

AGENCY FOR INTERNATIONAL DEVELOPMENT

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List of Upcoming Multilateral Development Bank (MDB) Projects
with Possible Environmental Concerns: Background and Purpose

Section 537(h) of P.L. 100-202 and Section 1303(c) of P.L. 95-118 direct the Agency for International Development (A.I.D.), in consultation with the Secretaries of Treasury and State, to compile a list of proposed Multilateral Development Bank (MDB) loans likely to have adverse impacts on the environment, natural resources, public health, or indigenous peoples. The list was to be prepared and updated "in consultation with interested members of the public". The development of the list is considered part of a larger effort to ensure that U.S.-funded development assistance be used to promote sustainable use of natural resources and to protect the environment and the status of indigenous peoples.

The principal mechanism for early project identification is A.I.D.'s Early Project Notification System. In this system, A.I.D. notifies its field missions and selected embassies of upcoming projects as they are made public in the monthly or periodic operational summaries of each MDB. This is generally one to two years prior to consideration by the MDB Boards of Directors.

Mission comment is solicited on upcoming projects concerning a number of issues including the environment. A.I.D. Missions respond if there is reason to anticipate environmental concerns. These responses are reviewed in Washington. Projects are then placed on the list based on information at hand and the judgement of the U.S. Government. Because not all project information is made available, particularly information tied to the early stages of loan development, the list should not be considered all inclusive. Inclusion on the list indicates that the project might have impacts which should be anticipated and reduced during project planning and design. Environmental assessment of the project may lead to project redesign and to the introduction of specific mitigation measures.

Through early identification, A.I.D. seeks to develop a collaborative dialogue with the MDBs to highlight environmental concerns during the project development process.

DECEMBER 1990

PROJECTS WITH POTENTIAL ENVIRONMENTAL IMPACTS UNDER
CONSIDERATION FOR FUNDING BY THE FOLLOWING MULTILATERAL
DEVELOPMENT BANKS:

- IBRD - International Bank for Reconstruction and Development
(The World Bank)
- IDA - International Development Association
- ADB - Asian Development Bank
- AfDB - African Development Bank
- IDB - Inter-American Development Bank

PROJECTS LOCATED IN AFRICA

1. Cameroon IBRD Forestry and Environment Project
2. Cameroon AfDB Forestry Development Project
3. Cameroon AfDB Road Development Project
4. Lesotho IDA Highlands Water Construction I
5. Madagascar IDA Ilmenite Mining
6. Mozambique AfDB Massingir Dam Rehabilitation Project
7. Rwanda IDA Nyabarongo Development Project
8. Somalia IDA Baardhere Dam
9. Somalia IDA Baardhere Resettlement
10. Uganda IDA Power III Project

PROJECTS LOCATED IN ASIA AND THE NEAR EAST

11. Bangladesh IDA Bangladesh Flood Protection I
- 12.. Bangladesh IDA Bangladesh Cyclone Protection
13. Bangladesh IDA National Minor Irrigation Development
14. Bangladesh ADB Forestry Master Plan
15. Bangladesh ADB Second Rubber Development
16. Bangladesh IDA Jamuna Bridge Construction
17. Egypt IBRD Northern Sinai Agricultural Development

18. India IBRD/IDA Narmada (Madhya Pradesh) Dam and Power
19. India IBRD/IDA Narmada (Madhya Pradesh) Resettlement and Rehabilitation
20. India IDA Narmada River Basin Development
21. India IBRD Subernarekha (Orissa) Irrigation
22. Indonesia IBRD Irian Jaya Area Development
23. Indonesia IBRD Integrated Swamps/Groundwater Development (formerly Swamps Second Stage Development III)
24. Indonesia IBRD Transmigration Second Stage Development
25. Indonesia IBRD Treecrop Smallholder Development
26. Jordan IBRD Transport III
27. Malaysia IBRD Sabah Forestry II Project
28. Nepal IDA Arun Hydro-power
29. Papua New Guinea IBRD Forestry

PROJECTS LOCATED IN LATIN AMERICA

30. Brazil IDB Belem Drainage and Roads
31. Brazil IBRD Environmental Reform and Energy Conservation
32. Brazil IBRD Rondonia Natural Resource Management
33. Ecuador IDB Electric Power Investment Program I
34. Ecuador IBRD Lower Guayas Flood Control
35. Ecuador IBRD Oil Production Development
36. Honduras IDB Western Region
37. Jamaica IDB Second Stage Small Farmer Development Program
38. Mexico IDB Forest Development Program

December 1990

PROJECTS WITH POTENTIAL ENVIRONMENTAL IMPACTS UNDER
CONSIDERATION FOR FUNDING BY MULTILATERAL DEVELOPMENT BANKS

PROJECTS LOCATED IN AFRICA

1. Cameroon IBRD Forestry and Environment Project
Projected IBRD Funding: \$ 30-50 million
Projected Total Cost: unknown, possibly up to \$130 million
2. Cameroon AfDB Forestry Development Project
Projected AfDB Funding: \$65 million
Projected Total Cost: unknown

Description: The proposed IBRD project would support sectoral policies and investments for forest management, conservation and environmental protection. The project would include agroforestry and fuelwood components, a forest industry component, and a proposed moratorium on logging of some six million hectares in southern Cameroon. The project might also support lengthening of private logging concessions to 25 years (up from the current 5-year contracts) and allow larger concessions to make up for the lower yield per hectare.

As presently envisioned, the proposed AfDB project would include three main activities: (1) plantations (pine and eucalyptus) near Belabao; (2) sawmills in Bafoussam; and (3) wood products in the north. The project is being developed for the AfDB by the United Nations Food and Agriculture Organization (FAO).

Issues: The country of Cameroon, which stands at the northwestern frontier of one of Earth's last remaining tracts of tropical rainforest, the great Congo Basin, is losing its forests at the rate of some 200,000 hectares every year. There is concern about the ability of the MDBs to include strong environmental conditions in their Cameroon forestry sector projects, given that the Government of Cameroon does not believe that conservation measures are appropriate activities to be undertaken with money the country has to repay.

Another major concern is the potentially devastating effect of forest development on the livelihood and culture of Cameroon's forest dwellers, principally the Baka and Bakola peoples known as "Pygmies." Nongovernmental organizations (NGOs) in Cameroon are

not involved in tropical moist forest issues. The Baka and Bakola have no voice in the use of forest resources in Cameroon, and their traditional culture is not valued by the rest of the country. Persons familiar with the plight of the Baka and Bakola are convinced that parks or ethnic reserves must be established for their use, and that logging must not be allowed in these areas.

Foresters and others familiar with Cameroon believe that more information is needed about the economic and social costs to the country of unsustainable logging, and that the country must come to grips with the problem of reconciling conflicting uses of forest resources. Another unresolved issue is the current status of Cameroon's widely criticized Tropical Forestry Action Plan (TFAP) exercise, and its relation to upcoming MDB activities. Questions have been raised about the wisdom of providing large amounts of development assistance to the country's forestry sector until these issues have been addressed.

Status: A pre-appraisal mission for the IBRD project visited Cameroon in September 1990. The IBRD has classified their project as Category A/Category D, meaning that some components of the project will require a full Environmental Impact Assessment (EIA), while other components, for which the environment would be a major focus, will not. The Bank is seeking donor assistance for the EIA.

The status of the AfDB project is less clear. According to AfDB staff, the AfDB stands ready to fund a project proposed by the FAO or the Government of Cameroon, but may wait until further environmental work has been completed by the IBRD. The FAO, who together with the United Nations Development Program (UNDP) developed the Cameroon TFAP, will be sending a mission to Cameroon in late 1990 or early 1991. The AfDB does not routinely conduct EIAs.

A.I.D. is monitoring the progress of both projects in cooperation with interested NGOs.

3. Cameroon AfDB Road Development Project
Projected AfDB Funding: \$130 million
Projected Total Cost: unknown

Description: The project will finance a time-slice of Cameroon's road building and maintenance activities. Project activities will include support for an ongoing road project between Mbalmayo and Ebolowa, as well as support for projects on numerous and as yet unspecified roads, including some in the southern part of the country.

Issues: In spite of the rapid deforestation occurring in Cameroon, large areas of southern Cameroon are still covered by dense tropical forest inhabited by the Baka and Bakola peoples. Road building or improvements in moist tropical forests have led historically to increased colonization and deforestation. In addition, improved roads in southern Cameroon, which would allow logging trucks to make the difficult journey to the country's western ports more easily, might add to the pressures to manage the southern forests unsustainably.

Status: The project is under preparation. The AfDB does not routinely conduct EIAs. Project development is being monitored by A.I.D. and interested NGOs.

4. Lesotho IDA Highlands Water Construction I
Projected IDA funding: \$110 million
Total project costs: \$1.5 billion

Description: The project entails the construction of: i) Katse Dam, a 170-meter high dam with a storage capacity of 1,245 m³; ii) a 48-km transfer tunnel to a 70 MW hydropower facility; and iii) a 34-km delivery tunnel to discharge water into the Ash River in the Republic of South Africa, whence it will flow into a reservoir serving major South African residential centers. South Africa has agreed to finance most project costs and will pay royalties to Lesotho for water use. The executing agency is the Lesotho Highlands Water Development Authority.

Issues: Issues include resettlement, watershed management, loss of fauna and flora in impoundment area, and impacts on riverine ecosystem from the construction of the dam.

Status: The project will be presented to the Board of Directors in January 1991. The EIA for this Category A project was completed in June 1990, and the appraisal report is under preparation. The treaty between South Africa and Lesotho establishing the financial arrangements for project implementation has stipulated that social and environmental impacts will be adequately addressed. A resettlement policy has been approved by the government. The Bank has stated that the detailed project design, including all planned environmental and resettlement measures, will be reviewed by a panel of environmentalists with extensive international experience. A.I.D. will examine project documents at the time of board consideration, but neither A.I.D./Washington nor the Mission anticipates unaddressed environmental issues.

5. Madagascar IDA Ilmenite Mining
Projected IDA funding: \$ 57
Total project cost: unknown

Description: The project includes mining and export of titanium dioxide and other mineral sands on Madagascar's East Coast for the production of titanium dioxide. The executing agency is the Office Militaire National des Industries Strategiques (OMNIS).

Issues: The major impact will be the effects of mining operations on local flora and fauna, particularly as certain species of dune vegetation are rare and unique to the project area.

Status: The project is under preparation, and co-financing is being explored. The project is Category A, requiring a full-scale environmental impact study which is currently in progress. The study is a condition for the receipt of the engineering credit to be issued to the government and the private mining company involved in the project. The Bank has stated that the project will be considered within the context of Madagascar's ongoing Environmental Action Plan. The Action Plan is a multidonor effort in which A.I.D. is a major participant.

6. Mozambique AfDB Massingir Dam Rehabilitation Project
Projected A.DB Funding: \$45 Million
Total Project Cost: unavailable

Description: The project will rehabilitate Massingir Dam, develop 125,000 hectares for irrigation and construct a hydropower station which will produce 125 GwH of electricity per year.

Issues: Although this project is billed as a rehabilitation project, the irrigation component is new. Mozambique has extremely low institutional capacity for project implementation. It is doubtful that it can deal successfully with a project of this size, particularly if salinization, waterlogging and public health problems arise as they are likely to.

Status: The preparation of this project is just beginning. The U.S. Executive Director's office has shared the U.S. Government's concerns with Bank staff. A feasibility study will be completed in December 1990. It will include an assessment of the environmental impacts of large-scale irrigation. When the feasibility studies are completed, we will review and discuss with Bank staff the possibilities of reducing project size, incorporating drainage, public health measures and other features which would mitigate the problems frequently associated with irrigation projects.

7. Rwanda IDA Nyabarongo Development Project
Projected IDA Credit: Unknown
Total Project Cost: Unknown

Description: The project will develop the Nyabarongo Valley, considered by the government as one of the few remaining areas which can absorb the country's population increase. A series of scenarios or options for development are currently under consideration.

Issues: The valley contains large marais or swamps which serve as hydrologic buffers, reducing the effects of flooding during the rainy season and maintaining low flows during dry periods. The marais are shallow and covered with aquatic vegetation, primarily papyrus, rooted in underlying peat soils. If the marais are drained below critical levels, their organic soils dry out, with resulting subsidence and soil sterility which may cause irreparable harm to the marais and greatly reduce their function as hydrologic buffers. In their natural state, the marais provide several benefits in addition to their hydrologic role. These would include fishery development and utilization of aquatic vegetation for fuel and fodder. Marais are important in maintaining biodiversity by providing wildlife habitat for regionally endemic birds and the sitatunga, a rare marsh antelope.

Status: Four stages of project planning have taken place. The first stage was devoted to data collection. The second stage developed a number of possible scenarios for the valley (including dikes, dams and channelization). The third stage involved the selection of the optimal scenario, and for the fourth stage, the development of the master plan for the valley. In response to international concern about the environmental implications of the project, the Bank added a substantial environmental component to the design study. During the first phase, the environmental team outlined three types of ecological zones existing in the valley with different implications for planning and development: (1) areas of ecological importance to be preserved without development; (2) areas where development may take place but will be under protective regulation; and (3) areas posing no particular environmental constraints. A separate study on environmental aspects outlined environmental impacts of each of the proposed scenarios and proposed mitigation measures. The mitigation measures are incorporated in the final master plan. The USAID mission in Kigali has participated in the Bank supervisor missions and has provided analysis based on A.I.D. experience with smaller marais development. Of major importance, the design team chose the alternative with the least development as the optimal scenario. The USAID mission judges the environmental impact of this scenario acceptable, "since the activities are relatively modest in scope and there will remain substantial wetlands downstream."

8. Somalia IDA Baardhere Dam
Projected IDA Funding: \$60 million
Projected Project Cost: \$ 385 million
9. Somalia IDA Baardhere Resettlement
Projected IDA Funding: \$ 5 million
Projected Total Cost: \$ 30 million

Description: (1) The project will finance a multi-purpose dam on the Juba River that will provide hydropower for Mogadishu and Kismayo, as well as irrigated agricultural development and flood protection. The executing agency is the Ministry of National Planning and Juba Valley Development. The project will include financing from several donors including the Kuwait Fund, EEC and Italy. (2) The resettlement project will finance the resettlement of 3,000 families and the relocation of approximately 9,000 refugee families from the reservoir area. It will also establish two forest reserves, salvage cultural property, implement a wildlife management program, and provide consulting services, surveys and mapping. The implementing agency is the Ministry of National Planning and Juba Valley Development.

Issues: The most significant environmental issues are: (i) potential for major increases in water borne diseases, notably Bilharzia and Malaria, if reservoir operations are not controlled to reduce vector proliferation; (ii) resettlement of 55,000 refugees; (iii) potential soil salinization in irrigated downstream areas; (iv) interruption of nomadic pastoral movements; and (v) boom town conditions during construction.

Status: Both projects are classified as Category A by the Bank, requiring full EIAs. A.I.D. has financed an extensive, three-year study of environmental and socioeconomic issues associated with the Baardhere Dam. The "Juba Environmental and Socioeconomic Studies" (JESS) report has been completed, and A.I.D. is sharing it with other donors, including the German technical assistance team producing the Master Plan for Juba Valley development for the Government of Somalia. The report produced over 40 specific recommendations for mitigation of environmental and socioeconomic impacts covering: undeveloped areas, vegetation, wildlife, fish, irrigation and recession agriculture, nonirrigated agriculture, livestock, land tenure, water legislation, health, and dam construction. For example, the report recommends that during the initial years of operation the project should experiment with controlled flood releases from the Baardhere Dam to enable valley farmers to continue their traditional dhesheeg and flood-recession agriculture. It recommends a long-term health plan for the

valley be developed and, in the short run, that health components be built into every development project proposed for the Juba valley. The appraisal mission has been tentatively scheduled for FY 91. The Resettlement Project will also receive an EIA, which should be completed prior to the project appraisal mission in November 1990.

According to Bank staff, a report containing the conclusions of preliminary studies is expected to be made available to potential donors in the next month or so. Although the projects are still considered to be good investments, the timeframe for the projects is not under discussion with the Government of Somalia in large part because of the constraints posed by the current macro-economic and security situations. Staff believe that the projects are still two to three years away from Board consideration.

10. Uganda IDA Power III Project

Projected IDA Funding: \$80 million

Projected Total Cost: \$150 million

Description: The project's main components are likely to consist of a hydro-electrical power station (for which a feasibility study is being performed), plus some rural electrification.

Issues: According to USAID/Uganda, five dam site locations are being considered under a least-cost development plan as part of the Power III Project. The fifth potential dam site is located just two kilometers upstream from Murchison Falls, which has been identified for future designation as a World Heritage Site. During the mid-1970s, when tourism was the number two earner of foreign exchange for Uganda, Murchison Falls was the most popular tourist attraction in the country. Although tourism atrophied during the following ten years of political turmoil, and the Murchison Falls area suffered from rampant poaching, tourism is now making a comeback in Uganda. The Murchison Falls area is well on its way to becoming the main attraction of a tourism circuit which will include Queen Elizabeth Park and the Ruwenzori Mountains.

Environmental groups such as the International Union for the Conservation of Nature have raised serious concerns about the risk of irreversible environmental damage which may occur if Murchison Falls is chosen as a dam site. Although Bank officials maintain that the proposed dam would essentially be out of sight of the Falls, environmentalists believe dam construction would lead to increased likelihood of poaching from the 2,000 dam construction workers; loss of riverine forest habitat from dumping of construction debris into side valleys; and noisy, dusty and unsightly construction operations and housing facilities for workers within view of the Falls. In addition, there are fears of long-term effects, such as loss of tourist attraction due to the presence of roads and other structures, including power transmission lines routed right across the National Park; reduction of flow across the Falls (proponents claim that flow will be reduced only at night); possible loss of the breeding habitat for crocodiles below the Falls, which is a major tourist attraction; reduction of plants dependent on the mist created by the Falls; potential destructive effect on the aquatic ecosystem; and risk of colonization near the dam.

Status: The Project is scheduled for Board presentation in February 1991. This is a Category A project, and a sectoral EIA is planned. It is scheduled to be completed in March 1991, after project approval.

According to Bank officials, the project will extend facilities at an existing power plant situated at Owens Falls, and will not entail any new dam construction. The project will include a provision for an environmental impact study of possible new power facilities on the River Nile. The next Bank power project in Uganda is not scheduled for consideration until 1993 or 1994.

PROJECTS LOCATED IN ASIA AND THE NEAR EAST

11. Bangladesh Flood Protection I
Projected IDA Funding: \$68.6 million
Projected Total Cost: unknown
12. Bangladesh Cyclone Protection
Projected IDA Funding: \$80 million
Projected Total Cost: unknown

Description:

Flood Protection: The project will provide protection to over 200,000 ha. of agricultural land and major towns along the Brahmaputra and the Meghna rivers. Works will include river bank and embankment slope protection structures.

This project will finance several of the 26 components and supporting activities contained in the Flood Action Plan (FAP) which the World Bank prepared at the request of the G-7 donors and the Government of Bangladesh. The FAP, which represents a compromise between interventionist and non-interventionist strategies, was presented to the donors in London in December 1989. The five-year (1990-95) FAP, which was endorsed by the 1989 London conference, follows a staged approach. In the first years, it concentrates on regional studies of flood control and drainage potentials and supporting activities in order to identify feasible projects for implementation later in the plan (and in subsequent Action Plans). It also focuses on flood control from the Brahmaputra and Ganges. The cost of implementing these activities was estimated at \$146.3 million, and they could eventually lead to a pipeline of projects costing about \$500 million. (It should be noted that the World Bank has already designated \$148.6 million to support elements of the FAP. The total cost of the plan proposed by the French was \$6 billion.)

Cyclone Protection: The project will insure the security of persons living in the protected area, reduce damage to houses and other private and public buildings, and minimize the loss of livestock. It will introduce appropriate technology in the design and construction of protection works and collect data for the preparation of a plan to protect the newly accredited lands. Apparently this project will support component 7 of the FAP, which emphasizes rehabilitation of old coastal embankments and construction of new ones.

Issues:

Flood Protection: Possible economic, financial, managerial, environmental, and socio-cultural/equity concerns. The United States, France, Japan, and UNDP have all financed studies of the feasibility of flood control/protection/amelioration which arrived at very different conclusions. The World Bank's FAP was prepared to develop an approach which the donors could support. While the donors have endorsed the FAP, several conservation groups and academicians have not. Most critics of the FAP believe that it leans toward expensive engineering solutions without having demonstrated their technical, economic, social, institutional, or environmental feasibility; that the prescribed studies are too short-term and piecemeal in nature; and that the outcomes of the studies are predetermined by the structure of the plan. The plan does not call for the collection of baseline data or for the establishment of a system for monitoring the environmental, and other, impacts of flood control activities. Environmental, technical, and social issues are interrelated and, according to some of the critics, should be addressed together rather than separately as called for in the FAP. The FAP mentions that the plan could have adverse impacts on soil productivity (fertility, structure, and moisture regimes could all be affected by flood control), fisheries, groundwater recharge, health, and wildlife. Past investments, as well as proposed future investments, in irrigation could be affected. An audit of an earlier World Bank flood control project, which included an irrigation component, mentions that most of the benefit stream came from the irrigation component and that the flood control component may have had a negative impact on agricultural production.

While the donors have expressed their willingness to provide technical and financial support for implementation of the FAP, they stressed the need to address environmental, socio-economic, technical, and institutional concerns during implementation of the FAP.

USAID/Dhaka is supporting activity 16 of the FAP, the environmental study. The Mission advises that it has not seen project documents but is concerned that this project be integrated into FAP. The Mission feels that since FAP studies (USAID-funded) on environment and social soundness are still in very early stages, any decision on this project would seem premature.

Cyclone Protection: Little information is available on this project. Concerns with the institutional (managerial) and financial feasibility of the flood control project would appear to apply to this project as well. Other concerns may also apply. Documents which discuss the various issues related to the FAP do not mention undesirable impacts of the cyclone protection component. However, coastal flooding caused by cyclones is part of the natural environment. Any interference with such natural cycles would be expected to have some impact on coastal ecosystems. As a minimum the project should include baseline studies and a system for monitoring and evaluating both beneficial and detrimental impacts.

Status:

Flood Protection: Project under preparation. Environmental Assessment: Category B.

Cyclone Protection: Project under preparation. Environmental Assessment: To be determined.

13. Bangladesh IDA National Minor Irrigation Development
Projected IDA funding: \$ 70 million
Total Project cost: unknown

Description: The project will expand irrigation over an area of 320,000 hectares, including development of groundwater irrigation for 190,000 hectares. The project has six major components: (A) installation of 10,200 new deep tube wells in areas where shallow tube wells cannot reach the groundwater table; (B) rehabilitation of 1800 publicly owned deep tube wells; (C) demonstration of command area distribution systems, including buried pipe and water course improvements; (D) installation of an unspecified number of pontoon-mounted pumps on rivers (value approximately \$ 11 million); (E) improvement and rehabilitation of existing drainage canals; and (F) supplier credit to the private sector for the import, fabrication, distribution, installation, and servicing of irrigation equipment. The implementing agency is the Bangladesh Agricultural Development Corporation (BADC).

Issues: Major environmental concerns were raised regarding the development of groundwater and surface irrigation by the recent USAID Environment and Natural Resource Assessment. The USAID study found that surface and groundwater irrigation have reduced river flows and lowered lake levels during the dry season, resulting in the decline of inland fisheries which are the major source of protein and livelihood for the landless. The study stressed the need to assess the risks of increased irrigation to the fisheries sector, and to incorporate the results into the economic analysis of irrigation projects. The proposed IDA project should include surface water monitoring and effective measures to mitigate impacts on inland fisheries.

Excessive drawdown of the groundwater table in project areas is also an important concern. Problems associated with unsustainable groundwater withdrawal include: (A) saltwater intrusion into aquifers, which is already a problem in coastal areas and is advancing farther inland; (B) reduced access to drinking water, which occurs when the groundwater table is depressed below the reach of village water supply wells; (C) land subsidence, which occurs as a result of increased sediment compaction as the water table drops; and (D) damage to mangrove forests, which is reportedly occurring in the Sundarbans forest due to a reduction of freshwater flows. Questions have been raised about the adequacy of the proposed project's groundwater monitoring and mitigation measures.

Status: The project appraisal report is under preparation, and Board presentation is tentatively scheduled for January 1991. The Bank has assigned an Environmental Assessment Category B to the project, which indicates that in the Bank's view, limited environmental analysis is appropriate, as the project may have specific environmental impacts.

14. Bangladesh ADB Forestry Master Plan
Projected ADB Funding: \$ 1.8 million
Projected Total Cost: unknown

15. Bangladesh ADB Second Rubber Development
Projected ADB Funding: \$55.2 million
Projected Total Cost: unknown

Description:

Forestry: The objective is to prepare a master plan for the protection and development of the country's forest resources so as to optimize their long-term contribution to environment stability and to economic and social development. The Forestry Master Plan (FMP) will be undertaken over a period of 15 months. Priority will be given to environmental issues. The Plan will examine key policy issues in need of reform, such as legislation, institutional arrangements and regulations. Short-term (5 years) and long-term (20 years) development programs will be prepared. Implementing agency will be the Forest Department.

Rubber: The main objective of the proposed Project is to establish Bangladesh's emerging rubber plantation industry on a sound commercial footing and support an expansion of the industry to benefit from additional opportunities which have been identified. The Project will pursue the objectives through establishing additional rubber plantations and through institutional strengthening. Total project cost estimated at \$55.2 million, including foreign exchange cost of \$25.5 million. Implementing agency is the Bangladesh Forest Industries Development Corporation (BFIDC).

Issues:

Forestry: According to independent observers of the FMP, little discussion has been held with NGOs regarding the objectives and content of FMP. Apparently NGOs were supposed to have been given an opportunity to comment on the FMP at a meeting in August 1989, but only two NGOs were invited at the last minute and were not properly briefed on the meeting. The FMP has also suffered from a lack of coordination with public and private agricultural organizations.

The Bangladesh Forestry Department's policies towards social forestry are questionable. The Forestry Department has done very little to promote social forestry. In addition, the current ADB-funded Upazilla Afforestation Project has created problems by forcibly removing people from agricultural lands and removing natural forest cover.

USAID/Bangladesh feels the forest industries component of the FMP should not be included as a separate component. Harvesting and processing of timber is not a priority. These aspects could be covered by the forest management specialist and the economist. Concern also has been expressed over the selection of the international consultant firm and the local counterparts. Mission believes that in order to ensure the independence and objectivity of the report, retired/active Forest Department personnel should not be part of the consulting team.

In general, Mission believes the terms of reference for the consultants are too broad and ambitious. Given that all of the reports will be based on secondary data, the terms of reference should be focused on trying to generate primary data or update of data in a few sectors, such as wood supply and demand; forest cover; marketing; and pricing of products.

Rubber: Mission believes the rationale for BFDIC rubber plantations is highly questionable on economic, institutional, social, and environmental grounds. There have been reports of abuses in which rubber plantations have been used as a vehicle for taking away coveted highlands from tribal people. Rubber plantations have been developed in the Modhupur National Park, in strict violation of the ordinance setting up protected areas, and rubber plantations continue to be developed in natural forest areas rather than in the vast tracts of completely denuded land. The costs of lost livelihoods of forest-dwellers and the effects on biodiversity have not been adequately assessed and accounted.

Economic studies base estimates of rubber plantation profitability on unrealistically low labor costs, and ignore the history of BFIDC cost overruns caused by mismanagement of plantations. Mission believes that if all social, environmental, and economic costs are considered, costs of rubber plantations being implemented by BFDIC would exceed benefits. The opportunity cost of rubber is very high compared to alternative land uses. A 1986 government study concluded that, given the soil quality and topography in the proposed project areas, rubber was the third choice after agroforestry and horticulture in terms of labor absorption and income potential. Further, agroforestry activities provide income directly to small landholders and thus address poverty alleviation problems more directly.

Status:

Forestry: The Project was approved in August 1990. We have included the Project on this edition of the List because it will probably lead to larger forestry projects in the next few years, possibly including a Forestry Sector/Industrial Tree Plantation Project in 1991. The consultants preparing the Forestry Master Plan will be selected this month.

Rubber: The project has been on hold, and A.I.D. has recently learned that it probably will be withdrawn from further consideration by the Government of Bangladesh.

16. Bangladesh IDA Jamuna Bridge Construction
Projected IDA Funding: \$100 Million
Total Project Cost: \$560 Million

Description: Construction of a major multi-purpose (road-rail-energy-telecommunications) bridge across the Jamuna (Brahmaputra) River to reduce transport costs and support the Northwest's economic integration with the rest of the country. Total project cost is estimated at \$560 million, of which \$471 million represents foreign exchange costs. The executing agency is the Jamuna Multi-Purpose Bridge Authority.

Issues: Questions have been raised concerning the possibility of the Jamuna River changing course and the potential that the bridge might cause more flooding. Questions have also been raised about the possibility that the eventual cost of the bridge might be considerably higher, and that construction delays may delay project benefits, thus reducing the economic viability of the project. The project will require some involuntary resettlement.

Status: Project preparation is underway. This is a Category A project, and according to Bank documents an environmental study has been completed. A Bank appraisal mission is scheduled for early 1991.

17. Egypt IBRD Northern Sinai Agricultural Development
Projected IBRD funding: \$ 65 million
Total project cost: \$ 1,100 Million

Description: The project constitutes the first phase of the agricultural development program for northern Sinai. It would include: (i) construction of irrigation and drainage works, and (ii) financial support to farmers for farm machinery and other agricultural inputs. The implementing agency is the Ministry of Agriculture and Land Reclamation.

Issues: Environmental concerns include effects of the project on Lake Bardawil, which Egypt has listed as its first wetland of international significance as a waterfowl habitat. Additional issues include: creation of new settlements; use of fertilizers and pesticides; risk of salinization; and use of drainage water for irrigation.

Status: The project is under preparation. It is a Category A project requiring a full EIA. The Mission has collaborated with the Bank on the scope of the EIA, which the Bank expects to have completed by March 1991. Two components are being carried out to assess the environmental impact of the project -- one on migratory birds and the other on the effect on wetlands including the Bardawil Lake. The Bank appraisal mission will take recommendations of these studies into consideration. A.I.D. will continue to monitor its progress.

18. India IBRD/IDA Narmada (Madhya Pradesh) Dam and Power.
19. India IBRD/IDA Narmada (Madhya Pradesh) Resettlement and Rehabilitation
Projected IBRD Funding (Dam): \$350 million
Total Project Cost (Dam) \$1,150 million
- Projected IDA Funding (Resettlement): \$70 million
Total Project Cost (Resettlement): \$300 million

Description: The Dam and Power project involves the construction of the Narmada Sagar dam and hydro-power station to generate 1,000 MW of power and to enable future irrigation of about 300,000 hectare of land. The Narmada Resettlement and Rehabilitation project will finance the resettlement of about 120,000 people dislocated by flooding the reservoir. The project will also develop reservoir fisheries, reforest up to 90,000 ha of land, and install conservation measures in the upper watershed. Both projects are to be implemented by the Narmada Planning Agency.

Issues: Potential environmental impacts include: (1) relocation of the people within the area to be flooded by the reservoir; (2) deforestation (clearing and submerging) of 40,000 hectares of forest land; (3) destruction of wildlife habitat; (4) risk of earthquake damage to the dam structure; (5) siltation from deforestation of the watershed area above the dam; (6) waterlogging of irrigated soils; and (7) increased risk of water borne diseases including malaria and cholera. There are major concerns over the adequacy of resettlement programs based on the experience from the resettlement efforts associated with the Gujarat project. The Narmada Tribunal recommended a policy of "land for land" and relocation of villages in their entirety. However, questions remain concerning: (1) effectiveness of the loan in making dam construction/funding contingent on resettlement planning and implementation; (2) the adequacy of environmental reviews and mitigation planning; and (3) the inclusion of environmental and resettlement costs in overall cost/benefit analysis. A related issue is the Indian Government's energy subsidies, which create artificially high demand for new generating capacity by holding power prices below actual cost.

Status: The project has been removed from the Bank's Monthly Operational Summary. Continuing controversy surrounding inadequate resettlement for the Sardar Sarovar dam have contributed to delays.

A.I.D. conducted a site visit to India in January 1988 to investigate the status of environmental planning for this project. The investigation emphasized that environmental studies were initiated comparatively late in the planning process, precluding consideration of alternatives with less severe social and environmental impacts.

The Government of India's Department of Environment held up clearance on the Narmada Sagar Dam Project until 1987 because of inadequate data and mitigation plans. The Department of Environment was also concerned because no overall environmental analysis of the development of the basin as a whole had been conducted.

In 1987, the issue was taken up by the Prime Minister's office, and a decision made to grant provisional environmental clearance. The environmental studies and the physical works would proceed simultaneously. The Narmada Control Authority (NCA) in New Delhi was made responsible for ensuring that environmental and resettlement studies and action plans were developed, implemented, and expanded to include the Ministry of Environment and Forests and the Ministry of Welfare. The NCA was given the authority to stop construction if there was not enough progress on environmental issues, and the Department of Environment was given veto power.

A.I.D. forwarded a memorandum to the Bank stating concerns in four areas: (1) the capability of the Narmada Valley Authority to implement its progressive policies on resettlement; (2) lack of safeguards to ensure that the environmental studies and mitigation plans are carried out; (3) the need to study the impacts of development of the river basin as a whole; and (4) the adequacy of the economic analysis to incorporate environmental costs and benefits. A.I.D. also expressed concern about Bank environmental procedures, particularly the scheduling of environmental studies too late in the project cycle to allow for consideration of less damaging alternatives.

The Bank responded by assuring A.I.D. that negotiations would not take place until mechanisms for land acquisition and resettlement were tested on a pilot basis, and that the Bank was investigating the possibility of a basin-wide environmental planning program. The United States and Executive Directors from other donor countries will continue to monitor this project.

Because the project is on hold, there has been little further A.I.D. follow-up.

20. India IDA Narmada River Basin Development
Projected IDA Funding: \$ 200 million
Projected Project Cost: Unknown

Description: The project will cover assistance for catchment treatment (watershed development) in the Sardar Sarovar project catchment area, mainly in Madhya Pradesh but also in Gujarat and Maharashtra. It will also cover assistance for catchment treatment in the upper Narmada basin in Madhya Pradesh. It will provide assistance for resettlement and rehabilitation, mainly in Madhya Pradesh, but also in Gujarat and Maharashtra. This assistance will operationalize environmental studies under way or completed in the Sardar Sarovar project and focussing mainly on riverine fisheries development, preservation of wildlife sanctuaries and of historical/religious sites in the Sardar Sarovar impact zone. It includes technical assistance for future Narmada basin planning and for the possible establishment of Narmada Basin Environmental Management and Research Center. The implementing agency is to be determined.

Issues: The project is designed for environmental mitigation, to cover the costs of mitigating major environmental and social impacts to be created by the Sardar Sarovar dam which was approved in 1986. Some critics of the Sardar Sarovar dam are completely opposed to the dam construction and to mitigation measures associated with it. Others have questioned why the mitigation measures were not included in the original project design and whether such an expensive mitigation plan calls into question the original cost/benefit of the Sardar Sarovar project.

Status: A.I.D., together with other U.S. agencies and other donor governments, has been active in monitoring implementation of the Sardar Sarovar dam.

21. India IBRD Subernarekha (Orissa) Irrigation
Projected IDA Funding: \$250 Million
Total Project Cost: Unknown

Description: The proposed project would develop a new irrigation system of about 100,000 hectares including the construction of three buffer reservoirs, major and distributory canals, field channels, on-farm development and provide additional agricultural support services, improved irrigation water management, and environmental protection works.

Issues: The Subernarekha dam, constructed with World Bank financing, is criticized for inadequate environmental and social planning. Resettlement was carried out without appropriate compensation, and environmental issues such as catchment area treatment still need to be addressed. This project seeks to redress some of the problems inherited from the previous dam construction. With respect to resettlement, the Government of Orissa has verbally committed itself to retrospective compensation to oustees. However, the government needs to issue public orders to this effect, and needs a clear methodology for how the compensation would be accomplished. Also planning should incorporate anthropological expertise, since the project involves tribal and scheduled castes. Finally, although this project seeks to rectify planning problems in Orissa state, a similar project may be needed for Bihar state, where reportedly social and environmental problems are more severe.

Status: The Bank indicates that this project is Category A and will require an environmental impact assessment. The project is currently in pre-appraisal.

22. Indonesia IBRD Irian Jaya Area Development
Projected IBRD funding: \$30 Million
Total project costs: unknown

Description: The project seeks to improve the overall socio-economic conditions of Irian Jaya through an integrated area development project comprising health, education, agriculture and infrastructure development activities in four pilot areas. The executing agency is the Ministry of Home Affairs.

Issues: The project is located near transmigration settlements. Irian Jaya has been a major resettlement site, and the project plans to include in its coverage an area near Merauke where most of the resettlement has occurred. The project will include other areas where environmental degradation could occur such as the Cenderwasih Bay area, the site of a wildlife reserve which is under increasing pressure from local inhabitants. Another issue concerns how the project will treat the Paniai Lakes, which have already been the focus of several proposals aimed at improving root crop agriculture in part by controlling outflow and draw down of the natural water bodies by using dams and other means. Finally, the low absorptive capacity of local institutions raises concern that unspent funds may be diverted to major infrastructure projects with high potential for negative environmental impact.

Status: Although preparation for this Category A project is underway, according to Bank documents further project preparation is subject to agreement with the Indonesian Government on a number of project and sector issues, including impacts on tribal peoples.

USAID's environmental concerns have been forwarded to Bank staff. Bank officers indicated that project activities in the Merauke area will benefit the indigenous Irianese, who constitute over 85% of the rural population of the area. The project will not directly involve transmigrants, although some will benefit indirectly. The project may include technical assistance and funding for nature conservation and training on sustainable resource use. A full environmental impact assessment will be completed prior to appraisal. According to Bank staff, over one-third of project investments are for institutional support that may improve the absorptive capacity of the province. A management plan for the wildlife reserve has been produced by the World Wildlife Fund.

23. Indonesia IBRD Integrated Swamps/Groundwater Development (formerly Swamps Second Stage Development III)
Projected IBRD funding: \$ 125 Million
Total project cost: \$ 260 Million

Description: The project will: strengthen swamp reclamation institutions; support second stage development of existing swamps sites; rehabilitate infrastructure; improve agriculture; and support environmental protection. The implementing agencies are the Ministries of Public Works and Agriculture.

Issues: Concerns have been raised about the loss of waterfowl and other wildlife habitat and potential adverse impacts on fisheries which may result from swamp reclamation. It would seem critical that the project allocate sufficient funds for strengthening the natural resources planning and implementation capability within the Ministry of Agriculture.

Status: Project preparation for this Category A project is underway. The Bank has informed A.I.D. that the project identification study was completed in July 1989, and 34 existing schemes in Sumatra and Kalimantan are proposed for upgrading in the second stage development. Preparation studies will take about one year to complete. The project planning will take into account results from a parallel study, conducted by the Government of Indonesia and the Asian Wetlands Bureau, on wetland management and conservation. The study will be funded in Sumatra by the Netherlands and in Kalimantan by the British Overseas Development Agency. Also, an environmental impact assessment of each sub-area will be carried out as part of project preparation studies, and the overall EIA will be completed in June 1991. A.I.D. will continue to monitor the project.

21. Indonesia IBRD Transmigration Second Stage Development
Projected IBRD Funding: \$140 million
Total Project Cost: \$ 220 million

Description: The project will increase income and agricultural production in eight existing transmigration settlements; strengthen Ministry of Transmigration's (MOT) coordination and implementation capacities for second stage development; and improve overall economic, social and environmental soundness of the transmigration program. The executing agency will be the Ministry of Transmigration. The World Bank has already assisted this program via a number of loans, the most recent being \$160 million for the Fifth Transmigration Project, approved in June 1985. This project was reformulated in 1986; as a result \$63 million was cancelled.

Issues: Concerns have been raised about the environmental effects of the overall transmigration program of which this project is a part. Overall concerns include: destruction of tropical forests; insufficient support for resettled peoples to ensure self sufficiency; displacement of indigenous peoples; effects of spontaneous transmigrants to new sites; impacts on rare and endangered wildlife; and effects on water quality. There is a concern that the project not proceed before completion of a site specific socio-economic/environmental impact study.

Status: According to Bank documents, this project will be reappraised to update data and project scope, with a post-appraisal mission to be determined. An EIA for this Category A project was completed in November 1989. As part of the EIA, environmental impact assessments were prepared for all nine transmigration sites.

The Bank has stated that this project involves the intensification of secondary plots in transmigration areas which were previously allocated for cultivation, but have not yet been developed. The objectives are to raise settlers' incomes and diversify income sources, in order to improve economic and environmental viability and self-sufficiency of resettlement areas. A project component to strengthen the management of a nature reserve adjacent to the project area and improve elephant protection and management is being proposed. Under consideration is a technical assistance facility to help strengthen the Director of Environmental Development (PGL). The Mission wants to ensure that the project includes extensive monitoring and improvement of the quality and sustainability of the transmigration program.

25. Indonesia IBRD Treecrop Smallholder Development
Projected IBRD funding: \$70 million
Total Project Cost: \$125 million

Description: The project supports the government's efforts to improve smallholder coconut and rubber production. The executing agency is the Directorate General of Estate. Japan has been approached for grant funds for technical assistance. Financing from the Commonwealth Development Corporation is likely to be available.

Issues: While this project targets existing settlements, there could be a small area of new land development. A.I.D. would strongly discourage the use of secondary forest unless there are no alternative sustainable economic uses. The project may need more land capability analysis. The project may also result in attracting new settlers to project sites, creating secondary impacts.

Status: The appraisal report for this Category B project is under preparation. The Bank states that the project involves intensification of secondary plots in former transmigration areas, which have come under provincial government jurisdiction. It targets both settlers in transmigration areas and local population with existing land rights. It does not involve any new settlement. Bank documentation states that an environmental assessment has been completed and approved by government, with all issues regarding land use, agricultural practices, and use of agrochemicals being satisfactorily addressed.

26. Jordan IBRD Transport III
Projected IBRD funding: \$ 25 Million
Total project cost: \$90 Million

Description: Continuation of efforts started under Transport II, to strengthen sector institutions and policies, and support of priority investments. Project may also include assistance in the privatization of some transport agencies.

Issues: The primary issue concerns the impacts on antiquities posed by the construction of the rail line and roads. Other issues would typically be the impacts associated with land clearing for the construction of transportation corridors.

Bank staff informed the U.S. Government that the Bank has requested the Jordanian Government to conduct an EIA as part of the design studies for the construction of a railway spur line to the E'Shidiya phosphate mine. The studies are expected to be commissioned shortly and financed by a grant from Canada.

Status: The appraisal mission for this project is scheduled for February 1991. The project is classified as Category B, and an EIA is under discussion.

The proposed EIA satisfies USAID Mission's concerns about the project. Unless new problems arise, the project will not appear on the next addition of this List.

27. Malaysia: IBRD Sabah Forestry II Project
Projected IBRD funding: \$30 Million
Total Project Cost: \$30 Million

Description: The proposed project is a follow-on to the Sabah Forestry Technical Assistance project to implement reforestation, resource conservation, and sustainable forest management activities. It will establish large pulpwood plantations on 35,000 hectares of state-owned land and on 10,000 hectares of unutilized smallholder farmland. Pulpwood would be supplied to the existing mill and/or exported. The project involves: clear felling of logged-over forest and replacement with exotic plantation species; and the introduction of sustained forest management for permanent natural forest areas. Technical assistance and institutional support for the Forest Department and Ministry of Environment are also included.

Issues: Clear felling of logged-over forest may destroy what remains of the natural ecosystems in the project areas. The plantations may be planted with a single species, an approach which has sometimes proven to be a problem in similar projects. Cutting of adjacent natural forest to supply the mill is another concern; this may be occurring already. The pulp mill may also be discharging untreated effluents. Questions have been raised about the distribution of the project's benefits.

Status: This Category A project is tentatively scheduled to be presented to the Board of Directors in February 1991. An environmental impact assessment was completed in 1987, and found acceptable in a September 1989 review. The Appraisal Report is under preparation.

28. Nepal IDA Arun Hydro-power
Projected IDA funding: \$ 110 Million
Total project cost: \$ 600 Million

Description: Nepal is endowed with vast hydro potential, theoretically some 83,000 MW, of which less than 200 MW have been tapped. The current project will take advantage of that potential by constructing a 402 MW run-of-river hydro-power plant with associated transmission facilities. It will also strengthen the Nepal Electricity Authority. The hydro plant is planned to be commissioned during 1995 - 2003. However, this time-table could be accelerated to accommodate bulk export sales of electricity to India. The project is linked to a previously approved loan for a 170 km access road.

Issues: Several environmental issues associated with the access road and the hydro plant need to be addressed:

1. Impacts associated with road construction: Past experience with roads running through undeveloped forested areas has resulted in unregulated and illegal removal of marketable timber and other forest products during and after construction. In addition, unless carefully planned and maintained, severe gully erosion can occur. Two routes have been proposed, one running along the valley bottom and the other following closer to the ridge lines.
2. Impacts from dam construction: The dam will interrupt fish passage since no fish ladder is envisaged in the project. However, the lake formed behind the dam will provide habitat for migratory water birds.
3. Impacts from increased tourism: A typical climbing expedition may include from 5-15 members with an equal number of Sherpa guides. These expeditions can be supported by as many as 60-120 porters. In the evening, the porters disperse to collect firewood, rhododendron leaves for bedding and edible wild roots, rhizomes and bamboo shoots. This puts tremendous pressure on the local ecosystem. A basket of firewood may entail clearing 100 m² of shrub-land. Unless packed in, food collection for the expedition can eradicate edible plants and firewood within the encampment area. The uncontrolled disposal of litter, bottles, cans, plastics is another tourism-related problem.

4. Impacts from increased agricultural/commercial activity: If slash and burn agricultural practices are allowed to continue, this will add to the problems of erosion, landslides and deforestation. If not properly managed, increased livestock production will result in over-grazing which transforms good grasslands into unpalatable bushlands. Pressures on forested areas for fodder creates "mast-like" trees, devoid of lateral branches and leaves, allowing light to penetrate to the forest floor. This induces heavy growth of the forest weed "Banmara" which inhibits regeneration of natural seedlings. Population increases will eradicate much of the natural stock of plant materials which currently produce medicine, food, and fiber and serve as a source of income for local people.

5. Effective management of the upper Arun watershed, in order to avoid excessive sedimentation that could shorten the life of the dam.

Status: Project preparation is underway. Negotiations for the Arun III capital investment program are scheduled for July 1991.

The Bank has assigned this project to Environmental Assessment Category A: environmental assessment is required as the project may have adverse and significant environmental impacts. The Bank will be managing a study of the Arun watershed which will be funded by the UNDP and implemented through a contract with the King Mahendra Trust. The study will draw on earlier environmental impact assessments developed by contractors engaged in planning both Arun III access road and hydro projects. It will result in a plan of action for the Government of Nepal to manage the Arun watershed on a sustainable basis, and will take into account the area's natural resources, cultural resources, economic growth opportunities (especially tourism), and relevant social and institutional factors. Relevant parts of the study and management plan should be ready by May 1991, prior to the capital investment negotiations. The final report is due for submission to the Bank on August 1, 1991.

The USAID Mission will continue to monitor the project.

29. Papua New Guinea IBRD Forestry
Projected IBRD Credit: \$15 million
Total Project Cost: unknown

Description: The project will support institution building, resource assessment and (possibly) some direct investment in conservation measures in the sector.

Issues: Papua New Guinea is faced with rapid deforestation of important tropical moist forests. The Bank has sponsored a Tropical Forestry Action Plan (TFAP) exercise in Papua New Guinea, of which presumably the loan will be a part. International dissatisfaction with TFAP as a process to ensure conservation of tropical forests indicates careful examination of the loan's impact on deforestation. There is concern in the donor and NGO communities that local NGOs were not adequately involved in the forestry sector report, and that the issue of indigenous peoples' land rights has not been addressed.

Status: A.I.D. attended the World Bank organized meeting to review the TFAP report earlier this year, and has been following up with the Bank and NGO community on possible activities to support. A.I.D. will continue to monitor the development of this project.

PROJECTS LOCATED IN LATIN AMERICA AND THE CARIBBEAN

30. Brazil IDB Belem Drainage and Roads
Projected IDB funding: \$60 million
Total project costs: \$189 million

Description: The project is a special drainage, potable water, sewage and transport project which will transform a third of the city of Belem into a dry area with transport and drainage infrastructure as well as access to potable water and sewage services.

Issues: The area is currently swampy and poses public health problems. However, it is densely populated primarily by residents in substandard housing. The project will involve the relocation of people along new infrastructure routes. It risks displacement of people who may not have title to land. Although the area is also a wetlands, Bank staff informed A.I.D. that they have investigated this issue and concluded that the area is already so fully developed that its ecological functions as a wetland are currently without value.

Status: The project may come before the Board as soon as early 1991. The Bank will be sending a mission to Brazil in the near future to update the project preparations.

A meeting was held with Bank staff to discuss issues of relocation and displacement. Bank staff stated that residents possessed registration papers ensuring title to use of the land, and that they would be able to transfer these papers commercially. Planning for resettlement will be designed in collaboration with residents and their representatives.

31. Brazil IBRD Environmental Reform and Energy Conservation

Projected IBRD Funding: up to \$200 Million

Total Project Cost: Unavailable

Description: The loan is a continuation of support for government measures to strengthen environmental and conservation programs in the power sector. The implementing agency is ELECTROBRAS.

Issues: This loan provides continued Bank support to Brazil's state electricity company, ELECTROBRAS. Past loans to this institution have raised environmentalists' concerns about Brazil's Plan 2010 that outlines a number of power plants with adverse environmental and socio-cultural impacts. Non-governmental organizations were particularly concerned about two loans, Power Sector I (approved in 1986) and the proposed Power Sector II that has been dropped from the Bank's lending program.

In connection with the previous loans, several major issues were raised: lack of attention to energy conservation; and inadequate environmental review and planning for subprojects; and insufficient attention to the importance of watershed management to protect investments in infrastructure. The current project is intended to address these concerns and is classified as an environmentally beneficial Category D project.

Status: According to Bank documents, the project is being reformulated.

32. Brazil IBRD Rondonia Natural Resource Management
Project IBRD Funding: \$200 Million
Total Project Funding: Unavailable

Description: The project is designed to assist the state of Rondonia in implementing agro-ecological zoning; it will include policy reforms, support for agricultural intensification, support for extractive activities, forest management, protection of environmental reserves and indigenous areas, small farmer community projects, and social services.

Issues: Earlier Bank supported projects in Rondonia, including work on highway BR 364, have contributed to major ecological destruction. Much of the development that followed the road was not sustainable. This project is designed to promote sustainable agriculture (involving perennial crops) in suitable areas and to strengthen the environmental management measures instituted earlier. However, there is widespread concern about commitment to the proposed policy reforms and protective activities. The skepticism arises from charges that commitments from the previous loans have not been met. There is also serious concern about the suitability of the planned agricultural and extractive activities, particularly in view of a dispute on the process of consultation with affected communities.

Status: The appraisal report is under preparation; the project probably will not be presented to the Board before May 1991. The Bank has classified this project as Category D: an environmentally beneficial project which does not require an environmental impact assessment.

The U.S. Government has met extensively with Bank staff and NGOs on this project. The consultative process -- which could substantiate questions about the viability of the project design -- has been a key bone of contention. The Government of Brazil, under the auspices of the national environmental agency IBAMA, moved to resolve this issue by sponsoring meetings of government officials with affected communities and local NGOs in Rondonia. The head of IBAMA has written to the Bank suggesting that the Bank be open to the possibility of substantial changes in the project as a result of the consultations. The United States is satisfied that the eight month delay in the processing of the project has permitted time to deal with the consultation issue. When the appraisal report is distributed, U.S. agencies will reconsider the adequacy of measures for the protection of the environment and indigenous areas and the design of agricultural activities.

33. Ecuador IDB Electric Power Investment Program I
Projected IDB Funding: \$110 Million
Total Project Cost: \$150 Million

Description: This project will finance the hydroelectric activities associated with the Daule Peripa Dam, including transmission to Guayaquil. The executing agency is the INECEL.

Issues: A number of general concerns were raised concerning the environmental impacts of the Daule Peripa Dam, which was financed by previous loans. Concerns included the need for watershed management and aquatic weed control. Also, because the dam will affect the seasonal flow of the Guayas River, there is concern over concentration of pesticides and minerals in the estuary and possible adverse effects on salt water shrimp ponds located along the coast and into the estuary.

Status: This project is listed in the Bank's program of reserve activities as a possible loan for future funding in 1991. IDB stated that follow-up environmental studies associated with the effects of the Daule Peripa Dam are being carried out. The studies covering water quality, water management and conservation, and the use of agrochemicals reportedly were completed in March 1989. Informal reports from consultants working on the studies indicate fewer problems with siltation than anticipated, but problems continue with water hyacinth and increased malaria. The Bank has not yet reached a decision on whether or not to conduct a full EIA for the project.

34. Ecuador IBRD Lower Guayas Flood Control
Projected IBRD Funding: \$59 Million
Total Project Cost: unknown

Description: Lower Guayas River Basin flood control and drainage in an area of about 150,000 hectares for enhanced agriculture and livestock production. The project will fund the construction of two bypasses that converge into an outlet channel to drain the seasonally flooded lower Guayas Basin. An estimated 300 cubic m/sec. flow of water will be routed to the Guayas estuary through this outlet channel during peak flood periods. According to Bank staff, the project is designed to prevent 5-10 year floods, but will also decrease annual flooding in the Basin. The channel will be routed into the coastal mangroves of the Manglares-Churute Reserve.

After it is approved, the project would also fund a study of the effects of pesticide use in the Basin, and a study of biodiversity and nutrient cycling in the Basin's mangrove forests. The project would also support an upper watershed management study, which would be completed sometime in 1992.

Issues: Since publication of A.I.D.'s December 1989 List, one of the contentious issues surrounding the project -- the location of the terminus of the outlet channel -- has been resolved. The Ecuadorian environmental community and USAID/Ecuador expressed strong concerns about an earlier plan to empty the outlet channel into Canclon Lake, home to a unique and fragile ecosystem including the horned screamer, an important waterfowl with low population in Ecuador. As a result, the proposed outlet channel has been rerouted and will now drain into the coastal mangroves of the Manglares-Churute Reserve, where the ecosystem may be less fragile.

Concern remains, however, that the mangrove forests will be harmed by water contaminated with pesticides and effluents from paper mills, sugar refineries and distilleries in the Guayas watershed. The coastal mangrove forests are thought to play an important role in the life cycle of shrimp; further destruction of one of Ecuador's last remaining mangrove forests may have important consequences for the country's economically vital shrimp industry.

A number of questions have been raised about the long term costs and benefits of the project. The Guayas Basin has always been subject to seasonal flooding separated by long dry seasons. Floodwater deposition of Andean silt over thousands of years created the fertile soils of the Basin, and the region's agriculture and ecology are adapted to this natural cycle. In recent years, however, deforestation of the western slopes of the Andean highlands, which includes the upper

watershed of the Guayas Basin, has led to increased run-off and soil erosion during the rainy season. Channels downriver in the Basin become choked with sediment deposits, and the combination of clogged riverbeds and increased peak flows leads to larger and more frequent floods.

The Guayas Basin Project has been criticized as a proposal to construct large and costly engineering works in the Basin in order to address what is largely a resource management problem in the Andes. It has been suggested that the proposed upper watershed management study should be completed before the project gets underway, so the results can be integrated into the project design. In the absence of such a study, critics charge, the project may divert scarce resources into ineffective flood-control infrastructures, and may ultimately fail to control the flooding problem.

The project's drainage component will involve construction of a network of canals to drain wetlands in the lower part of the Basin. The need for this component of the project has been questioned. According to the project's EIA, there is an option of expanding the drainage canals into a large irrigation project for the Basin. Some believe that drainage and irrigation could lead to large landowners buying out the family rice farms of these areas. There are also concerns that the aquatic weeds which have invaded streams in the Basin will eventually clog the drainage canals as well.

Finally, the economic justification for the expensive project has been questioned. Given that much of the agriculture in the Basin is already suited to seasonal flooding, more information is needed on what crop substitutions will result from the increased flood control, what farmers (small or large) will grow the crops, and what markets will exist for the Basin's agricultural produce.

Status: This is a World Bank Category A project requiring a full EIA. An EIA for the project was completed by a Dutch consulting firm in late 1990, and the project was presented to the World Bank's Board of Directors in December 1990. The U.S. supported the loan based on the potential social and economic benefits of flood control in the Basin. Noting the project risks described above, the U.S. recommended greater attention be paid to the planned watershed management study, to NGO participation in project implementation, and to equity issues in the distribution of project costs and benefits.

35. Ecuador IBRD Oil Production Development
Projected IBRD funding: \$ 100 Million
Total project cost: \$ Unknown

Description: The project will provide financing to Petroecuador, the newly established state oil company (formerly CEPE), for: oil field development; secondary recovery; exploration promotion; Transecuadorian crude pipeline expansion; technical assistance; and environmental studies. It will finance Petroecuador's activities in the Ecuadorian Amazon region, also known as the Oriente.

Issues: Ecuador's Amazon Basin rainforests are home to numerous forest-dwelling indigenous peoples and one of the greatest concentrations of biodiversity on Earth. Historically, petroleum exploration and development in the Oriente has led to widespread destruction of the forest and its people in two ways. The harmful direct effects of petroleum exploitation include oil spills at drill sites, pollution of streams by formation waters, and oil pipeline breaks, all of which pose major public health hazards to communities living near the operations, and poaching by oilfield workers. Even more destructive are the effects of colonization along oil roads. Indigenous forest-dwelling communities have been driven from their homes as vast areas of the Oriente have been deforested by colonists clearing land for speculation, cattle ranching and farming -- activities which are largely unsustainable on the region's poor soils. Given this history of environmental and social destruction, there is widespread concern that World Bank support for petroleum exploration in the Oriente is fundamentally incompatible with the Bank's overriding commitment to sustainable development.

In recent years, petroleum exploration in the Oriente has become an extremely controversial topic within Ecuador and internationally. The controversy has focused on two closely related issues. First is the threat to the region's spectacular biodiversity, especially within the Yasuni National Park. Environmental groups were outraged recently by the decision of the Government of Ecuador to change the boundaries of the Park; technically, most of CONOCO's operations in Block 16 are now taking place outside the "new" Yasuni National Park. The concerns of environmental groups have been raised even higher by the subsequent concession to CONOCO of Block 22 in the heart of the Park's concentration of plant and animal life. CONOCO has held meetings in Ecuador and in Washington to discuss its plans for reducing potential harm to the environment from its activities in Block 16. NGOs have commended CONOCO for holding these public meetings, but remain unconvinced that the environmental protection measures CONOCO has proposed will be sufficient.

The second major issue is the inherent conflict between petroleum exploration and the health and human rights of the Oriente's indigenous peoples, principally the Huaorani Indians. In April of this year, the Huaorani won legal recognition from the Government of a 612,000 hectare ethnic reserve. This recognition gives the Huaorani legal right to prevent colonists from settling within their reserve. It does not, however, give the Huaorani mineral rights -- under Ecuadorian law, all mineral rights are the property of the state -- and does not allow the Huaorani to prevent petroleum companies from conducting exploration and development activities within their reserve. Many fear that if petroleum exploration in Huaorani territory continues, all attempts to keep colonists out will ultimately prove futile, and the Huaorani people and culture will be devastated.

Petroecuador is at the center of oil exploration in the Oriente. The company bears ultimate responsibility for ensuring that environmental and social impacts are assessed prior to oil exploration, production, and mitigated should problems occur, but its capacity for environmental planning and mitigation associated with oil exploration is weak. This weakness is highlighted by a major spill which occurred in December 1989, in the Cuyabeno Wildlife Reserve; Petroecuador's response to the spill was slow and inadequate, and the spill resulted in major damage to the environment of the Reserve. Discussions with Bank staff indicate that a small portion of the project will support strengthening of the company's environmental unit.

Bank staff argue that this strengthening of Petroecuador, together with conditionalities requiring environmental policy reforms, will make the project a net benefit to the environment. Most environmental and indigenous peoples' organizations in Ecuador are strongly critical of the project, believing that funding to Petroecuador will only accelerate the destructive process of petroleum exploration in the fragile Oriente. They argue that the limited environmental protection measures proposed will be far outweighed by the damage caused by increased petroleum development, especially the colonization that will inevitably occur along oil roads given Ecuador's rapidly increasing population and shortage of available land.

Status: This Category A project is under preparation. The project will include an environmental impact assessment which should be completed in the spring of 1991.

36. Honduras IDB Western Region
Projected IDB Funding: \$12 Million
Total Project Costs: Unavailable

Description: The project is a development plan for the western region of Honduras. The program is comprised of the following subprojects: i) agricultural production; ii) use and management of forest resources; and iii) road improvement. The project will seek to increase the use of permanent cropping systems, higher cash value crops (including coffee, fruit trees, flowers and horticultural crops), and intensive soil conservation practices.

Issues: Malnutrition is a serious problem in Western Honduras, and care must be taken to ensure that efforts to substitute coffee for staple food crops do not jeopardize the already tenuous food security of the rural poor. Soil conservation benefits could be lost if rapid soil erosion occurs during the five years required for coffee trees to reach maturity. Flowers are pesticide-intensive crops. Lack of adequate pesticide regulations, technical expertise and regulatory institutions in Honduras could result in unacceptable threats to the environment and the health of farm workers. Road improvement could lead to increased colonization of the fragile western highlands.

The USAID Mission believes that if the above issues are treated adequately, the project can have a positive impact on the environment through the implementation of soil conservation and forest management activities, and can improve nutrition by increasing rural income levels.

Status: Bank documents indicate the project is pending definition; according to Bank officials the project is on hold due to lack of agreement over credit terms. The project will require an environmental impact assessment under the IDB's new environmental policies, according to Bank staff.

37. Jamaica IDB Second Stage Small Farmer Development Program

Projected IDB funding: \$20 Million

Total project cost: \$30 Million

Description: The project will provide an on-lending credit program for small farmers to increase quantity and quality of agricultural production of these farmers and improve their incomes and living standards. The executing agency will be the Agricultural Credit Bank.

Issues: This is a follow-on project to an earlier loan to small farmers at subsidized rates for purchase of agricultural inputs such as seeds and fertilizer. The loan also includes up to 75% subsidy for the cost of installing conservation measures on land owned by participating farmers. The remaining 25% of the cost of the conservation measures will also be eligible for inclusion in the credit package.

While the inputs funded through the credit package may permit farmers to achieve better yields in the short term, the preceding credit program did not offer farmers tested, site-specific techniques for improving yields over the long term. Offering agricultural credit in the absence of reliable techniques for improving yields and income on a sustainable basis may result in farmers being unable to repay the loans.

A second issue concerns the direct subsidy of soil conservation measures as opposed to more cost effective motivation and extension techniques where farmers install measures on their own accord. If farmers are paid, the measures are often viewed as being superimposed on their fields and not integrated into their farming practices. As a result, farmers may: i) install measures which are inappropriate to their site as determined by soil type, rainfall, etc.; ii) put in structures inappropriately, leading to increased gully erosion; iii) not maintain the structures as they are not understood as contributing directly to the farmers' long term interests; and iv) allow the structures to deteriorate in order to qualify for new subsidies.

Status: A.I.D. understands that the IDB shares the Agency's concern and is undertaking further analysis of the soil conservation component for the project. The project is currently on hold due to difficulties with interest rates. According to Bank staff, the project will require some sort of environmental studies, but not necessarily a full EIA.

38. Mexico IDB Forest Development Program
Projected IDB Funding: \$50 Million
Projected Total Cost: Unknown

Description: This program involves the forestry development of the States of Oaxaca and Guerrero through forestry production and increased productivity; creation of new jobs; and the preservation of the ecological balance. The proposed loan has three components: forestry management, road rehabilitation, and credit for forestry, industrial and community use.

Issues: Local NGOs have expressed concern about potential misuse of forest resources and effects on indigenous peoples.

Status: This project is tentatively scheduled for Board presentation in June 1991. The EIA for the project is just getting underway.