capacity is adequate; reform and strengthen the administrative structure of SEDUE's federal and state offices in preparation for increased decentralization of authority to state environmental agencies over the medium term; and support development of a sectoral strategy and policy framework that is integrated into the government's economic policies.

## Mexico

### *Transport Air Quality Management (Approved FY93)*

\$220 million, IBRD  
\$1087 million, total project cost

Implementing Agency: National Finance  
Institution (NAFIN)

Task Manager: Mumme

This project supports a comprehensive program to reduce air pollution and control increases in emissions of nitrogen oxide, volatile organic compounds, carbon monoxide, lead, and particulate matter from transport sources. It also develops a policy framework to support transport and air quality objectives, improves the scientific base underlying the development and management of the program, and strengthens the institutional capacities to plan and implement programs effectively during the long-term.

## Mexico

### *Northern Border Environment (Approved FY94)*

\$368 million, IBRD  
\$762 million, total project cost

Implementing Agency: Banco Nacional de  
Obras y Servicios (BANOBRAS) and The  
Ministry of Social Development (SEDESOL)

Task Manager: Phung

This project improves environmental quality on the U.S.- Mexican border by strengthening planning, management, and enforcement capabilities and carrying out priority investments and action plans that preserve the environment. A sectoral EA carried out for the Mexico Second Solid Waste Management Project also covered the Northern Border Environment Project, which includes a solid waste management component.

## Mexico

### *Water and Sanitation II (Approved FY94)*

\$350 million, IBRD  
\$770 million, total project cost

Implementing Agency: Comision Nacional de  
Agua

Task Manager: Bengoechea

This project's objectives improve the quality and expand the coverage of water and sanitation services; strengthen the institutional capacity of CNA to assist local water utilities (WU) in management, operation and planning; train personnel in the management and maintenance of their systems; reduce subsidies by promoting development of WUs that are operationally and financially autonomous; encourage and attract private sector participation and investment; improve the management of water resources by supporting water quality programs; support BANOBRAS' efforts to appraise and supervise subprojects in the Mexico City and state offices; and strengthen the sector's capacity to enforce environmental regulations and carry out EAs.

## Mexico

### *Second Solid Waste Management (Approved FY94)*

\$200 million, IBRD  
\$416 million, total project cost

Implementing Agency: Banco Nacional de  
Obras y Servicios (BANOBRAS) and The  
Ministry of Social Development (SEDESOL)

Task Manager: Stein

This project finances investment to improve solid waste services and extend their coverage in participating medium-size cities. The EA made the following recommendations: containerization and mechanical collection fulfill requirements of low cost and ease of operation; sanitary landfills are the most-suitable option for medium to small Mexican cities; high-density landfills are suitable for cities with high groundwater tables and groundwater pollution. Environmental impacts from project siting, construction, and operation are kept to a minimum through environmental screening and assessment, including public consultation of proposed subloans.

## IBRD/IDA Projects with Primarily Environmental Objectives Active FY97

### Mexico

#### *Water Resources Management (Approved FY96)*

\$186.5 million, IBRD  
\$341.9 million, total project cost

Implementing Agency: Comision Nacional del Agua - CNA

Task Manager: Olson

This project promotes conditions for environmentally sustainable, economically efficient and equitably allocated use of water resources in Mexico, supports the integrated comprehensive management of water resources, and increases the benefits while reducing the risk related to existing hydraulic infrastructure. Objectives include: supporting groundwater conservation by reducing exploitation and contamination; promoting the restoration of surface water quality; improving meteorological services for water management, the society and economy; improving water allocation; promoting the establishment and strengthening of river basin councils; developing hydrographic region plans; and improving fee collection and the registry of water rights for users.

### Mexico

#### *Community Forestry (Approved FY97)*

\$15 million, IBRD  
\$23 million, total project cost

Implementing Agency: Secretaria de Medio Ambiente, Recursos Naturales, y Pesca (SEMARNAP)

Task Manager: Mohadjer

The objectives of this project are to improve natural resource management and conservation by community and ejido forestry resource owners and increase forestry-based income generating options. Components include assistance to Oaxaca's communities and ejidos by financing activities, assistance, and training to prepare/update management plans for timber extraction and conservation plans for forested areas; resource management and forestry research; development of silvicultural skills; control of fire and insects; understanding of boundary conflict issues; access to credit, markets, and technologies. Other components strengthen the government's certification and evaluation program for the private sector; promote non-timber forest products in the six priority states with pine-oak forest; strengthening state forestry institutions in five

### OECS Countries

#### *Solid Waste Management (Approved FY95)*

\$6.8 million, IBRD  
\$5.7 million, IDA  
\$50.5 million, total project cost

Implementing Agency: National Solid Waste Management Entities and the OECS Secretariat

Task Manager: Dabbagh

This project seeks to reduce public health risks and protect the the environmental integrity of the islands and their coastal and marine systems by improving domestic solid waste management facilities, and also reducing terrestrial and marine pollution through avoiding and discouraging indiscriminate disposal of solid waste on and off shore. A further objective is to enhance public health and environmental quality by strengthening the countries' capacities to effectively manage and dispose of solid waste in an environmentally sustainable manner.

### Panama

#### *Rural Poverty and Natural Resources Project (Approved FY97)*

\$22.5 million, IBRD  
\$30 million, total project cost

Implementing Agency: Ministry of Agriculture

Task Manager: Cackler

The objectives of the project are to channel, on a pilot basis, financial resources to rural community to assist them in promoting sustainable productive systems and thereby reduce both rural poverty as well as natural resource degradation; and promote the sustainable use and conservation of selected biodiversity areas. This would be done through capacity-building at the local community level for participatory planning; establishing demand-driven financing mechanisms in high poverty areas to activities which help reduce rural poverty, improve the quality of life and offer alternatives for sustainable natural resource management and livelihood; and promoting the long-term conservation and sustainable use of Panama's biodiversity resources, including the biological corridor that passes through the Atlantic watershed.

### Paraguay

#### *Land Use Rationalization (Approved FY92)*

\$29 million, IBRD  
\$41 million, total project cost

Implementing Agency: Ministry of Hacienda and Ministry of Agriculture

Task Manager: Mckenna

This project raises the government's effectiveness in land titling by improving the Government's information base and the long-range planning of natural resource management; provides agricultural services; and raises fiscal revenue from the sector. The second part of this project provides a basis for strengthening the institutions responsible for land settlement and for natural resource management and protection. The project is part of a phased strategy to strengthen basic agricultural services.

# IBRD/IDA Projects with Primarily Environmental Objectives Active FY97

## Paraguay

### *Natural Resources Management (Approved FY94)*

\$50 million, IBRD  
\$79 million, total project cost

Implementing Agency: Ministry of Agriculture

Task Manager: Abramovich

This project establishes an institutional framework dealing with agricultural and natural resource management; generates information through research; assists small farmers in the establishment of sustainable agricultural production; and encourages the participation of the local population in implementation. It also supports planning and implementing actions designed to slow soil degradation; protects, conserves, and restores genetic diversity; develops research, reforestation, and technology generation; strengthens environmental legislation and institutional presence in forestry reserves and national parks; and makes available grant resources to correct damages caused by the indiscriminate conversion of land for agricultural production.

## Peru

### *Sierra Natural Resources (Approved FY97)*

\$51 million, IBRD  
\$93.2 million, total project cost

Implementing Agency:

Task Manager: Werbrouk

The general objective of the Sierra-Natural Resources Management and Poverty Alleviation Project is to help alleviate the poverty of rural Sierra people. Specific project objectives are to assist the poor to: improve sustainable management of natural resources through soil conservation measures and reforestation at the micro-catchment level; increase rural production and productivity through introduction of irrigation and improved agricultural practices; and strengthen their rural organizations so that they can become autonomous and sustainable entities.

## Trinidad and Tobago

### *Environmental Management (Approved FY95)*

\$6.25 million, IBRD  
\$11 million, total project cost

Implementing Agency: Ministry of Planning and Development

Task Manager: Plaza

This project establishes an environmental management agency that is responsible for the legal and regulatory framework covering all aspects of the environment in the country. Technical assistance and training help bring the newly created Environmental Management Authority to full operational capacity.

## Uruguay

### *Natural Resources Management and Irrigation Development (Approved FY94)*

\$41 million, IBRD  
\$74 million, total project cost

Implementing Agency: Ministry of Agriculture

Task Manager: Abramovich

This project develops and implements a soil and water management strategy by supporting environmentally sound investments in rehabilitation and development of irrigation, drainage schemes and service infrastructure; supports the development of pilot microcatchment to gain experience in the management of ecologically fragile zones. It also establishes soil and water management demonstration farms in selected agroecological zones where potential soil degradation problems have been identified. It includes priority applied research and technology transfer subprojects and provides technical assistance for forestry development and nontraditional agricultural export.

## Venezuela

### *INPARQUES (Approved FY95)*

\$55 million, IBRD  
\$96 million, total project cost

Implementing Agency: INPARQUES

Task Manager: Plaza

This project strengthens the government's capability to manage Venezuela's national and urban parks, natural monuments, and wildlife reserves. The project focuses on strengthening conservation and protection of vulnerable areas; intensifying public environmental research, training, and education efforts; and improving the economic sustainability of the national parks and other protected areas.

## **Middle East and North Africa**

### **Algeria**

#### ***Pilot Forestry and Watershed Management (Approved FY92)***

\$25 million, IBRD  
\$37 million, total project cost

Implementing Agency: Ministry of Agriculture

Task Manager: Stier

This project's objective develops a long-term action program to better protect and manage Algeria's natural resources, specifically its forests, watersheds, and nature conservation areas. It strengthens the institutions working in these areas and, through appropriate testing, develops the policy and technical basis for replication of suitable project components as part of a national resource management program.

### **Algeria**

#### ***Water Supply and Sewerage Rehabilitation (Approved FY94)***

\$110 million, IBRD  
\$170 million, total project cost

Implementing Agency: Ministry of Equipment

Task Manager: Rodriguez

This project promotes water conservation by charging the true economic cost of the services to consumers. In addition, as part of a larger water supply and sewerage restructuring effort, this project seeks to rehabilitate existing wastewater treatment plants in order to prevent the spread of water pollution that is damaging to the natural environment.

### **Algeria**

#### ***Industrial Pollution Control (Approved FY96)***

\$78 million, IBRD  
\$118.1 million, total project cost

Implementing Agency: Direction Generale de l'Environnement (DGE); Entreprise Nationale de Siderurgie (ENSIDER); Enterprise

Task Manager: Arif

The project's broad objective is to assist the Government of Algeria in reducing exposure to hazardous pollution which causes health problems or serious ecological degradation. Its specific objectives are to strengthen the institutional, legal and monitoring framework; activate a National Environmental Fund; and initiative and investment program in the industrial sector of Annaba for mitigating the adverse environmental and health effects of pollution.

### **Egypt**

#### ***Private Sector Tourism (Approved FY93)***

\$130 million, IBRD  
\$784 million, total project cost

Implementing Agency: Ministry of Tourism

Task Manager: Graham

This project provides financial support for water supply and sewage and solid waste collection and disposal facilities for tourist resorts; provides technical assistance and training to develop environmental guidelines and enforce rules; and helps to strengthen the institutional framework for environmentally sound developments. An associated GEF component supports the development and implementation of a coastal zone environmental management plan for the Red Sea coast.

### **Egypt**

#### ***Matruh Resource Management (Approved FY93)***

\$22 million, IDA  
\$31 million, total project cost

Implementing Agency: Ministry of Agriculture and Land

Task Manager: Al-Salihi

This project supports natural resource management to conserve the area's water, land, and vegetation; promotes adaptive research, extension services, and training directed to local communities; provides rural finance with special attention to on-farm and off-farm income-generating activities targeted to small farmers, the landless, and women; and strengthens community participation and dialogue with existing local institutions.

# IBRD/IDA Projects with Primarily Environmental Objectives Active FY97

## Egypt

### *Pollution Abatement (Approved FY96)*

\$20 million, IBRD  
\$15 million, IDA  
\$50.5 million, total project cost

Implementing Agency: Egyptian  
Environmental Affairs Agency

Task Manager: Arif

This project assists the Government of Egypt in reducing industrial pollution causing adverse health effects and/or ecological degradation. Its specific objectives are to strengthen the monitoring and enforcement capabilities of the environmental institutions and establish technical and financial mechanisms for supporting pollution abatement investments in Greater Cairo, Alexandria, and the Suez Canal cities of Suez and Ismailia.

## Lebanon

### *Solid Waste & Environmental Management (Approved FY95)*

\$55 million, IBRD  
\$135 million, total project cost

Implementing Agency: Council for  
Development and Reconstruction (CDR) and  
the Ministry of Municipality and Rural Affairs

Task Manager: Arif

This project completes the rehabilitation of solid waste collection and disposal systems envisaged under the National Emergency Reconstruction Program; improves the collection and disposal of hospital waste; strengthens the government and private sector capabilities for solid waste management; and helps to develop a coastal zone management plan that protects the Lebanese coast from further degradation.

## Lebanon

### *Coastal Pollution Control (Approved FY97)*

\$53.1 million, IBRD  
\$308 million, total project cost

Implementing Agency: Council for  
Development and Reconstruction (CDR) &  
Ministry of Hydrolic & Energy Resources

Task Manager: Rasmusson

The objectives of the projects are to improve sanitary and environmental conditions in three major urban areas (Kesrouan, Saida and Sour) of Lebanon's coastal zone. It will extend water supply and wastewater services, reduce groundwater and surface water pollution, reduce pollution in the sea to restore beaches for recreational use, and ensure satisfactory operation and maintenance of equipment installed for rehabilitation, and restructure the water and sanitation sector to achieve improved services through commercial operation and increased private sector participation.

## Morocco

### *Second Forestry Development (Approved FY90)*

\$49 million, IBRD  
\$100 million, total project cost

Implementing Agency: Ministry of Agriculture

Task Manager: Stier

This project strengthens forestry planning and policy and assists Morocco in maintaining and improving its forestry potential and protects its watersheds in harmony with other demands such as domestic stock grazing. Components are: forestry planning including national forest inventory, demarcation, management and a national reforestation plan; field operations paid by the communes, consisting of regeneration of the natural forest, plantation establishment, watershed, forest range and pest management, stabilization of dunes, road construction and rehabilitation; supports nature conservation, forest research, staff housing rehabilitation, equipment purchases, training and technical assistance.

## Morocco

### *Environmental Management (Approved FY94)*

\$6 million, IBRD  
\$11 million, total project cost

Implementing Agency: Under Secretariat of the  
Environment (USE)

Task Manager: Eguchi

This project assists the Government in strengthening its institutional and regulatory framework for managing environmental protection. It is expected that the establishment of the needed environmental institutions and full development of the necessary environmental laws would require a concerted and long term effort spanning several years. The project-representing the first step of such efforts-defines the elements for and initiates the process of strengthening the Government's environmental capacities.

# IBRD/IDA Projects with Primarily Environmental Objectives Active FY97

## Tunisia

### *Second Forestry Development (Approved FY93)*

\$69 million, IBRD  
\$148 million, total project cost

Implementing Agency: Directorate General of Forests (DGF)

Task Manager: Sinha

This project supports the sustainable development and management of forests with the active participation of forestry populations through institutional and infrastructure strengthening; preparation of environmental management plans; establishment of plantations; rehabilitation of prairies; and support for studies and training.

## Tunisia

### *Northwest Mountainous Areas Development (Approved FY94)*

\$28 million, IBRD  
\$50 million, total project cost

Implementing Agency: Ministry of Agriculture

Task Manager: Mselleti

This project aims to arrest degradation of the natural resource base through active participation of village communities. It supports improvement of the management and productivity of range and farm land; measures to reduce erosion, runoff, and reservoir sedimentation; and increased involvement of village organizations. It also supports strengthening of the technical and implementation capability of the executing agency and the planning capability of village committees through technical assistance and training.

## Tunisia

### *Natural Resources Management Project (Approved FY97)*

\$26.5 million, IBRD  
\$51.3 million, total project cost

Implementing Agency: Ministry of Agriculture, General Directorates of Finance & Incentives and Regional Agricultural Development

Task Manager: Msellati

The objectives of the project are sustainable natural resources management, in particular of crop and rangeland in severely degraded zones, and agricultural productivity improvements, attained with greater involvement of resources users in development programs. The strategies for achieving project objectives are to improve natural resources management, preserving resources, and where feasible, helping to reverse degradation by developing integrated land management practices, controlling land erosion and introducing new technologies; improving rural communities' standard of living by implementing Participatory Development Plans that strengthen public-community partnerships and increase ownership; support Ministry of Agriculture decentralization by introducing participatory approaches, enhancing policy analysis

## Yemen, Republic of

### *Land and Water Conservation (Approved FY92)*

\$33 million, IDA  
\$48 million, total project cost

Implementing Agency: GDI/Ministry of Agriculture and Water Resources (MAWR)

Task Manager: Khan

This project, to be implemented over a period of six years, consists of technical developments in irrigation and in forestry and land conservation; institutional strengthening of the MAWR agencies responsible for the water resources sector, forestry and pilot activities; and developing approaches for watershed management.

## South Asia

### Bangladesh

#### *Forest Resources Management (Approved FY92)*

\$50 million, IDA  
\$59 million, total project cost

Implementing Agency: Forest Department

Task Manager: Baykal

This project improves and institutionalizes the Resource Information Management System which evolved under the Second Forestry Project; integrates environmental and socio-economic factors; implements a pilot scheme for people's participation in forest development; expands forest resources through plantation establishment and improved management; formulates management plans for nature conservation areas; and supports investments in selected sanctuaries and parks. Also included in the objectives are streamlining and creating within FD an effective environmental management capability; and supporting professional and technical education, training and research.

## IBRD/IDA Projects with Primarily Environmental Objectives Active FY97

### Bhutan

#### *Third Forest Development (Approved FY94)*

\$5 million, IDA  
\$9 million, total project cost

Implementing Agency: Ministry of Agriculture

Task Manager: Keil

This project develops and implements an approach for sustainable protection, management, and use of forest resources by involving rural communities in improving and managing forests and increasing the level of economic activity through social forestry practices. It also supports adoption of multiple-use management of forest lands; rehabilitation of degraded forests to maintain their economic and environmental benefits; and improvement of the planning and implementation capacity of the Department of Forests.

### India

#### *Integrated Watershed Development (Hills) (Approved FY90)*

\$75 million, IDA  
\$75 million, total project cost

Implementing Agency: Government of India (GOI)/NWDB

Task Manager: Jain

The main objective of this project is to slow and reverse degradation of the natural environment, through the use of appropriate soil and moisture conservation technology. The aim is to lay the foundation for sustainable increases in production to keep pace with population growth. The project promotes known vegetative technologies and verifies others; develops approaches for coordinated interactive planning; and strengthens the management and use of non-arable lands.

### India

#### *Integrated Watershed Development (Plains) (Approved FY90)*

\$55 million, IDA  
\$55 million, total project cost

Implementing Agency: Ministry of Agriculture and Governments of Gujarat, Orissa, Raja

Task Manager: Jain

This project includes watershed development works consisting of a menu of eligible land treatments to arrest the productivity decline on arable and private lands, and to restore ground cover on non arable (public and communal) lands; technical support through improvements in location; specific research and nursery development; project implementation support to strengthen project administration; physical planning and a geographical information system; and monitoring and evaluation. It also includes training and technical assistance to promote soil and moisture conservation technologies and participatory planning and sustainable resource management.

### India

#### *Industrial Pollution Control (Approved FY91)*

\$124 million, IBRD  
\$32.6 million, IDA  
\$235.6 million, total project cost

Implementing Agency: Ministry of Environment

Task Manager: Vergara

This project supports the Government of India's efforts to prevent environmental degradation due to industrial operations; assists in identifying and implementing a cost effective program for industrial pollution monitoring, control and abatement; promotes enforcement of legislation on environmental protection regarding industrial sources; supports efforts by industries to comply with regulations; and supports extension services and research in waste minimization, source recovery and pollution abatement. Components include: strengthening the Central and State Pollution Control Boards in four selected states; investing in industries that comply with regulations; supporting the set up of common treatment facilities; and technical assistance.

### India

#### *Maharashtra Forestry (Approved FY92)*

\$124 million, IDA  
\$142 million, total project cost

Implementing Agency: Forest Dept. of Maharashtra

Task Manager: Keil

This project undertakes several sector reforms through the reorganization of the public forest administration, and an active role of the NGOs, village panchayats, cooperatives and private sector. These reforms consist of improving the state's technical capability particularly in the field of seed production, genetic planting material, nursery and planting practices; planning, management and monitoring the forest resource base; training; and rationalizing the policies and regulations constraining the sector. The project also supports five discrete investment activities related to land treatment.

## IBRD/IDA Projects with Primarily Environmental Objectives Active FY97

### India

#### *Uttar Pradesh Sodic Lands Reclamation (Approved FY93)*

\$55 million, IDA  
\$80 million, total project cost

Implementing Agency: Government of Uttar Pradesh (GOUP)

Task Manager: Balasubramanian

This project develops concomitant models for environmental protection and improved agricultural production through reclamation of sodic lands; strengthens local institutions, enabling the effective management of such programs with strong beneficiary participation and NGO support; and supports the development and dissemination of agricultural and reclamation technology.

### India

#### *Renewable Resources Development (Approved FY93)*

\$75 million, IBRD  
\$115 million, IDA  
\$440 million, total project cost

Implementing Agency: Indian Renewable Energy Devlp. Agency Ltd. (IREDA), Tamil Nadu Newsprint and Papers Ltd. (TNPL)

Task Manager: Manzo

This project promotes commercialization of renewable resources technologies by financing private sector investments in alternate energy subprojects, including irrigation-based small hydros, wind farms, and solar photovoltaic systems. It expands bagasse-based paper mills and creates marketing and financing mechanisms for the sale and delivery of alternate energy systems. It includes technical assistance for institutional development and the promotion of renewable energy technologies. The GEF component supports development of wind, solar, and photovoltaic capacity and provides technical assistance.

### India

#### *Forestry Research Education and Extension (Approved FY94)*

\$47 million, IDA  
\$56 million, total project cost

Implementing Agency: The Indian Council for Forestry Research and Education (ICFRE)

Task Manager: Hill

This project supports research on and development of methods for the conservation of biodiversity. Components include development and implementation of programs for ecodevelopment in two protected areas; financing of a range of ecodevelopment activities and concurrent improvements in the planning and management of protected areas; support for research aimed at improving protected area management and the implementation of ecodevelopment; and a program to monitor socioeconomic and ecological changes. In addition, it supports the involvement of local communities in the planning and implementation of ecodevelopment programs.

### India

#### *Andhra Pradesh Forestry (Approved FY94)*

\$77 million, IDA  
\$89 million, total project cost

Implementing Agency: Forest Department (FD) and Government of Andhra Pradesh (GOAP)

Task Manager: Keil

This project maintains and improves biodiversity and develops sustainable management systems that foster participation and sharing of benefits by village communities, particularly in forest areas that are home to tribal groups. It supports forest regeneration and rehabilitation; improvement of adaptive research and silviculture management; and joint forest management training in participatory rural appraisal. It has provided institutional support to the nature conservation program through development of an integrated protected areas system; studies; boundary demarcations; fire protection; upgrading of roads; habitat improvement; captive breeding programs; and ecodevelopment in selected parks and sanctuaries.

### India

#### *Madhya Pradesh Forestry (Approved FY95)*

\$58 million, IDA  
\$67 million, total project cost

Implementing Agency: Forest Department (FD) and Government of Madhya Pradesh (GOMP)

Task Manager: Hill

This project supports improvements for the Madhya Pradesh forestry sector, including innovative programs for participatory forest management. It involves forest regeneration and improved silvicultural practices; improved implementation, monitoring, and evaluation; a village resource development program based on participatory planning and the integration of forest management and protection with activities to generate alternative incomes to reduce pressures on the forest; forestry research, extension, and technology improvements; and biodiversity conservation through management of twelve protected areas while supporting the development of alternative resources for local communities.

## **IBRD/IDA Projects with Primarily Environmental Objectives Active FY97**

### **India**

#### ***Industrial Pollution Prevention (Approved FY95)***

\$143 million, IBRD  
\$25 million, IDA  
\$352.5 million, total project cost  
Implementing Agency: Ministry of Environment

Task Manager: Vergara

This project promotes cost-effective abatement of industrial pollution through components that support institutional strengthening of state pollution control boards and investments by individual firms for pollution abatement with a focus in minimization of waste and cleaner production methods. It renews financing for common effluent treatment plants for treating wastewater and solid materials at industrial sites with a concentration in small sized industries. A technical assistance component supports the development, diffusion, and transfer of technologies with environmental benefits.

### **India**

#### ***Hydrology (Approved FY96)***

\$142 million, IDA  
\$178.3 million, total project cost  
Implementing Agency: Ministry of Water Resources

Task Manager: Myint

This project improves the institutional and organizational arrangements, technical capabilities and physical facilities available for measurement, validation, collation, analysis, transfer and dissemination of hydrological, hydrometeorological and water quality data. It also administers basic water resource evaluations within the concerned agencies at Central Government level and in the seven participating states.

### **India**

#### ***Bombay Sewage Disposal (Approved FY96)***

\$167 million, IBRD  
\$25 million, IDA  
\$280 million, total project cost  
Implementing Agency: Municipality Corp of Bombay

Task Manager: Couzens

This project strengthens the capacity of the Municipality Corp of Bombay (MCGB)'s WSSD in all aspects for the management of the provision of sewerage services; sustaining the financial viability for the provision of water supply and sewerage services in Greater Bombay through direct charges to beneficiaries at appropriate levels; and improving the health and environmental conditions in Greater Bombay.

### **India**

#### ***Coal Environment and Social Mitigation (Approved FY96)***

\$65 million, IDA  
\$80 million, total project cost  
Implementing Agency: Coal India Ltd.

Task Manager: Pollak

The project assists Coal India in making coal production more environmentally and socially sustainable. This includes technical assistance to enhance Coal India's capacity to deal more effectively with the environmental and social issues of coal mining operations; the implementation of Environmental Action Plans, Rehabilitation Action Plans, and Indigenous Peoples Development Plans for 25 proposed mines in India; and a review, and if required, implementation of a program of remedial action of the resettlement and rehabilitation measures taken by Coal India in implementing projects that have received bank Group support in the past.

### **India**

#### ***Environmental Management Capacity Building (Approved FY97)***

\$50 million, IDA  
\$61.48 million, total project cost  
Implementing Agency: Ministry of Environment and Forests; Department of Ocean Development; and Gujarat Department of  
Task Manager: Hadjitarkanian

The goal of this project is to assist the Government of India to implement its environmental priorities as outlines in the Environment Action Program - India of December 1993. The specific objective of the project is to enhance environmental management capacity to ensure effective implementation of the EAP priorities. The objective of enhancing environmental management capacity would be achieved by strengthening environmental policy planning and administration, decentralization of selected environmental activities to local communities and non-governmental organizations, implementation of environmental law, and monitoring and compliance with environmental laws and standards in specific high priority environmental problem areas at center, state, and local government levels.

# IBRD/IDA Projects with Primarily Environmental Objectives Active FY97

## India

### *EcoDevelopment (Approved FY97)*

\$28 million, IDA  
\$67 million, total project cost

Implementing Agency: Ministry of  
Environment and Forests

Task Manager: Mott

This project would conserve biodiversity by addressing the impact of local people on protected areas (PAs) and the impact of the PAs on local people in seven widely varied sites of threatened biodiversity. Components comprise of improved PA management; participatory microplanning an implementation of reciprocal agreements including development of alternative livelihoods and resource uses; development of more effective and extensive support through research and monitoring and environmental education; preparation of future biodiversity projects dealing with additional eco-development biodiversity information and ex-situ conservation; and overall project management.

## Nepal

### *Hill Community Forestry (Approved FY89)*

\$31 million, IDA  
\$45 million, total project cost

Implementing Agency: Forest Department

Task Manager: Hill

This project helps His Majesty's Government implement components of its Forestry Master Plan and Forestry Sector Policy, by establishing a system to conserve and expand the forest resources which sustain traditional farming systems in the Hills. Forest User Group are formed among villagers to protect, manage, and utilize areas of State-owned forests in their vicinity. FD staff are trained to provide technical and material assistance to enable these groups to properly manage the existing forests and establish and maintain new plantations in degraded areas.

## Pakistan

### *Second Scarp Transition (Approved FY91)*

\$20 million, IDA  
\$49 million, total project cost

Implementing Agency: Agricultural  
Development Bank of Pakistan (ADBP)

Task Manager: Qamar

This proposed six-year project implements the government's policy of replacing STWs and PTWs in FGW areas. It comprises two subprojects, one in Punjab and one in Sindh. The Punjab subproject replaces about 1,346 STWs with PTWs in the FGW areas of the remaining part of the SCARP-I area, not covered under the STPP. The Sindh subproject is a pilot effort to test the viability of SCARP transition in the somewhat different socio-economic conditions of Sindh. It replaces about 380 STWs with PTWs in the FGW areas of the Moro and Sakrand units of SCARP North Rohri (SNR) Project.

## Pakistan

### *Environmental Protection and Resource Conservation (Approved FY92)*

\$29 million, IDA  
\$57 million, total project cost

Implementing Agency: Gov't of Pakistan &  
Gov'ts of Punjab, Sindh, North-West Frontier  
Provinces and Azad Jammu and Kashmir

Task Manager: Saddington

This project is the first phase in a long-term program to improve Pakistan's natural resource management. It has two components, institutional strengthening and environment and natural resource rehabilitation. Its objectives are to initiate the strengthening of federal and provincial environmental protection institutions. It strengthens environmental legislation and initiates policies and programs; disseminates information concerning damage to the environment and natural resources to policy makers, government officials, and the public; strengthens professional education; and implements subprojects to rehabilitate, protect, develop and manage agro-ecological resources which have been damaged or threatened.

## Pakistan

### *Northern Resource Management (Approved FY93)*

\$29 million, IDA  
\$40 million, total project cost

Implementing Agency: Azad Jammu and  
Kashmir

Task Manager: Motha

This project provides the basis for the sustainable and economically efficient use of land resources in Azad Jammu and Kashmir by: improving the policy framework; restructuring and strengthening the main institutions that manage and protect land resources in the area; and testing programs in which communities take management and financial responsibility for planning and implementing activities for sustainable resource management.

## IBRD/IDA Projects with Primarily Environmental Objectives Active FY97

### Pakistan

#### *Fordwah E. Sadiquia Irrigation and Drainage (Approved FY93)*

\$54 million, IDA  
\$71 million, total project cost

Implementing Agency: Punjab Irrigation and  
Agricultural Department, and Water and Power  
Development Authority

Task Manager: Ahmad

This project supports efforts to control waterlogging and salinity through improved water management and increases efficient delivery of canals and watercourses. It also improves water conservation by: recovering and limiting seepage; provides a network of surface drains to evacuate storm water runoff; provides technical assistance to implementing agencies and for staff training; and supports the monitoring and evaluation of the project's impact on groundwater levels and agriculture production.

### Pakistan

#### *Balochistan Natural Resource Management (Approved FY94)*

\$15 million, IDA  
\$18 million, total project cost

Implementing Agency: Government of  
Balochistan

Task Manager: Sheikh

This project represents the first phase of long-term support to improve Balochistan's protection of its environment and management of its natural resources. It also strengthens the principal environmental institutions through formulating policy, legislation, and regulations; monitors natural resource management; and provides training, technical assistance, and support staff. It supports site-specific methods of rehabilitation and development of degraded forests, watersheds, rangelands, coastal areas, and natural habitats and the efficient, sustainable use of groundwater, especially by eliminating government subsidies for drilling tubewells.

### Pakistan

#### *Punjab Forest Sector Development (Approved FY95)*

\$24.9 million, IDA  
\$33.8 million, total project cost

Implementing Agency: Punjab Forest  
Department

Task Manager: Khouri

This project strengthens the Punjab Forestry Department's capabilities to assist local communities and the private sector in the development and conservation of forest and rangelands through natural, financial, and human resource management. It helps to disseminate technology and information required to promote farmers' involvement in nursery and timber production; develops and strengthens community organizations to manage scrub forests and rangelands jointly with public sector institutions; and implements a pilot component for the reorganization of timber plantations to enhance their environmental value.

### Sri Lanka

#### *Forest Sector Development (Approved FY89)*

\$20 million, IDA  
\$31 million, total project cost

Implementing Agency: Ministry of Lands and  
Land Development (Forestry Department)

Task Manager: Khouri

This project assists the Government in improving the performance of the forestry sector in line with the economic, social, and environmental requirements of Sri Lanka by implementing part of a five-year time slice of the Forestry Master Plan. To attain this objective: all plantations and selected natural forests are brought under intensive management; the resource base is expanded by establishing new plantations; forestry education and technical training is intensified; and the institutional base is strengthened. Current forestry programs, especially those formulated and implemented with external financing, have been taken into consideration in designing the project.

### Sri Lanka

#### *Colombo Environmental Improvement (Approved FY95)*

\$39 million, IDA  
\$49 million, total project cost

Implementing Agency: Urban Development  
Authority (UDA), Colombo Municipal Council  
(CMC), and The National Water Supply and

Task Manager: Zhao

This project supports progress toward a sustainable environment for the economic and social development of the Colombo Metropolitan Area (CMA). The project focuses on solid waste services, controlling surface-and groundwater contamination from wastewater discharge, and building up the capabilities of the government in municipal waste management. The project also assists in promoting private sector participation in environment-related operations. The project finances construction of a sanitary landfill and compost facilities to replace open dumps, and equipment for hospital wastes collection, transport and disposal; wastewater collection systems in two industrial zones; and wastewater pollution abatement measures in the Beria Lake catchment area.

## **IBRD/IDA Projects with Primarily Environmental Objectives Active FY97**

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### **Sri Lanka**

#### *Environmental Action (Approved FY97)*

\$14.8 million, IDA

\$20.7 million, total project cost

Implementing Agency: Ministry of Transport,  
Environment, and Women Affairs (MTEWA)

Task Manager: Serejski

The proposed project would be the initial 4-yr pphase to assist the Government in environmental planning and management. The project would support the strategy of restructuring MTEWA's Environment Division an dstrengthen the Ctrl Env Authority to carry out its analytical as well as enforcement & monitoring responsibilities; support an ongoing effort to internalize environmental considerations into the overall development planning process; and help Gov't take immediate remedial measures to reverse the trend of env'tal degradation through pilot programs of participatory approaches to enviornmental management.

**World Bank Group**  
**Projects with Full Environmental Assessment**  
**(Category A)**

Since October 1989, Bank staff have been required to screen all proposed new investment projects with respect to their potential environmental impacts and to classify them accordingly. The classification of each proposed project depends on its type, location, sensitivity, and scale, as well as the nature and magnitude of its potential impacts. Category A projects are those considered likely to have significant environmental impacts that may be sensitive, irreversible, and diverse. Such projects require a full environmental assessment (EA). Category B projects may have impacts that are less significant than category A projects, and few if any of the impacts are irreversible. An EA is not normally required for Category C projects, which are unlikely to have adverse impacts.

The table separately lists all Category A projects for IBRD/IDA and IFC that were approved in fiscal 1997. For each, the table indicates the estimated total cost and the amount of financing or investment. The table also provides a brief description of each project and the contribution of the EA.



## Category A Projects, IBRD/IDA: Approved FY97

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### Africa

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#### Cote d'Ivoire

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##### *Rural Land Management and Community Infrastructure Development*

\$41 million, IDA  
\$60.8 million, total project cost

The project will help empower rural communities by facilitating land tenure security on over 2 million hectares of rural lands, strengthening local capacity to plan, make decisions, and govern, and through supporting small-scale investments for sustainable natural resource management and agriculture, and infrastructure development and decentralization. The project has sought to minimize negative environmental impact by having a holistic planning process and including social, environmental, economic and cultural factors in community planning. The project itself will help halt unsustainable uses of natural resources, and positive effects include reduced deforestation, increased forest productivity, reduced land clearing and soil erosion, stabilized water flows, improved health and water, and improved rural access to services and markets. Potentially negative impacts may result from agriculture- and infrastructure related project activities, and include alteration of water table and wetland, siltation, soil depletion and erosion, loss of biodiversity, soil and water contamination from increased use of agricultural chemicals. Technically these are simple to mitigate, and the project is designed to take them into account and with careful monitoring should be mitigated before they appear or avoided completely. Mitigation plan is laid out in SAR and include environmental information tools, elaboration of technical norms, training and establishment of demonstration activities and investments.

#### Kenya

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##### *Energy Sector Reform and Power Development*

\$125 million, IDA  
\$798.9 million, total project cost

The project aims to create an efficient and environmentally sustainable energy sector and to support investments needed to meet increased power demand and operational efficiency, through sector reform, efficiency improvements, power system expansion and upgrading, geothermal resource development and future project preparation. EAs were performed for one geothermal and two diesel plants. There was no sectoral EA. The area surrounding the geothermal plant is rich in wildlife, and serves as a grazing area for Maasi pastoralists. Experience indicates that wildlife accommodates quickly to production wells and pipes though fences interrupts livestock grazing. As part of the mitigation measures, the new facilities will be fenced only around the wells, and condensates will be reinjected. Compensatory actions are required since wild lands are being converted to other uses. New extraction will not pose any threat to the Lake Naivasha water levels. The new diesel plant will not require large amounts of water, nor will it involve relocating people. Relevant staff will receive training in environmental analysis, and IDA missions will include environmental specialists to monitor the implementation of mitigation plans.

#### Mali

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##### *Regional Hydropower Development (Mali - Mauritania - Senegal)*

\$17.1 million, IDA  
\$199.6 million, total project cost

One of the main objectives in all three countries (Mali, Mauritania and Senegal) is to achieve sustained broad-based growth by among other things, the promotion of the private sector and the development of infrastructure. Another CAS objective is addressing environmental issues. The project would contribute to achieving these objectives by providing a reliable supply of electric power at lower cost, contributing to increasing the access to electricity of the population in the Senegal river valley and to improving the efficiency of the electric power sectors in the three countries, and helping tackle environmental and health issues related to the existing dam of Manantali, and the construction of the power plant and transmission lines. The EA studies foresee only very limited impacts of the project on the environment, caused mainly by the 30 meter corridor to accommodate power transmission -lines and maintenance roads. The main environmental impacts are not caused by the proposed Regional Hydropower Development Project, but rather by the Manantali and Diama dams on the Senegal River, which have already been constructed. However, it is impossible to mitigate the impacts of the hydropower project only, without addressing the problems created by the management of the dams themselves. Therefore, the mitigation plan of the proposed hydropower development project will take into account the partial mitigation of some of the most serious environmental and health impacts of the two dams.

## Category A Projects, IBRD/IDA: Approved FY97

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### Mauritania

*Regional Hydropower Development  
(Mali - Mauritania - Senegal)*

See description for Mali Regional Hydropower Development Project above.

\$11.1 million, IDA  
\$119.3 million, total project cost

### Senegal

*Regional Hydropower Development  
(Mali - Mauritania - Senegal)*

See description for Mali Regional Hydropower Development Project above.

\$10.5 million, IDA  
\$126.6 million, total project cost

## East Asia / Pacific

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### China

*Second National Highway (Hunan/Guangdong)*

\$400 million  
\$1150 million, total project cost

The project is the second in a series of four which are supporting an integrated approach to expressway corridor development. Specifically this project seeks to relieve road transport congestion and improve integration of interregional trade, strengthen institutional capacity in Hunan and Guangdong Provinces, improve the safety of road transport. In both sections, major environmental impact during the construction period includes noise and dust, alteration of hydrological regimes, soil erosion, interference with local people and traffic, and impacts on local ecology and irrigation systems. During operation, traffic noise, vehicle exhaust, soil erosion and water pollution from the area will be major impacts. The EAPs specify appropriate mitigation measures, environmental monitoring plans, training and equipment requirements. Major mitigation measures during construction will include optimum planning and earth works, appropriate design of over/under passes, reconstruction of irrigation and drainage systems where appropriate, and water sprinkling to reduce dust. Mitigation for operation includes construction of noise barriers, fences around residences to reduce noise, strengthening of vehicle emission inspection, and afforestation to improve landscape and reduce air pollution.

### China

*Inner Mongolia (Tuoketuo) Thermal Power*

\$400 million  
\$1290.8 million, total project cost

The project aims to increase electricity supply and electricity trade in Northern China through the creation of an independent power company, improve the efficiency of energy supply and use in the region through modern technology and reducing losses, advance the power sector reform process, diversify financing sources and encourage private sector investment, promote economic development and soil conservation. The two components are: (i) Tuoketuo power plant, (ii) desertification control and drylands management program. The EA states that the project should cause minimal disturbance to the environment, and the issues addressed includes air pollution, noise pollution, surface water contamination, electrified field strength, bird flight patterns and impacts of construction and operation. An environmental management unit will be established by the company, and an environmental monitoring program will be incorporated. Modern pollution control technologies will be incorporated into the design of the power plant, and further strengthening of the TEPGC with resources for environmental management capabilities will be included. Mitigation plans and monitoring programs are outlined in Annex 4.7 of the SAR.

## Category A Projects, IBRD/IDA: Approved FY97

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### China

#### *Shanghai Waigaoqiao Thermal Power*

\$400 million, IBRD  
\$1898 million, total project cost

The proposed project is intended to: (a) increase electricity supply to reduce the acute power shortages in Shanghai through development of two very large coal-fired supercritical thermal units; (b) a program to apply for the first time in China the "bubble concept" for cost effective air quality management within Shanghai Municipality; (c) support the ongoing power sector reform by restructuring SMEPC in line with the power sector reform strategy; (d) increasing private sector involvement through listing of the generation company; (e) adjusting the tariff level to accommodate the stricter sulfur dioxide emission standards and promote an innovative and diversified financing model for large infrastructure projects and improve the access of power entities to international financial markets. The EA has been approved by the National Environmental Protection Agency and has been accepted by the World Bank. The Shanghai Municipal Government has given SMEPC formal approval to introduce a "bubble concept" into the project design, whereby sulfur dioxide emissions released from the Waigaoqiao thermal power plant project component would be more than compensated for by sulfur dioxide emission reductions achieved with the FGD component to be retrofitted at the existing Shidongkou Power Plant.

### China

#### *Wanjiazhai Water Transfer Project*

\$400 million, IBRD  
\$1000 million, total project cost

The project is part of a phased development program to expand the water supply and improve the land and water environment in northern Shanxi province. The project would provide the physical works needed to transfer water from the Yellow River through a system of tunnels, aqueduct pipelines and reservoirs. It would also support policy and institutional reform for economic water pricing and water marketing. The project would improve the economic potential and living conditions in the most economically productive region of Shanxi Province. This region is already critically short of water for virtually all human development needs including (a) domestic (b) industrial, and (c) agricultural needs. The project-produced water will be used first for residential purposes to meet consumer demands for drinking water, second for industries to maintain and increase output and employment, and third for agriculture to maintain and improve productivity. It is also planned to reduce the use of freshwater resources for agriculture by substituting use of treated sewage effluents. In addition, the project-produced water will reduce pressures on groundwater resources, already very serious and causing serious economic/socioeconomic losses to all affected community sectors. The reduction in groundwater use will also have important effects on small streams in maintaining year-round flow and restoring the aquatic ecology. The project will also make major strides to reduce pollution in the Fen River and thereby make more water available for municipal purposes downstream.

### China

#### *Xiaolangdi Multi-Purpose Project II*

\$430 million, IBRD  
\$1902 million, total project cost

The main objectives of the project are to: (a) introduce flood control in the lower reaches of the Yellow River Basin to protect major infrastructure and 103 million people; (b) control siltation in the 800-lan downstream channel of the river and prevent further aggradation so that levee heights need not be raised further during a period of 20 years; (c) provide water for assured irrigation for 2 million ha and more stable water supplies for downstream cities and industries; and (d) generate hydropower for supplementing the base load of thermal stations in Henan Province and the Central China Power Grid. The major environmental impact related to the project is resettlement of 171,000 mostly rural residents to be displaced by the reservoir. Three other potential environmental issues are raised by the project: dam safety; salvage of archeological relics; and public health and disease control.

## Category A Projects, IBRD/IDA: Approved FY97

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### China

#### *Second Xinjiang Highways*

\$300 million,  
\$658.1 million, total project cost

This project is designed to support development of road infrastructure to relieve congestion, stimulate socio-economic development, improve maintenance of regional highway network, promote development of institutional capacity in the region, increase highway safety, and promote transport linkages with neighboring provinces and countries. The Environmental Impact Assessment states that since the project does not entail any widening of existing roads, the environmental impact is minimal, though impacts include dust and noise, soil erosion and impacts on irrigation channels. Bidding documents for the roads in the project would include environmental clauses. There might also be impact on livestock migration, and impact of traversing coal mines. An Environmental Action Plan specified appropriate mitigation measures, monitoring plans institutional arrangements for implementing the EAPs, training and equipment. Mitigation measures include appropriate design of over/under passes to minimize social disruption, reconstruction of irrigation systems, water sprinkling to reduce dust, resettlement and construction of noise barriers around schools, hospitals and residences, strengthening of vehicle emission inspections and maintenance, and afforestation.

### Indonesia

#### *Bali Urban Infrastructure*

\$110 million,  
\$210 million, total project cost

The project is designed to improve Bali's urban infrastructure services in a sustainable manner to meet basic needs in urban centers and to address growing urbanization in South Bali. This will be achieved through urban infrastructure investments, private sector participation, cultural heritage conservation and institutional strengthening. Project components include water supply, urban roads and traffic management, drainage & flood control, solid waste management, sanitation, and market development. The project's Umbrella Environmental Assessment (UEA) report includes an Environmental Profile of Bali; a system of environmental zoning; sub-project screening criteria and procedures; generic EA TOR and mitigation and monitoring procedures for sub-projects; and recommendations for training and institutional strengthening. The environmental management and monitoring procedures and arrangements are consolidated in the BUIP Environmental Management and Monitoring Plan (EMMP). A follow-on Study on Cumulative Environmental Impacts that will be conducted during implementation on the environmental impact of tourism and other economic development activities. The Bank will review all full EAs, environmental management and monitoring plans for solid waste sub-projects, and other assessments. Training will be provided to strengthen capacity of project managers and other staff to supervise environmental management and monitoring.

## Eastern Europe / Central Asia

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### Hungary

#### *Quick Start Gas Turbine*

\$60 million, IBRD  
\$96.1 million, total project cost

The project seeks to provide about 200 Mw of generator capacity to enable Hungary to maintain a level of reliable and secure energy supply that meets international standards. The project consists of two complete single cycle gas turbine plants. An environmental assessment was carried out for each plant, with the result that flue gases and ambient noise levels will be monitored; oil storage facilities will be designed in accordance with international practices. Public meetings were held at both sites, with satisfactory responses to all concerns from affected groups.

## Category A Projects, IBRD/IDA: Approved FY97

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### Kazakhstan

#### *Uzen Oil Field Rehabilitation*

\$109 million, IBRD  
\$136 million, total project cost

The project seeks to: (i) help reduce the rate of decline in oil production and generate resources for reinvestment in the Uzen field's operations; (ii) promote reorganization of Uzenmunaigas into commercially viable corporate units and its/their privatization; (iii) help Uzenmunaigas assess the impact of past practices on the present condition of the reservoirs, wells and environment of the field; (iv) contribute to remediation of past damage to the field and strengthening of Uzenmunaigas' environmental monitoring and management systems and capacity; and (v) train Uzenmunaigas' staff in modern oil field operating practices and strengthen capacity to manage the rehabilitation program and oil field operations. The Environmental Assessment conducted by the Government (with assistance of the Government of Canada through a Bank-administered trust fund) as part of project preparation has identified existing environmental conditions in the Uzen oil field and neighboring areas: air, surface water, ground landform and soils, vegetation and wildlife, land use and social impact.

### Latin America / Caribbean

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#### Argentina

##### *Flood Protection*

\$200 million, IBRD  
\$488 million, total project cost

The project would help improve the security of economic assets and persons living in the flood prone area, by constructing defense facilities, strengthening national and provincial institutions, and systems for dealing with future floods. Components include structural measures, new institutional framework, upgrading flood preparedness, and an early flood warning system. Positive environmental impacts include fuller restoration of damaged health, water, sewerage, and housing facilities, as well as additional security against floods which will lessen soil erosion and drainage congestion. There was a regional EA for the entire basin, as well as individual EAs for each sub-project. Negative impacts identified would for the most part be highly localized and short-lived. There is no resettlement contemplated. The project will finance programs for improved ecological monitoring and management of wetlands.

#### Argentina

##### *Provincial Agriculture Development*

\$125 million, IBRD  
\$357.2 million, total project cost

The project will finance sub-projects and strengthen institutional development at national and provincial levels, in the areas of water resource management, rural infrastructure, technological development, animal health, plant health and commodity quality, market development, agricultural information, and production and regulation of products. Environmental analyses were conducted on the group "A" sub-projects, which found that they would have significant positive environmental impact, but in a few cases mitigation measures are needed to avoid increased soil exhaustion or erosion. Suggested measures were complementary technology transfers and extension programs. In addition it was recommended that an environmental monitoring component be included in sub-projects with possible environmental impact. Baseline data would be established to verify impact on the environment, economy and beneficiaries. In the case of one sub-project, Pozo Borradao, there needs to be a complementary study on potential impact on flora and fauna of the regional wetlands, as well as consultation with the indigenous communities in the area. Environmental screening procedures have been established for new sub-project proposals.

## Category A Projects, IBRD/IDA: Approved FY97

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### Mexico

#### *Aquaculture Development*

\$40 million, IBRD  
\$58.6 million, total project cost

The project aims to promote sustainable aquaculture development by increasing the productivity of the aquaculture sector within the framework of social consensus and environmental soundness. The first component would assist the Government in completing and implementing its regulatory framework and provide key public goods to stimulate productive investment in the sector. The second component would support productive investments and training for social sector producers and develop an appropriate institutional framework; it includes a social aquaculture production sub-component. The project also includes an environmental planning and assessment sub-component. A sectoral EA was done, and specific analysis of sub-project investment revealed no major environmental risk except for the coastal shrimp park. Potential negative effects of aquaculture include displacement of coastal mangrove estuaries, alteration of local hydrology, eutrophication from pond water effluent, endangerment of vulnerable wildlife, and introduction of exotic species. Most of these have not been significant problems in Mexico. The most significant direct impacts are use of exotic fish and a significant need for dredging to improve lagoon water quality. Mitigation of these has been addressed through revisions of the regulatory and institutional framework, strengthened enforcement, facilitation of an environmental assessment process for aquaculture investments, and baseline studies.

### Middle East / North Africa

#### Lebanon

#### *Coastal Pollution Control and Water Supply*

\$53.1 million, IBRD  
\$308 million, total project cost

To improve sanitary and environmental conditions in major urban areas of the coastal zone, reduce groundwater, surface, and sea pollution, restore beaches for recreational use, and ensure improved services through commercial operation and increased private sector participation, the project will extend and rehabilitate water supply facilities, wastewater collection and disposal facilities and improve and provide equipment and facilities for regional water authorities. EAs were prepared for the wastewater facilities for each sub-project area. There was a public consultation meeting with representatives from local municipalities, community associations, and social institutions. It is predicted that through the project there will be a general improvement in public health and in lowering the risk of groundwater pollution. Short term negative environmental impacts are associated with the construction period, and more long term ones with operation. Mitigation measures common to the sub-project areas include improved environmental monitoring and enforcement.

#### Tunisia

#### *Greater Tunis Sewer and Reuse Project*

\$60 million, IBRD  
\$107 million, total project cost

The project will help strengthen the urban sewerage system, promote use of effluent from sewage treatment plants for agricultural purposes, reduce urban pollution, improve the ONAS' cost recovery and financial capacity, introduce appropriate new technology, develop private sector participation in the sector, and acquire environmental monitoring and management equipment and tools. Numerous positive impacts are expected, ranging from improved public health to economic concerns, and the agriculture sector. The proposed construction of facilities will not cause any resettlements, and a mitigation plan has been made for any negative impacts due to the construction. Public consultation took place at an early stage of project preparation.

## Category A Projects, IFC: Approved FY97

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### Africa

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#### Mozambique

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##### *Mozambique Aluminum*

\$55 million, IFC  
\$65 million, IFC quasi-equity  
\$1,365 million, total project cost

Build aluminum smelter, representing IFC's largest financing package to date. The principal issues are air emissions, solid waste management, and socio-economic impact. Air emissions will fall well within World Bank guidelines and internationally accepted standards. The only solid waste from the production will come when electrolysis pots have to be relined after five or six years. The mitigation plan includes a waste storage facility and other measures. A change of the site has limited the relocation needs to approximately ten families; none of these families are living on the site itself, but on an industrial zone to be established by the Government of Mozambique (GoM).

### ASIA

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#### Bangladesh

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##### *Jalalabad Gas*

\$15 million, IFC investment  
\$80 million, total project cost

Appraise and develop the Jalalabad natural gas field through an unincorporated joint venture. Environmental issues include site contamination from prior activities, seismic work impacts, facilities siting and alignment alternatives, land acquisition, socio-economic impacts (including public consultation) and impacts of facility operations. Site contamination issues are minimal and will be mitigated as part of the project. The environmental and safety guidelines of the International Association of Geophysical Contractors will govern seismic work. No resettlement is associated with the project and land acquisition procedures for facility alignment and siting are being done in accordance with the Government of Bangladesh's requirements. The natural gas will help meet the social and economic requirements of Bangladesh. Extensive consultations have been conducted with all interested stakeholders.

#### Philippines

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##### *Bataan Polyethylene Corporation*

\$30 million, IFC loan  
\$10 million, IFC quasi-equity investment \$343 million, total project cost

Construct polyethylene facility with annual capacity of 250,000 tons. Environmental issues include prior land use and resettlement, air emissions, and hazard assessment. Resettlement of about 380 site residents on the 550 ha site was conducted by the Philippine Government, and included compensation and provision of new housing. BPC will carry out hazard and operability (HAZOP) studies for the Project on a continual basis throughout implementation, and will ensure that all HAZOP recommendations as applicable are complied with before commissioning. BPC has agreed to undertake additional public consultation during the implementation and operation of the Project. A separate environmental monitoring plan will be conducted by BPC.

## Category A Projects, IFC: Approved FY97

### Vietnam

#### *Nghi Son Cement Corporation*

\$30 million, IFC loan  
\$26.5 million, syndications  
\$373 million, total project cost

Develop and operate a cement plant and distribution terminal with 2.1 million tons annual capacity. Environmental issues include air emissions, liquid effluents, solid wastes, land use and resettlement, protection of marine resources and quarry reclamation. Occupational health and safety issues include employee exposure to noise and dust. Electrostatic precipitators will be installed to control dust emissions from the kiln line to less than 30 mg/Nm<sup>3</sup>, which is well within both the Government of Vietnam standard and World Bank guideline. NSCC will cover or install dust collectors on coal, raw materials and cement products storage areas, and on the long-distance belt conveyor that will transport limestone, clay and pozzolana from the limestone quarry to the plant. The plant will not discharge a significant amount of industrial water because the cooling water will be recycled. Domestic sewage will be collected and treated by a system consisting of a stabilization pond and septic tanks. NSCC will install secondary containment (e.g. dikes, berms) for the storage for oils, solvents and liquid fuels to prevent spills, and the contamination of soil, groundwater and surface waters. NSCC will recycle or reclaim solid waste materials where possible. Solid waste will be recycled, reclaimed, or disposed of in an acceptable manner, in compliance with local laws and regulations. Approximately 140 families are being relocated as a result of the project; 57 in Hai Thuong Commune and 80 in Quynh Loc Commune in northern Vietnam, and several in Nha Be District near Ho Chi Minh City. The Government's program for ensuring the fair and equitable treatment of the people being relocated includes a formal Resettlement Plan. Employees at NSCC's operations will be provided with the necessary Personal Protective Equipment (PPE) to protect their health and safety. The PPE will include, appropriate to the employee's tasks and work area, respiratory equipment, hearing protection, and safety glasses, hats and shoes.

### Europe

#### **Russian Federation**

#### *Russian Joint Stock Co. Pokrovskiy Mine (PM) and Zoloto Mining Ltd. (ZML)*

\$12 million, IFC loan  
\$4 million, IFC equity  
\$4 million, other IFC investment  
\$77.6 million, total project cost

PM will develop and operate an open pit gold mine to produce average of 85,000 ounces per year. Environmental issues include air quality and emissions control, water quality and effluent management, soils and erosion control, handling and storage of hazardous materials, waste handling and disposal, worker health and safety, and socio-economic impacts. To ensure that the project's pollution control and waste management systems are designed, constructed, and operated in accordance with internationally recognized engineering practices and local site conditions, an independent environmental engineering review will be conducted during the project's detailed engineering, procurement, and construction management.

## Category A Projects, IFC: Approved FY97

### Latin America / Caribbean

#### Brazil

*Samarco Mineração, S.A.*

\$23 million, IFC loan  
\$39 million, syndications  
\$44.8 million, total project cost

Build 25 MW hydroelectric power plant for mining company's iron ore pelletizing plant in Espírito Santo State, and install pollution controls on pelletizing facility. Environmental issues, which included particulate emissions, liquid effluents, occupational health and safety, land use, water resources and habitat modification along about 1 km of river, resettlement of three households and compensation for loss of agricultural land, were all properly addressed. All steps taken were in accordance with state and national regulations, and consistent with World Bank policy.

#### Guatemala

*Basic Petroleum International, Ltd.*

\$12 million, IFC loan  
\$2.3 million, IFC equity  
\$13 million, syndications  
\$66.7 million, total project cost

Develop oil producer's reserves to increase production by 8,000 barrels per day, and lay 106 km crude oil pipeline. Environmental issues associated with this project include compliance of the Xan Field's expansion with the World Bank's OP 4.04 (Natural Habitats), pipeline right-of-way impacts, oil spills, management of produced water and gas, access to protected areas and areas of high biodiversity, social and economic impacts to communities, worker health and safety. An additional environmental issue is the Company's compliance with Government of Guatemala environmental requirements for the Xan to La Libertad pipeline and the implementation of environmental mitigation measures proposed in the corporate environmental audit completed by the Company in 1994. Basic has held extensive consultations with a variety of stakeholders during the preparation of this draft EA. These consultations led to commitments from Basic to conduct supplementary environmental studies that will detail the Company's environmental management commitments to demonstrate full compliance of the second project with applicable World Bank environmental policies and guidelines and also confirm the first project's ongoing compliance.

#### Venezuela

*Minera Loma de Niquel, Ltd.*

\$65 million, IFC loan  
\$2.4 million, IFC equity  
\$7.1 million, IFC quasi-equity  
\$50 million, syndications  
\$430 million, total project cost

Develop Loma de Niquel lateritic nickel deposit, build on-site nickel smelter, lay 17 km natural gas pipeline to fuel smelter. Environmental issues include prior land use, reclamation, liquid effluents, solid waste disposal, and air emissions. There is no reported use of the project site for grazing or agricultural purposes because of the poor soils and grass growth. Reclamation plans include backfilling, which will begin about 3-4 years after mining begins. At the end of the project, overburden from the first 3-4 years will be deposited in the last pit area. The mine is designed to be a zero discharge facility. The nickel refinery will not generate tailings, but will generate a slag that is neither toxic nor acid-generating. Drainage from the slag heap, as well as cooling water from the refinery and drainage from the waste dump and low-grade ore stockpile, will be collected and reclaimed for process water. Emissions (particulates and dust from stacks or stockpiles) will be tightly controlled, and all particulates will be collected and pelletized for reprocessing as ore material.



## **Global Environment Facility Investment Work Program**

The following table presents the World Bank's GEF-supported investment operations approved by the GEF between July 1, 1996 and June 30, 1997 (FY97), and which were under implementation during FY97. The Bank, as a GEF implementing agency, supports operations addressing four environmental issues: management of biological diversity, climate change, protection of international waters, and ozone layer depletion. In addition to information on the GEF-supported projects themselves, the table gives the titles in italics of associated IBRD/IDA (or other) loans and credits when a GEF project forms part of a larger World Bank-assisted initiative. The World Bank-GEF portfolio includes projects implemented not only by IBRD and IDA, but in some cases by the International Finance Corporation (IFC) and other multilateral development banks like the Inter-American Development Bank (IDB). The difference between the GEF grant amount and total project cost is financed by domestic public and private, multilateral, bilateral and NGO sources.

For more detail on the status and associated partnerships for these projects, please refer to the GEF's Quarterly Operational Report, available at the GEF Secretariat (202) 473-1128, or look for the information on the Environment Department's Web page.



## Global Environment Facility Investment Work Program

Country/Project/ Associated Bank Project	Project Description	Implementing Agency Task Manager Project Status	Bank Approval GEF Grant* Total Project Cost*
<b>AFRICA</b>			
<b><i>Biodiversity</i></b>			
Regional (Burkina Faso, Cote d'Ivoire)	The project will design and implement community-based wildlands and wildlife rehabilitation, utilization and conservation programs based on the "gestion de terroirs" approach at three sites totalling 4,800 square kms in the Comoe ecosystem in southwestern Burkina Faso and northern Cote d'Ivoire, an area recognized as one of the most important remaining natural savannah ecosystems in the region. The project comprises: (a) land use planning; (b) community land management; (c) capacity building and training; (d) habitat improvement and animal herd reconstruction; and (e) sustainable subsistence and commercial utilization of wildlife.	World Bank	09/95
<b>West Africa Pilot Community-Based Natural Resource and Wildlife Management</b>		Pavy	7.0
		Active	13.2
Cameroon	Participatory biodiversity conservation plans are being developed and implemented for seven sites in the species-rich lowland forests of south-east Cameroon and parts of the northern savannah ecosystem. The capacity of natural resource management institutions is being strengthened through financing zoological and biological inventories, by providing equipment, training and technical assistance, and through 'twinning' between the National Herbarium and Kew Botanical Gardens and the National Herbarium of France.	World Bank	03/95
<b>Biodiversity Conservation and Management</b>		Heimo	6.0
		Active	12.4
Congo	Development and implementation of management programs for five tropical forest ecosystems in the Congo, representative of the country's great ecological diversity and wealth. To achieve this objective, the project funds biodiversity inventories, the preparation of natural resource management plans for each site, training of supervisory staff and guards, and studies of the impact of the indigenous people on the environment and of how negative impacts can be mitigated.	World Bank	12/92
<b>Wildlands Protection and Management</b>		Chabeuf	10.0
		Active	16.8
Ghana	Design and implementation of a Coastal Zone Management Plan to protect five environmentally-sensitive and threatened coastal Ramsar sites of global importance for migratory birds. The project includes: (a) monitoring of ecological conditions at the sites; (b) preparation and implementation of site management programs and the training of site managers and wardens; and (c) relocation of a sewage plant outlet that would have discharged into Sakumo Lagoon.	World Bank	08/92
<b>Coastal Wetlands Management</b>		Mensah	7.2
<i>Environmental Resource Management Project</i>		Active	8.3
Kenya	Development and implementation of a management plan for the Tana River National Primate Reserve, which contains the last remaining contiguous area of indigenous riverine forest along the Tana River. The Tana Reserve protects two endangered primate species, the Red Colobus and Crested Mangabey monkeys.	World Bank	11/96
<b>Tana River National Primate Reserve</b>		Kiss	6.2
		Active	7.1

## Global Environment Facility Investment Work Program

Country/Project/ Associated Bank Project	Project Description	Implementing Agency Task Manager Project Status	Bank Approval GEF Grant* Total Project Cost <sup>4</sup>
<b>Madagascar</b> <b>Environment Program</b> <b>Support</b> <i>Second Environment</i> <i>Program Support Program</i>	This project will fund: 1- mgt. planning for forests outside the protected area (PA) system, planning & zoning of new PAs, and community-based sustainable forestry mgt. and development of sustainable harvesting regimes for non-timber forest products; 2- mgt. plan development, mgt. assistance & operational expenses in priority PAs of high biological value but low near-term economic value, as well as analytical work to reform PA fee-taxation policies; 3- a rapid field inventory of Malagasi coral reef ecosystems & recommendations for marine parks; 4- technical support for regional envt. programming, training and information needs; 5- review of national policies for exporting non-timber forest products to increase value captured; 6- a comprehensive review of biodiversity outside PAs to determine its real values and to inform conservation and NRM planning; and 7- applied research & training for biodiversity mgt.	World Bank/UNDP  Simeon  Active	12/96  20.8  155.0
<b>Malawi</b> <b>Lake Malawi/Nyasa</b> <b>Biodiversity</b> <b>Conservation</b>	Lake Malawi, Africa's third largest lake, is a unique freshwater ecosystem, home to over 500 endemic species of fish. The project will conduct faunal surveys, identify biodiversity hotspots, prepare a conservation and management plan for the lake, recommend revisions to national environmental legislation, and fund environmental training and education activities. Parallel Canadian project (C\$4.2m) will finance capacity-building for research through twinning with a Canadian institution, limnology and water quality monitoring, laboratory equipment and public education.	World Bank  Donovan  Active	12/94  5.0  5.4
<b>Mauritius</b> <b>Biodiversity Restoration</b>	This project will continue efforts to restore degraded habitat on Rodrigues, Ile aux Aigrettes and Round Island. It will propagate and reintroduce critically endangered flora and fauna on these three islands, and strengthen local technical and administrative skills for conservation and ecosystem restoration.	World Bank  Post  Active	11/95  1.2  1.6
<b>Mozambique</b> <b>Transfrontier</b> <b>Conservation Areas</b> <b>Pilot and Institutional</b> <b>Strengthening</b>	This project will prepare and implement participatory management plans for three wildlife-rich border areas that are contiguous with national parks in neighboring Zimbabwe and South Africa. A major objective of the project is to protect migration corridors for big game populations that cross transnational borders.	World Bank  Clement-Jones  Active	12/96  5.0  8.1
<b>Seychelles</b> <b>Biodiversity</b> <b>Conservation &amp; Marine</b> <b>Pollution Abatement</b> <i>Environment and</i> <i>Transport Project</i>	Biodiversity conservation component comprises: (a) the restoration and preservation of the ecosystem of Aldabra Atoll by strengthening conservation management and scientific research and control of feral goats; and (b) a protection program for the Green and Hawksbill Turtles. Marine pollution component covers the analysis of the steps needed to comply with MARPOL standards for ship waste treatment and actions required to control pollution from commercial shipping, fishing and leisure craft.	World Bank  Lundin  Active	11/92  1.8  2.0
<b>Uganda</b> <b>Bwindi Impenetrable</b> <b>National Park &amp;</b> <b>Mgahinga Gorilla</b> <b>National Park</b> <b>Conservation</b>	The project has established a trust fund, the income from which will provide a sustainable source of funds for the management of the Bwindi Impenetrable Forest and Mgahinga Gorilla National Parks and the conservation of their biodiversity. A Trust Management Board, representative of local communities, NGOs and the government will allocate the fund's net income to selected park management, research and community ecodevelopment projects.	World Bank  Kiss  Active	01/95  4.0  6.3

\* Amounts in US\$ millions

## Global Environment Facility Investment Work Program

Country/Project/ Associated Bank Project	Project Description	Implementing Agency Task Manager Project Status	Bank Approval GEF Grant* Total Project Cost*
<b><u>Climate Change</u></b>			
Mali <b>Household Energy</b>	The project addresses both the demand for and supply of household energy in a country where people depend heavily on environmentally-damaging woodfuels. Consumption of these fuels will be reduced by promoting the use of more efficient stoves and through substituting woodfuels with kerosene and bottled gas through technical assistance and credit to manufacturers and marketers. In parallel, forest planning and management will be strengthened through training and technical assistance.	World Bank Sefta Active	06/95 2.5 11.1
Mauritius <b>Sugar Bio-Energy Technology</b> <i>Sugar Energy Development Project</i>	Development and testing of technologies for gathering, storing and using sugar cane tops, leaves and residues as fuel to expand power generation by existing sugar mills. Assessing options for reducing the cost of bagasse transport and thereby also expanding its use as a generating fuel. Providing technical assistance to a Bagasse Energy Development Program coordinated by the Mauritius Sugar Authority which will develop a program to tap the long-term potential of power generation from sugar cane waste.	World Bank Wong You Cheong Active	02/92 3.3 55.1
Senegal <b>Sustainable and Participatory Energy Management</b> <i>Sustainable and Participatory Energy</i>	Participatory, community-forest sustainable management systems in a 300,000 ha zone surrounding Niokolo-Koba National Park will be phased in over a 7-year period with the primary objectives of carbon sequestration and local income enhancement, and secondary biodiversity conservation benefits. A parallel, demand management and fuel substitution component, to be executed with the private sector and NGOs, will promote substitution of kerosene and liquid petroleum gas for charcoal, and will disseminate efficient charcoal stoves.	World Bank Utria Active	06/97 4.7 18.9
<b><u>International Waters</u></b>			
Regional (Kenya, Tanzania, Uganda) <b>Lake Victoria Environmental Management</b> <i>Lake Victoria Environmental</i>	The project will address the major threats facing the Lake Victoria ecosystem, including overfishing, eutrophication and algae levels, pollution, and invasive exotic species like the water hyacinth. Actions include (a) regional cooperation in fisheries research, extension and management; (b) research and monitoring of water quality and pollution, strengthening and harmonization of pollution regulatory, incentive and enforcement systems, and priority investments in waste water management; (c) monitoring and sustainable use of wetlands; (d) control of water hyacinth; and (e) management of land use in the catchment, including soil conservation and afforestation.	World Bank Donovan Active	07/96 35.0 77.6

## Global Environment Facility Investment Work Program

Country/Project/ Associated Bank Project	Project Description	Implementing Agency Task Manager Project Status	Bank Approval GEF Grant* Total Project Cos
<b>EAST ASIA AND THE PACIFIC</b>			
<b><u>Biodiversity</u></b>			
China <b>Nature Reserves Management</b> <i>Forest Resource Development &amp; Protection</i>	In accordance with China's NEAP and BAP priorities, this project will prepare and implement management plans in five priority protected areas, train staff, fund physical investments, and work with communities adjacent to and within PA boundaries to create incentives for sustainable resource use. A second component will restructure a major timber industry in Changqing to promote sustainable forestry, and create a core protected area of giant panda habitat, surrounded by a limited-use production/buffer zone. The project will build technical and managerial capacity of DNR through developing a national training team for biodiversity. It will fund a national nature reserve plan, equipment, policy studies and operational research, and set up an information management system.	World Bank  Shen <i>Active</i>	06/95  17.9 <b>23.6</b>
Indonesia <b>Biodiversity Collections</b>	Project strengthens the capacity of the Research and Development Center for Biology (PPPB) to manage systematic collections, including the establishment of a computerized database which will serve as a basic reference tool for biodiversity inventory and monitoring. Potential information users in other sectors will provide advice on database development. Specific components include human resource development, collections maintenance and development, improvement of research facilities, and publications and user products.	World Bank  Gapasin <i>Active</i>	06/94  7.2 <b>11.4</b>
Indonesia <b>Kerinci Seblat Integrated Conservation and Development</b> <i>Kerinci-Seblat Integrated Conservation &amp;</i>	The project will secure the future of the biologically rich, 1 million ha. Kerinci-Seblat National Park by integrating park management and conservation with local and regional development. Park management and protection will be strengthened, based on collaborative linkages with buffer-zone communities, and local NGOs and governments. The project will stabilize land use outside the park by promoting local-community and alternate livelihood activities consistent with park conservation objectives, and by improving overall local land use to relieve pressure on the park. Biodiversity assessments in lowland forest concessions surrounding the park will contribute to better management of a permanent buffer zone in these areas. The project will strengthen regulatory guidelines for inter-provincial, regional planning; improve conservation awareness locally and in the government; provide training and extension services to villagers, park staff and local government staff; and monitor and evaluate biodiversity conservation, human impacts and sustainable development in and around the park.	World Bank  Silverman <i>Active</i>	04/96  15.0 <b>47.2</b>
Lao PDR <b>Wildlife &amp; Protected Areas Conservation</b> <i>Forest Management and Conservation Project</i>	The project will protect biological diversity through the designation, establishment and management of priority protected areas, the protection of associated wildlife, and the planning and implementation of community participatory programs in and around protected areas. Components include the establishment and management of at least four protected areas (NBCAs), technical assistance and conservation training with particular emphasis on the recruitment of NGOs for community mobilization, environmental monitoring and evaluation, and the design of a conservation trust fund for long-term financing.	World Bank  Shen <i>Active</i>	02/94  5.0 <b>20.3</b>

\* Amounts in US\$ millions

## Global Environment Facility Investment Work Program

Country/Project/ Associated Bank Project	Project Description	Implementing Agency Task Manager Project Status	Bank Approval GEF Grant* Total Project Cost*
Philippines <b>Conservation of Priority Protected Areas</b> <i>Environment &amp; Natural Resources Sector</i>	Support for government efforts to establish a core National Integrated Protected Area System (NIPAS) for ten sites over a seven year period, through financing site development and resource management. The project promotes participation of local communities in site management, and strengthens national capacity for coordination and monitoring. The Department of Environment and Natural Resources (DENR) received a grant to strengthen park infrastructure and services, and a national NGO consortium (NIPA) received a grant to provide technical assistance services and administer a livelihood fund for local communities.	World Bank Shen <i>Active</i>	05/94 2.9 (DENR) 17.1 (NIPA) <b>22.9</b>
<b><u>Climate Change</u></b>			
China <b>Sichuan Gas Transmission and Distribution Rehabilitation</b> <i>Sichuan Gas Development and Conservation Project</i>	Rehabilitation of gas transmission and distribution systems to eliminate methane gas losses and improve pipeline network performance. Main components will focus on safety and operational efficiency of the transmission and distribution system, and selection of cost effective measures to reduce gas leakages through a program of environmental upgrades. The associated Bank project includes a gas pricing reform program which will encourage efficiency and conservation in gas consumption in the future.	World Bank Morsli <i>Active</i>	03/94 10.0 <b>122.7</b>
China <b>Efficient Industrial Boilers</b> <i>Chongqing Industrial Reform</i>	This project will reduce greenhouse gas emissions by adapting high efficiency foreign technologies to local conditions for small and medium-sized, coal-fired industrial boilers. To assist the dissemination and effective use of efficient technologies, the project will also strengthen China's industrial-boiler engineering, operations, production management and marketing capabilities, and improve boiler technology exchange domestically. As long-term measures for barrier removal, the project will support related technical and policy studies, public awareness/information dissemination, and strengthened environmental standards for the industrial boiler sector.	World Bank Hale <i>Active</i>	12/96 32.8 <b>101.4</b>
Indonesia <b>Renewable Energy Small Power Project (RESPP)</b> <i>Renewable Energy Small Private Power</i>	This project will catalyze the penetration of private sector, grid-based renewable energy projects into the National Power Company's (PLN) network within the framework of a least-cost electrification strategy. An identified pipeline of about 75 MW of small renewable projects, primarily biomass, sugar and palm oil mills, and some mini-hydro, will be targeted by the project. Technical assistance will be provided to private project developers, as well as to the Directorate General of Electricity and Energy Development (DGEED) to collect and disseminate renewable energy resource information.	World Bank Sanghvi <i>Active</i>	06/97 4.0 <b>141.0</b>
Indonesia <b>Solar Home Systems (SHS)</b> <i>Solar Home Systems</i>	The project will catalyze market acceptance of Solar PV Home Systems within the framework of a least-cost rural electrification strategy, relying on private sector delivery/installation systems. The project will support the installation of about 200,000 such systems in up to 4 regional markets. The project will also develop a strategy and corresponding action plan to meet the modern energy needs of the rural population for whom solar PV systems represent the least-cost alternative. Project activities will strengthen the capacity of the Indonesian Agency for the Assessment and Application of Technology (BPPT) to promote solar PV systems.	World Bank Sanghvi <i>Active</i>	01/97 24.3 <b>118.1</b>

\* Amounts in US\$ millions

## Global Environment Facility Investment Work Program

Country/Project/ Associated Bank Project	Project Description	Implementing Agency Task Manager Project Status	Bank Approval GEF Grant* Total Project Cost*
Philippines <b>Leyte-Luzon Geothermal</b> <i>Leyte/Luzon Geothermal Project</i>	Project seeks to assist in meeting the rapidly increasing demand for electrical power using technology that substantially reduces greenhouse gas (GHG) emissions. The National Power Corporation (NPC) components of the project include the interconnection of electrical power systems of Leyte and Luzon Islands and the strengthening of the environmental and social engineering departments of NPC. The Philippine National Oil Company (PNOC) components of the project include the construction and operation of a 440 MW geothermal electric generation plant under a BOT contract, reinjection of waste gases to further reduce GHG emissions, and connection of the power station to the national grid.	World Bank Farhandi <i>Active</i>	05/94 30.0 1,333.6
Thailand <b>Promotion of Electricity Energy Efficiency</b> <i>Distribution System &amp; Energy Efficiency Project</i>	Project comprises a five year demand side management plan, which seeks to build institutional capability in the Thai electric power sector and throughout the economy. Will pursue policies and actions leading to the development, manufacturing, and adoption of energy efficient equipment and processes. Project will demonstrate potential savings, both financial and environmental, from reducing the use of fossil fuels for electricity production and will demonstrate the potential of the electric power sector to achieve these savings.	World Bank Mehta <i>Active</i>	04/93 9.5 89.0
<b><u>International Waters</u></b>			
China <b>Ship Waste Disposal</b> <i>Ship Waste Disposal Project</i>	This project combines GEF, IDA and local financing to reduce pollution in international and territorial waters caused by ship wastes. It provides technical and financial assistance to the Government of China and six port authorities, selected as models, for the construction and/or rehabilitation and expansion of ship waste disposal facilities. The project includes both national and individual port components.	World Bank Tsutsumi <i>Completed</i>	05/92 30.0 64.8
<b>EUROPE AND CENTRAL ASIA</b>			
<b><u>Biodiversity</u></b>			
Belarus <b>Biodiversity Protection</b>	This project aims at conservation planning and research outreach programs for the Belovezhskaya Forest, Berezinsky and Pripiatsky Reserves. It complements the Poland Forest Biodiversity project.	World Bank Stephenson <i>Completed</i>	09/92 1.0 1.3
Czech Republic <b>Biodiversity Protection</b>	This project protects ecosystem biodiversity in three representative ecosystems (zones containing alpine meadows, lowland forests and wetlands), and supports the activity of three transnational biodiversity protection networks. It also introduces user fees and related charges for visitors and concessions in order to manage the areas in a financially sustainable manner and within their carrying capacity.	World Bank Battaglini <i>Active</i>	10/93 2.0 2.8
Romania <b>Danube Delta Biodiversity</b>	The project aims to protect the Romanian Delta ecosystem and contribute to the conservation of biodiversity within the Delta. It will strengthen institutional capacity to monitor and manage protected areas effectively, work with local community groups to ensure sustainable resource use and restore some wetlands to their natural condition by testing various approaches and monitoring their impact.	World Bank Luca <i>Active</i>	07/94 4.5 4.8

\* Amounts in US\$ millions

# Global Environment Facility Investment Work Program

Country/Project/ Associated Bank Project	Project Description	Implementing Agency Task Manager Project Status	Bank Approval GEF Grant* Total Project Cost*
Russian Federation <b>Biodiversity Conservation</b> <i>Environmental Management Project</i>	This project consists of three components: (i) National Strategic Overview (formulation of a national biodiversity strategy, establishment of a biodiversity database/information system, and preparation of guidelines on economic evaluation of biodiversity investments and policies); (ii) Nature Protection (institutional support, training, immediate assistance to critical PAs, and model ecotourism projects); and (iii) Integrated Regional Development/Natural Resource Management in the Lake Baikal Region.	World Bank Bond Active	05/96 20.1 26.0
Slovak Republic <b>Biodiversity Protection</b>	This project in the Morava floodplain, Tatras forests, and Eastern Carpathians is developing management techniques for a biodiversity protection program, a conservation program to develop revenue generation mechanisms for the protected area system, and a program to provide support for project management coordination at the national level and at the three selected zones. Innovative features include an environmental NGO small grants program, and the development of a tri-national trans-border trust to maintain the coordinated management of the international biosphere reserve in Eastern Carpathians.	World Bank Battaglini Active	09/93 2.3 3.2
Turkey <b>In-Situ Conservation of Genetic Biodiversity</b> <i>Eastern Anatolia Watershed Rehab. Project</i>	This project will identify and establish in-situ conservation areas for the protection of genetic resources and wild relatives of important crops and forest tree species that originated in Turkey, providing for sustainable in-situ conservation of genetic resources in cereals, horticultural crops, medicinal plants, forest trees, and pasture grasses and legumes through an integrated ecosystem approach. Project components include site surveys and inventories, gene management zones (GMZ), data management, a national plan for in-situ conservation, and institutional strengthening.	World Bank Durutan Active	02/93 5.1 5.7
Ukraine <b>Transcarpathian Biodiversity Protection</b>	Part of the tri-country Transcarpathian Network, the project supports a biodiversity protection program (inventory, genetic studies, GIS critical habitat analysis), a resources management program to enable coordinated management of the discontinuous reserved areas of the Carpathians Biosphere Reserve, and training and institutional strengthening programs.	World Bank Stephenson Completed	07/93 .5 .6
Ukraine <b>Danube Delta Biodiversity</b>	This project aims to protect the Ukrainian Delta ecosystem and contribute to the conservation of biodiversity in the Delta. It will strengthen institutional capacity to manage protected areas effectively, working with local community groups to ensure sustainable resource use, and restoring some wetlands to their natural condition. The project complements the Romanian Danube Delta project.	World Bank Stephenson Active	06/94 1.5 1.7
<b><u>Climate Change</u></b>			
Hungary <b>Energy-Efficiency Co-Financing Program</b>	To overcome critical financing barriers to investments in energy efficiency (EE) in Hungary and to promote local EE markets and capacity, the project will create an EE co-financing program to facilitate and leverage private sector capital (including domestic bank capital and credit lines with international financial institutions) for EE investments. In addition to technical assistance, it will provide partial credit guarantees, whereby funds would be reserved to cover the guarantee liability, and medium- to long-term co-financing loans, targeting three subsectors: lighting, district heating and industrial motors and processes. The project will reduce credit risk on EE financing for eligible local financial intermediaries, facilitate longer term financing terms, provide targeted technical assistance, and reduce transaction costs borne by project participants.	IFC Younger Active	03/97 5.0 25.0

\* Amounts in US\$ millions

## Global Environment Facility Investment Work Program

Country/Project/ Associated Bank Project	Project Description	Implementing Agency Task Manager Project Status	Bank Approva GEF Grant* Total Project Cost
Lithuania <b>Klaipeda Geothermal Demonstration</b> <i>Klaipeda Geothermal Demonstration Project</i>	This project helps to finance construction of a demonstration geothermal plant to provide hot water to the Klaipeda district heating system, as well as modifications to the heating system to render it compatible with geothermally heated water. It will reduce annual CO2 emissions by an estimated 56,000 tons, and reduce SO2, NOx and TPM emissions significantly too.	World Bank Halldin <i>Active</i>	05/96 6.9 <b>18.0</b>
Poland <b>Efficient Lighting Project (PELP)</b>	Through the IFC, direct subsidies have been competitively awarded to domestic manufacturers of qualified compact fluorescent lighting (CFLs). Manufacturers and wholesalers will be required to pass on full savings on to retailers, who will apply a standard percentage-based mark-up, passing savings on to consumers. This has sparked demand for CFLs in Poland, demonstrating the financial and commercial benefits of energy-efficient lighting and resulting in large power savings and reduced emissions from coal-fired generation plants.	IFC Younger <i>Completed</i>	06/95 5.0 <b>5.0</b>
Poland <b>Coal-to-Gas Project</b> <i>Environment Management Project</i>	The project expects to demonstrate interfuel substitution and technological innovation as a means of reducing CO2 emissions. GEF funds will be used to extend coal-to-gas conversions to medium-size boilers whose owners could not achieve acceptable financial rates of return without concessional financing.	World Bank Benmessaoud <i>Active</i>	11/94 25.0 <b>48.3</b>
Russian Federation <b>Greenhouse Gas Reduction</b> <i>Gas Distribution Rehabilitation &amp; Energy</i>	This project will develop analytical techniques for identifying and quantifying the principal sources of greenhouse gas emissions in the production, transport and utilization of natural gas. It will also develop methodologies for ranking the most cost-effective projects for reducing GHG emissions, define the criteria for assessing eligibility and incremental costs, and strengthen the institutional structures and the technical capabilities required to apply the techniques in planning and implementation.	World Bank Stuggins <i>Active</i>	12/95 3.2 <b>130.9</b>
<b><u>Ozone Depletion</u></b>			
Belarus <b>Phaseout of Ozone- Depleting Substances</b>	This project will phaseout direct annual consumption of at least 806 metric tons of weighted ozone-depleting substance potential, or about 77% of Belarus' 1994 weighted consumption, through phaseout of CFCs in three refrigeration manufacturing and servicing subprojects, and five subprojects in the solvent industry. In addition, it will support a small program in technology transfer and training for the fire protection sector, and a national ODS Phaseout unit.	World Bank Shepardson <i>Active</i>	05/97 6.9 <b>15.7</b>
Bulgaria <b>Ozone Depleting Substances Phase-out</b>	Sixty-five percent of Bulgaria's 1993, annual, weighted ozone-depleting substance consumption will be phased out (468 metric tons ODP) through sub-projects in the refrigeration, foam-blowing and solvents sectors. A recycling and servicing component will phase out further ozone-depleting substances already in use in refrigerator, and a third component will strengthen the national Phase-out Task Force.	World Bank Sarkar <i>Active</i>	11/95 10.5 <b>13.5</b>
Czech Republic <b>Phaseout of Ozone Depleting Substances</b>	The project eliminated production of chlorofluorocarbons (CFCs) in the Czech Republic (approx. 2000 tons ODP annually in the early 1990s). It established a national refrigerant recovery/ reclamation/recycling (3R) program. It phased out CFCs in certain commercial, industrial and transport refrigeration systems, as well as introduced low and non-ozone-depleting foam technologies. An estimated 390 metric tons ODP was scheduled for phase-out.	World Bank Battaglini <i>Active</i>	08/94 2.3 <b>4.1</b>

\* Amounts in US\$ millions

## Global Environment Facility Investment Work Program

Country/Project/ Associated Bank Project	Project Description	Implementing Agency Task Manager Project Status	Bank Approval GEF Grant* Total Project Cost*
Hungary Phaseout of Ozone Depleting Substances	Over half of Hungary's 1993, annual, weighted ozone-depleting substance consumption will be phased out (approx. 1150 metric tons ODP) through 13 subprojects in the solvents, foam, aerosol, halon and refrigeration sectors, and through a recovery, recycling and reclamation component.	World Bank	11/95
		Kiss	6.9
		Active	8.4
Poland Phaseout of Ozone Depleting Substances	This project will phaseout direct annual consumption of at least 1054 metric tons of weighted ozone-depleting substance potential, or about 55% of Poland's 1994 weighted consumption, through phaseout of CFCs in three refrigeration subprojects, two subprojects in other industries requiring foam-blowing, and one subproject in the medical aerosol industry. In addition, it will partially fund a non-profit foundation, Prozon, that will collect and process used refrigerants, primarily CFC-12. Finally, it will support both training in alternatives to halons in fire protection systems, and a national ODS Phaseout project management unit.	World Bank	03/97
		Duvigneau	6.2
		Active	20.2
Russian Federation Ozone Depleting Substance Consumption Phase-out (first tranche)	The first of three groups of sub-projects in the GEF-supported Russian ODS Phaseout Program, this project will eliminate annual consumption of approximately 2573 metric tons of weighted, ozone-depleting substance potential, or about 5% of Russia's 1992 weighted consumption, through (a) replacing CFC propellant with hydrocarbon aerosol propellant in a major spray-products enterprise and (b) replacing CFC-12 with a propane/butane mixture in a refrigeration products enterprise.	World Bank	05/96
		Batstone	8.6
		Active	21.3
Slovak Republic Ozone Depleting Substances Reduction	This project will eliminate annual consumption of 280 metric tons of weighted, ozone-depleting substance potential (23% of 1991, annual weighted consumption) through phasing out the use of chlorofluorocarbons in two Slovakian refrigeration/freezer enterprises.	IFC	06/96
		Widge	3.5
		Active	6.0
Slovenia Phaseout of Ozone Depleting Substances	This project will phase out approximately 36% (345 metric tons ODP) of Slovenia's 1993, annual, weighted ozone-depleting substance potential through six subprojects in the refrigeration, foams, aerosol and solvent sectors.	World Bank	11/95
		Kiss	6.2
		Active	9.7

### GLOBAL

#### Multiple Focal Areas

Global Small and Medium Scale Enterprise Program (pilot phase)	This pilot program is designed to stimulate greater involvement of private, small and medium scale enterprises (SME) in GEF-eligible activities. It on-lends GEF grant funds to carefully screened financial intermediaries at long-term low interest rates. The intermediaries commit to use the funds to finance GEF-eligible small and medium scale enterprise projects, via either debt or equity investments. The Program allows the intermediaries to fund long-term loans or equity investments in relatively high-risk, experimental SME projects.	IFC	12/95
		Salloum	4.3
		Active	19.5

## Global Environment Facility Investment Work Program

Country/Project/ Associated Bank Project	Project Description	Implementing Agency Task Manager Project Status	Bank Approval GEF Grant* Total Project Cos
Global	Building on the lessons learned from the pilot phase, this program is designed to stimulate greater involvement of private, small and medium scale enterprises (SME) in GEF-eligible activities. It on-lends GEF grant funds to carefully screened financial intermediaries at long-term low interest rates. The intermediaries commit to use the funds to finance GEF-eligible small and medium scale enterprise projects, either with debt or equity investments. The Program allows the intermediaries to fund long-term loans or equity investments in relatively high-risk, experimental SME projects where normally suitably priced capital is lacking.	IFC	05/97
Small and Medium Scale Enterprise Program (replenishment)		Salloum	16.5
		Active	52.5

### LATIN AMERICA AND THE CARIBBEAN

#### Biodiversity

Bolivia	This project will protect representative samples of diverse and threatened ecosystems, and strengthen the government's institutional capacity to protect Bolivian biodiversity. Specific components of the project include support for the organization, implementation and follow-up of a National System of Protected Areas (SNAP) and the establishment of new priority protected areas. In addition, the project will include the development of alternative management systems for the protection of natural resources in buffer zones, the development of monitoring and evaluation systems, and administrative support.	World Bank	11/92
Biodiversity Conservation		Plaza	4.5
		Active	8.4
Brazil	The project (PROBIO), to be managed by the Ministry of the Environment (MMA), will consist of (1) a series of workshops to set biome-level priorities for biodiversity conservation and development of a national biodiversity strategy, (2) establishment of a national biodiversity information network, and (3) funding of model biodiversity projects involving various combinations of public and private sector organizations. This project was developed in tandem with the Brazilian Biodiversity Fund project (FUNBIO), and strategic guidance from the biome-level workshops will help prioritize FUNBIO activities.	World Bank	04/96
National Biodiversity Project		Ros Filho	10.0
National Environment Project		Active	20.0
Brazil	The project will help establish the Brazilian Biodiversity Fund (FUNBIO), to be managed by the Getulio Vargas Foundation, a private non-profit organization. An independent Board, composed of representatives from the private sector, the conservation community, academia and government, has been appointed and will be responsible for FUNBIO operational and investment policy. FUNBIO is a sinking fund with a minimum contribution target of \$25 million, to be provided by GEF, the private sector, NGOs, the public sector and research institutions. The fund will provide modest long-term financing for projects consistent with biome-level priorities identified in the MMA-managed workshops in the National Biodiversity Project.	World Bank	04/96
Brazilian Biodiversity Fund		Ros Filho	20.0
National Environment Project		Active	25.0

## Global Environment Facility Investment Work Program

Country/Project/ Associated Bank Project	Project Description	Implementing Agency Task Manager Project Status	Bank Approval GEF Grant* Total Project Cost*
Ecuador <b>Biodiversity Protection</b>	Support for the restructuring and strengthening of the institutional capacity, regulatory and legal framework for adequate management of the National System of Protected Areas (NSPA). Project activities will focus on (i) institutional strengthening of the Ecuadorean Institute of Forestry, Natural Areas and Wildlife (INEFAN) in managing the NSPA; (ii) creation of an improved legal and regulatory framework; (iii) outreach activities to local communities, involving them in management plan development for protected areas; and (iv) investment activities for civil works and infrastructure in eight priority protected areas based on participatory management plans developed with project support.	World Bank  Plaza  Active	05/94  7.2  8.8
Mexico <b>Protected Areas Program</b> <i>Mexico Environmental Project</i>	The project supports selected conservation activities on the basis of detailed management plans for ten protected area sites. The development and supervision of management plans will be guided by Technical Advisory Committees, composed of representatives of local communities, non-governmental organizations, local governments and other stakeholders. An ecotourism plan will be prepared and implemented in one of the protected area sites on a pilot basis, for potential replication in other areas. An endowment fund will be established to provide stable long-term financing for basic protection and conservation activities in and around the 10 protected areas.	World Bank  Constantino  Active	03/92  25.0  42.2
Nicaragua <b>Atlantic Biodiversity Corridor</b> <i>Rural Municipalities Project</i>	The ABC project promotes the long-term integrity of a Biological Corridor along Nicaragua's Atlantic slope. It will support preparation and implementation of protected area management plans for the Corridor, and will fund subprojects in direct support of biodiversity conservation in the Corridor. It will assist local indigenous communities in demarcating their territories that abut biologically important zones. The project includes capacity-building and public awareness in protection and sustainable use of biodiversity for indigenous and non-indigenous communities in the region, as well as for municipal & regional authorities. It will support land use planning in the Corridor, a biodiversity monitoring system, and an impact assessment system for development activities as well as means to enforce mitigating measures. These activities will be closely coordinated with traditional community development activities in the Corridor supported by the associated IDA Credit.	World Bank  Constantino  Active	06/97  7.1  21.5
Peru <b>National Trust Fund for Protected Areas</b>	The GET will provide seed money for the Trust Fund for Conservation of Peru's Parks and Protected Areas (FONANPE). Annual revenue from the trust will finance management activities -- including training, management plans, operational costs, salaries, awareness programs and buffer zone alternative livelihood activities -- for three key protected areas: Manu National Park and Biosphere Reserve, Noroeste Biosphere Reserve and Rio Abiseo National Park. As the fund grows through outside contributions, additional protected areas will receive support. GTZ is providing parallel financing to support the National Institute of Natural Resources (INRENA) and recurrent expenses of FONANPE's administrative agency, PROFONANPE, during 1995. The GTZ parallel grant also finances development of a master plan for all Peruvian protected areas and a 2-year NGO small grants program for sustainable, integrated conservation and development projects.	World Bank  Alderman  Active	03/95  5.0  7.9

## Global Environment Facility Investment Work Program

<i>Country/Project/ Associated Bank Project</i>	<i>Project Description</i>	<i>Implementing Agency Task Manager Project Status</i>	<i>Bank Approval GEF Grant* Total Project Cost</i>
<b><u>Climate Change</u></b>			
Regional (Caribbean) <b>Planning for Adaptation to Climate Change</b>	The project will support Caribbean countries in preparing to cope with adverse effects of climate change, and particularly sea level rise. It will (i) strengthen the regional capacity to monitor and analyze sea-level dynamics and trends; (ii) identify areas particularly vulnerable to the adverse effects of climate change; (iii) develop an integrated management and planning framework for cost-effective response and adaptation to climate change in coastal and marine areas; (iv) provide training and institutional strengthening to enhance regional and national capacities for preparing for climate change; (v) identify and assess policy options (protection, retreat, accommodation) and instruments that would initiate long-term adaptation to climate change; and (vi) assist information sharing.	World Bank Alderman <i>Active</i>	03/97 6.3 6.3
Jamaica <b>Demand Side Management Demonstration</b>	Strengthening of the institutional capabilities of Jamaica Public Service Company (JPSCo), and implementation of an integrated approach to energy conservation. JPSCo. will acquire the necessary information and data to develop sustainable programs that overcome market barriers to energy conservation. Mechanisms to address these barriers will be tested, and evaluation results will be used to design full scale sustainable long-term energy efficiency programs. The project will demonstrate the viability of energy savings and efficiency in the commercial, residential and industrial sectors and the long-term sustainability of retrofitting.	World Bank Mian <i>Active</i>	03/94 3.8 12.5
Mexico <b>High Efficiency Lighting Pilot</b>	The project will reduce greenhouse gas emissions as well as local environmental contamination through the replacement of incandescent bulbs with fluorescent light bulbs in two major markets: Guadalajara and Monterrey. Project will also work to increase institutional capacity for technological change and energy conservation, and strengthen the Federal Electricity Commission (CFE) and its capacity to practice demand side management on a sustainable basis.	World Bank Cosenza <i>Active</i>	03/94 10.0 23.0
<b><u>International Waters</u></b>			
Regional (Org. of Eastern Caribbean States) <b>Ship-Generated Waste Management</b> <i>OECS Solid Waste Management Project</i>	Project will assist OECS governments in reducing pollution of international and territorial waters caused by the discharge of ship-generated solid wastes by supporting appropriate actions aimed at improving collection, treatment and disposal of these wastes. Project includes national components consisting of the establishment of port-waste reception facilities and incremental expansion of landfill sites to handle ship-generated wastes, together with a regional component comprised of support activities and technical assistance for project management, training and education, establishment of common legal framework for ship waste management, recycling possibilities and public awareness programs. Project activities will also protect critical habitat for the endangered Grenada dove.	World Bank Dabbagh <i>Active</i>	05/95 12.5 50.5

## Global Environment Facility Investment Work Program

Country/Project/ Associated Bank Project	Project Description	Implementing Agency Task Manager Project Status	Bank Approval GEF Grant* Total Project Cost*
Regional (Wider Caribbean) <b>Wider Caribbean Initiative for Ship-Generated Waste</b>	Project activities will lay the foundation for countries in the Wider Caribbean Region to ratify and implement the MARPOL 73/78 Convention, ending discharge of ship-generated wastes into international and territorial waters. Technical assistance will be provided for studies leading to a regional strategy for the implementation of MARPOL 73/78, assessment of existing waste management systems, formulation of criteria for waste reception facilities at ports, development of integrated waste management alternatives, and public awareness programs. The project will also support periodic regional consultative meetings to reach consensus on different elements of a regional MARPOL strategy.	World Bank  Dabbagh <i>Active</i>	06/94  5.5 <b>5.5</b>
<b>MIDDLE EAST AND NORTH AFRICA</b>			
<b><i>Biodiversity</i></b>			
Algeria <b>El Kala National Park and Wetlands Management</b>	The project will develop and implement a management plan for the National Park and wetland complex in the El Tarf Wilaya, including undertaking base-line studies, protected area management, natural resource use development, monitoring and adaptive research, environmental education, institutional strengthening and establishing a conservation fund for NGOs and other local environmental groups.	World Bank  Msellati <i>Active</i>	04/94  9.2 <b>11.6</b>
Egypt <b>Red Sea Coastal and Marine Resource Management</b> <i>Private Sector Tourism Infrastructure &amp;</i>	The project will support the development and implementation of policies, plans and regulations that ensure that economic development in the Red Sea is consistent with sound environmental management to protect the shared marine resources of the Red Sea coastal zone. Project components include institutional strengthening, development of public-private partnerships to ensure sustainable environmental management, data analysis and system monitoring.	World Bank  Graham <i>Active</i>	11/92  4.8 <b>5.7</b>
<b><i>Climate Change</i></b>			
Iran <b>Teheran Transport Emissions Reduction</b>	The study will identify least-cost short and long-term options for reducing vehicular emissions in Tehran, based on an analysis of policy and technology constraints, and will suggest specific actions which could be taken to overcome those constraints.	World Bank  Archambault <i>Completed</i>	10/93  2.0 <b>4.0</b>
Morocco <b>Repowering of Power Plant</b>	Repowering of an existing plant with a second generation advanced combustion turbine, together with improvements in the quality of the materials and enhancement of the scheme's performance in the power generating system of Morocco. Close monitoring of the project's impact and careful analysis of the findings will help determine its wider applicability for use throughout the country.	World Bank  Larrieu <i>Active</i>	09/94  6.0 <b>45.7</b>
Tunisia <b>Solar Water Heating</b>	The project will promote the commercialization of solar water heating technology in the residential and tertiary sectors by conditioning the market for sustained penetration of the technology as a least-cost alternative under competitive market conditions.	World Bank  Savorelli <i>Active</i>	11/94  4.0 <b>20.9</b>

\* Amounts in US\$ millions

## Global Environment Facility Investment Work Program

Country/Project/ Associated Bank Project	Project Description	Implementing Agency Task Manager Project Status	Bank Approval GEF Grant* Total Project Cos
<b>SOUTH ASIA</b>			
<b><u>Biodiversity</u></b>			
Bhutan <b>Trust Fund for Environmental Conservation</b>	The trust fund provides reliable recurrent funding for the establishment and management of a national system of protected areas, and development of the institutional and human resource capacities needed to manage the national system. This project is testing the feasibility of a trust fund mechanism for providing long-term, sustainable finance for biological conservation programs in the protected areas.	World Bank  Mott  Active	05/92  10.0  17.6
India <b>Ecodevelopment</b>  <i>Ecodevelopment Project</i>	Project integrates conservation & development objectives in 7 threatened, priority sites representative of India's varied ecosystems. It supports improved protected area management, emphasizing joint management with local communities; the design and financing of village development plans and agreements that address the negative interactions of local communities on biodiversity and vice-versa; and research (biological and policy), education, and institution-building to improve knowledge of, and support and capacity for, ecodevelopment and conservation activities.	World Bank  Mott  Active	09/96  20.0  67.0
<b><u>Climate Change</u></b>			
India <b>Alternate Energy</b>  <i>Renewable Resource Management Project</i>	Project promotes and commercializes investment in wind farms and solar photovoltaic power systems through the provision of below-market loans to investors in these systems, primarily from the private sector. Popularizes renewable technologies through public education programs that explain their functions and capacity. Implementation is overseen by the Indian Renewable Energy Development Agency, which is benefitting from capacity-building assistance.	World Bank  Manzo  Active	11/92  26.0  186.0
Sri Lanka <b>Energy Services Delivery</b>  <i>Energy Services Delivery Project</i>	This project will encourage participation of the private sector, NGOs and cooperatives in the provision grid and off-grid energy services, and strengthen the public and private institutional capacity to deliver energy services through renewable energy technologies and demand-side management (DSM). Its specific components will be (a) a private sector renewable energy fund to support pre-grid, PV electrification, mini-hydro schemes and other renewable energy sources; (b) a pilot grid-connected wind farm (3MW); and (c) technical assistance for the use of renewable energy in residential and commercial sectors, for the Ceylon Electricity Board (CEB) to prepare a DSM action plan and a National Renewable Energy Strategy, for CEB to facilitate small private power investments and pre-electrification, and for management of the renewable energy fund.	World Bank  Schaeffer  Active	03/97  5.9  55.3

\* Amounts in US\$ millions

## Global Environment Facility Investment Work Program

Country/Project/ Associated Bank Project	Project Description	Implementing Agency Task Manager Project Status	Bank Approval GEF Grant* Total Project Cost*
<b><u>International Waters</u></b>			
Regional (Algeria, Morocco, Tunisia) <b>Oil Pollution Management Project for the Southwest Mediterranean Sea</b> <i>Morocco Port Sector Loan</i>	The project aims to: (a) reduce the input of hydrocarbons into the international waters of the Mediterranean; (b) ensure commonality of approach, regulatory policies, and methodologies; (c) promote exchange of information and coordination of implementation; (d) utilize national data sets to assess long term regional trends in marine pollution, both for national coastal waters and for adjacent international waters; (e) enhance the national monitoring capability; and (F) develop a coastal environmental management framework.	World Bank  Ben-Slimane <i>Active</i>	04/94  <i>18.3</i> <b>20.0</b>
Regional (Algeria, Morocco, Tunisia) <b>Oil Pollution Management Project for the Southwest Mediterranean Sea</b> <i>Tunisia Fisheries II</i>	The project aims to: (a) reduce the input of hydrocarbons into the international waters of the Mediterranean; (b) ensure commonality of approach, regulatory policies, and methodologies; (c) promote exchange of information and coordination of implementation; (d) utilize national data sets to assess long term regional trends in marine pollution, both for national coastal waters and for adjacent international waters; (e) enhance the national monitoring capability; and (F) develop a coastal environmental management framework.	World Bank  Ben-Slimane <i>Active</i>	04/94  <i>18.3</i> <b>20.0</b>
Regional (Algeria, Morocco, Tunisia) <b>Oil Pollution Management Project for the Southwest Mediterranean Sea</b> <i>Algeria Third Ports</i>	The project aims to: (a) reduce the input of hydrocarbons into the international waters of the Mediterranean; (b) ensure commonality of approach, regulatory policies, and methodologies; (c) promote exchange of information and coordination of implementation; (d) utilize national data sets to assess long term regional trends in marine pollution, both for national coastal waters and for adjacent international waters; (e) enhance the national monitoring capability; and (F) develop a coastal environmental management framework.	World Bank  Ben-Slimane <i>Active</i>	04/94  <i>18.3</i> <b>20.0</b>
Jordan <b>Gulf of Aqaba Environmental Action Plan</b>	As part of the regional Environmental Action Plan for the Gulf of Aqaba, the project will (a) develop regional collaborative mechanisms for strengthening the capacity to protect coastal zone and marine biodiversity; (b) develop and enforce the legal framework and regulations for control of transboundary pollution; (c) provide safeguards against oil pollution; (d) establish and implement guidelines for sustainable development of the coastal zone; (e) assess the effects of wastewater seepage on the quality and level of the transboundary water table; (f) implement a plan to control solid waste impacts on marine and coastal waters; and (g) demarcate and manage a marine protected area.	World Bank  Glineur <i>Active</i>	06/96  <i>2.7</i> <b>12.7</b>

\* Amounts in US\$ millions

## World Bank-Global Environment Facility Enabling Activities for Biodivers

Country/ Project	Project Description	Implementing Agency Task Manager Project Status	Bank Approval GEF Grant* Total Project Cost
<b>AFRICA</b>			
<b><u>Biodiversity</u></b>			
Eritrea <b>Biodiversity Strategy, Action Plan and National Report to the Conference of the Parties</b>	Formulate strategies and actions necessary for the protection and sustainable use of Eritrea's biodiversity, as well as prepare a plan for their implementation. The primary product will be a BSAP. In addition, Eritrea's first national report will be prepared.	World Bank Dewees <i>Active</i>	10/96 .275 .275
Kenya <b>Biodiversity Strategy, Action Plan and National Report to the Conference of the Parties</b>	Formulate strategies and actions necessary for the protection and sustainable use of Kenya's biodiversity, as well as prepare a plan for their implementation. The primary product will be a BSAP. In addition, Kenya's first national report will be prepared.	World Bank/UNEP Dewees <i>Active</i>	04/97 .157 .157
<b>EUROPE AND CENTRAL ASIA</b>			
<b><u>Biodiversity</u></b>			
Albania <b>Biodiversity Strategy, Action Plan and National Report to the Conference of the Parties</b>	Formulate strategies and actions necessary for the protection and sustainable use of Albania's biodiversity, as well as prepare a plan for their implementation. The primary product will be a BSAP. In addition, Albania's first national report will be prepared.	World Bank Stewart <i>Active</i>	07/96 .096 .096
Croatia <b>Biodiversity Strategy, Action Plan and National Report to the Conference of the Parties</b>	Formulate strategies and actions necessary for the protection and sustainable use of Croatia's biodiversity, as well as prepare a plan for their implementation. The primary product will be a BSAP. In addition, Croatia's first national report will be prepared.	World Bank Brylski <i>Active</i>	02/97 .102 .102
Georgia <b>Biodiversity Strategy, Action Plan and National Report to the Conference of the Parties</b>	Formulate strategies and actions necessary for the protection and sustainable use of Georgia's biodiversity, as well as prepare a plan for their implementation. The primary product will be a BSAP. In addition, Georgia's first national report will be prepared.	World Bank Brylski <i>Active</i>	07/96 .120 .120
Kyrgyzstan <b>Biodiversity Strategy, Action Plan and National Report to the Conference of the Parties</b>	Formulate strategies and actions necessary for the protection and sustainable use of the Kyrgyz Republic's biodiversity, as well as prepare a plan for their implementation. The primary product will be a BSAP. In addition, the Kyrgyz Republic's first national report will be prepared.	World Bank Mundy <i>Active</i>	04/97 .108 .108

\* Amounts in US\$ millions

## World Bank-Global Environment Facility Enabling Activities for Biodiversity

Country/ Project	Project Description	Implementing Agency Task Manager Project Status	Bank Approval GEF Grant* Total Project Cost*
Lithuania <b>Biodiversity Strategy, Action Plan and National Report to the Conference of the Parties</b>	Formulate strategies and actions necessary for the protection and sustainable use of Lithuania's biodiversity, as well as prepare a plan for their implementation. The primary product will be a BSAP. In addition, Lithuania's first national report will be prepared.	World Bank	07/96
		Brylski	.070
		Active	.070
Slovak Republic <b>Biodiversity Strategy, Action Plan and National Report to the Conference of the Parties</b>	Formulate strategies and actions necessary for the protection and sustainable use of the Slovak Republic's biodiversity, as well as prepare a plan for their implementation. The primary product will be a BSAP. In addition, the Slovak Republic's first national report will be prepared.	World Bank	11/96
		Brylski	.077
		Active	.077
Ukraine <b>Biodiversity Strategy, Action Plan and National Report to the Conference of the Parties</b>	Formulate strategies and actions necessary for the protection and sustainable use of Ukraine's biodiversity, as well as prepare a plan for their implementation. The primary product will be a BSAP. In addition, Ukraine's first national report will be prepared.	World Bank	01/97
		Brylski	.112
		Active	.112

### MIDDLE EAST AND NORTH AFRICA

#### ***Biodiversity***

Tunisia <b>Biodiversity Strategy, Action Plan and National Report to the Conference of the Parties</b>	Formulate strategies and actions necessary for the protection and sustainable use of Tunisia's biodiversity, as well as prepare a plan for their implementation. The primary product will be a BSAP. In addition, Tunisia's first national report will be prepared.	World Bank	08/96
		Cabal	.089
		Active	.089



## **Montreal Protocol Projects to Protect the Ozone Layer**

The following table presents the World Bank's Multilateral Fund-supported investment operations including project preparation activities from July 1, 1996 through June 30, 1997 administered by recipient governments. The Bank, as an implementing agency of the Multilateral Fund for Implementation of the Montreal Protocol on Substances That Deplete the Ozone Layer, assists developing countries in complying with the treaty's controls on production and consumption of ozone-depleting substances (ODS). The table subdivides the World Bank ODS phaseout projects by region and country with information on the amount of funds which have been allocated to over 460 individual subprojects (not listed) being carried out under these projects. Each region has a program coordinator whose name is listed at the top of the page. The table also lists the amount of ODS (in terms of substances weighted ozone-depletion potential: its 'ODP') which will be phased out with approved funds, ODP phased out to date, funds disbursed to date and the status of project implementation. In many cases subproject activities have proceeded prior to funding availability. To date more than 7,000 tons of ODS have been phased out through these efforts.



## World Bank Montreal Protocol Project Portfolio

Main Project Name	Approved Funding* (US\$)	Disbursement (US\$)	ODP** to be Phased Out	ODP** Phased Out	Status of Implementation
<b><u>Africa</u></b>					
<b><u>Zimbabwe</u></b>					
ODS I	616,713			32	
<b><u>East Asia and the Pacific</u></b>					
<b><u>China</u></b>					
ODS IV	100,000,000				
ODS Project I	8,020,219	6,887,418	15,400	7,150	Implementation of five subprojects complete or near completion. Grant closing extended until 6/97.
ODS Project II (50% CFC Foam)	4,869,781	4,236,878	400	780	Eight subprojects are completed. Final subprojects will be completed in 1996. Disbursement of operation costs will begin soon. and awaiting government confirmation of completion. Three additional projects will be completed in 1Q1996. The procurement issues have delayed implementation of the final subproject. Closing extended until 6/30/97
ODS Project III	66,471,810	19,827,020	14,402	1,250	The \$90 million umbrella grant agreement became effective on Nov. 30, 1995. Over twenty appraisals have been approved by the Bank and project implementation is underway. Disbursement has begun. Bank and Chinese Government reached agreement on subgrant agreement in March 1996. All subgrant agreements will be signed in 1996.
PPA I for ODS I and ODS II					PPA I is complete. These funds were used to support implementation of the China ODS Projects I and II. No money was allocated, however \$600,000 from ODS II and \$900,000 from ODS I was used.
PPA II for ODS III	300,000	300,000			Project preparation activities are complete. In addition, a sector-wide phaseout strategy for the commercial refrigeration and air-conditioning sector was prepared (12,500 tons of CFCs).
PPA III for ODS III	240,000	320,000			Project preparation activities are complete, including many proposals and six sector phaseout strategies. 26 foam projects, to be implemented by UNDP and the Bank, were prepared following first two workshops.
PPA-IV	250,000	200,000			Complete. Funds to be disbursed retroactively.

\*\* ODP: Ozone Depleting Potential (ODP) is the relative ozone-depleting effect of 1kg of a chemical compared to 1kg of CFC-11.

## World Bank Montreal Protocol Project Portfolio

Main Project Name	Approved Funding* (US\$)	Disbursement (US\$)	ODP** to be Phased Out	ODP** Phased Out	Status of Implementation
PPA-V-Halon Sector Strategy	100,000	50,000			Project preparation proceeding on schedule. Funds will be disbursed retroactively.
<b><u>Indonesia</u></b>					
ODS Project I	15,509,190	4,323,702	2,991	2,937	Subprojects are being implemented under a \$17 million umbrella grant agreement. Most appraisals complete. 15 subgrant agreements signed. Subproject implementation underway.
PPA II	170,000	170,000			Completed.
PPA I	250,000	250,000			Project preparation activities are complete. 14 subproject proposals were prepared.
<b><u>Malaysia</u></b>					
ODS Investment Project I	9,075,583	2,976,906	923	458	US\$20 million umbrella grant became effective in January 1996. One subproject is complete and others are under implementation.
ODS Recycling Project	1,630,000	1,239,267	1,270	370	Implementation of the MAC recycle subproject is complete and the halon recycling subproject is underway.
<b><u>Philippines</u></b>					
ODS Project I	11,895,000	7,568,001	883	244	Subproject implementation proceeding under the \$30 million umbrella agreement. Disbursements to three subprojects with signed subgrant agreements have begun.
<b><u>Thailand</u></b>					
ODS Project I	16,872,829	8,243,253	1,260	827	The US\$40 million umbrella grant agreement is effective. Subproject activity has been initiated by enterprises. The enterprises are finalizing subgrant agreements with the financial agent.
<b><u>Europe and Central Asia</u></b>					
<b><u>Turkey</u></b>					
IFC - ODS Project I (Assan Foam)	925,000	690,000	180		Project has been appraised by IFC (which is executing agency on behalf of the Bank). Grant agreement has been signed. The equipment specifications have been prepared and the enterprise has initiated procurement and project implementation. First disbursement to enterprise expected shortly.
ODS Project I	6,165,000	6,095,622	754	755	Project under implementation. Most components are well advanced and close to completion. Substantial ODS phaseout has been achieved.

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## World Bank Montreal Protocol Project Portfolio

Main Project Name	Approved Funding* (US\$)	Disbursement (US\$)	ODP** to be Phased Out	ODP** Phased Out	Status of Implementation
ODS Project II	4,090,899	2,969,651	535	426	The US\$20 million umbrella grant agreement for this project has been signed and all projects are now under active implementation. Disbursements are underway.
Tek-lz - IFC Project	729,650	600,000	155		
<b><u>Latin America and the Caribbean</u></b>					
<b><u>Argentina</u></b>					
ODS Project I	21,868,345	891,129	700		Grant Agreement signed Jan 9, 1997. Effectiveness expected by March 1997. Preparation of new subprojects will begin after implementation bottlenecks have been removed.
<b><u>Brazil</u></b>					
ODS Project I	7,877,567	3,752,401	1,593	270	Subprojects are being implemented under US\$10.9 million umbrella agreement.
<b><u>Chile</u></b>					
ODS Project I	2,320,576	1,189,124	238	109	Phase I will be completed and evaluated by Jun 1997. Auction for Part I of Phase II planned for 2Q 1997. Funds for Part 2 of Phase II will be requested in 1Q 1998
<b><u>Ecuador</u></b>					
ODS Project I	1,566,000	1,031,019	341	629	The subprojects have been completed on schedule.
<b><u>Mexico</u></b>					
MAC Recycling and Aerosols	53,792	53,791	36		The project consist of two components: CFC-12 Recycling (42%) and Aerosol Manufacturing Safety (58%).
ODS Project I (Ozone Protection Policy)	4,000,005	4,000,000	553	525	Subprojects are being developed and implemented under a US\$4 million line-of-grant.
<b><u>Uruguay</u></b>					
ODS Project I	1,260,419	317,271	52		A grant agreement of US\$5 million was signed with the Government of Uruguay in June 1995. The Bank is working with the ozone unit in assessing the viability of ODS abatement activities in the air conditioning and commercial refrigeration sectors, including recycling initiatives.
<b><u>Venezuela</u></b>					

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## World Bank Montreal Protocol Project Portfolio

Main Project Name	Approved Funding* (US\$)	Disbursement (US\$)	ODP** to be Phased Out	ODP** Phased Out	Status of Implementation
AAISA-MAC	4,422,000	3,040,756	80		The grant agreement is comprised of two subprojects. The legal agreement was signed in July, 1995, and implementation has begun. Conditions of effectiveness have been met and AAISA has initiated retroactive expenditure withdrawals.
Chiller Retrofits - Clínica Atias	115,000	114,598	4		Agreement with enterprise signed. Implementation underway.
Chiller Retrofits - Congreso de la Republica	65,000	0	1	1	Project implementation complete.
Chiller Retrofits - Instituto de Previcion Social del Medico	69,000	69,000	2	2	Project implementation is complete resulting in 2.4 ODP phaseout.
Chiller Retrofits - Replacement of CFC by HFC-134a as a refrigerant in central air conditioning units	851,000	0			Project cancelled.
FAACA-MAC	3,100,000	2,442,844	90	13	Grant agreement was signed in January 1995. Project implementation is underway. Disbursements are proceeding rapidly. FAACA has already begun to produce HFC134a serpentine condensers, thereby eliminating 13 tons of CFC-12.
ODS Project I -- Plasticos Molanca	1,261,678	1,261,678	259	259	Project is complete and project completion report is on file. The plant production of expanded polystyrene has been shifted to the use of propane-butane.
<b><u>Middle East and North Africa</u></b>					
<b><u>Egypt</u></b>					
IFC - MCMC Compressor	2,100,000	1,850,000	292		Construction of the factory is complete. The technology transfer issue and general project-related difficulties which have delayed the signing of the grant agreement between the IFC and MCMC have been resolved and the grant agreement was signed in May 1995. The final disbursement will be made shortly after the final supervision mission later this year. US\$700,000 grant was returned to fund as foreign-ownership share increased.
<b><u>Jordan</u></b>					

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## World Bank Montreal Protocol Project Portfolio

Main Project Name	Approved Funding* (US\$)	Disbursement (US\$)	ODP** to be Phased Out	ODP** Phased Out	Status of Implementation
ODS Project I	1,570,000	893,317	313		All subgrant agreements have been signed and procurement of goods and services has been initiated. This project was initially approved by the EC as a line-of-grant and the entire amount has been committed. Overall progress is satisfactory albeit slower than anticipated. The closing date for the project is fast approaching and appropriate actions will be considered when discussing a possible extension.
ODS Project II	1,380,091	230,323	393		This US\$3.5 million umbrella agreement was signed in September 1995. The subgrant agreements are now under preparation.
<b><u>Tunisia</u></b>					
ODS Project I	1,780,000	1,070,604	530	30	All subgrant agreements with participating enterprises have been signed.
<b><u>South Asia</u></b>					
<b><u>India</u></b>					
ODS Project I	1,252,000	723,518	54		Implementation proceeding satisfactorily.
ODS Project II	24,635,486	6,401,197	4,414	646	This US\$50 million umbrella grant agreement establishes the framework for processing a large number of small projects over the next three years. As umbrella agreement not signed until May-95, subprojects approved in '93 and '94 were delayed by up to two years. This lag will no longer be an issue for future approvals. Project preparation under this grant agreement was initially supported through a Project Preparation Advance (PPA). The amount of the PPA was later adjusted to reflect the changing nature of project preparation activities.
PPA	70,000				Agreement signed and project preparation activities underway.
PPA I - ODS Project I	175,000	105,708			Activities under this Project Preparation Advance have been halted. The final disbursement is being negotiated with the financial agent.
<b><u>Pakistan</u></b>					
ODS Project I	1,998,242		282		The umbrella agreement under preparation will cover 3 years of ODS phaseout projects in Pakistan. Final grant agreement signature is expected by mid-1996.

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