

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 up-dated semi-annually "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, 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 1989

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. The Gambia AfDB River Basin Development
2. Lesotho IDA Highlands Water Construction I
3. Madagascar IDA Ilmenite Mining
4. Mozambique AfDB Massingir Dam Rehabilitation Project
5. Rwanda IBRD Nyabarongo Development Project
6. Somalia IDA Baardhere Dam
7. Somalia IDA Baardhere Resettlement

PROJECTS LOCATED IN ASIA AND THE NEAR EAST

8. Bangladesh IDA Jamuna Bridge Construction
9. People's Republic of China IBRD Three Gorges Dam
10. Egypt IBRD Northern Sinai Agricultural Development
11. India ADB Second North Madras Thermal Power
12. India IBRD/IDA Narmada (Madhya Pradesh) Dam and Power
13. India IBRD/IDA Narmada (Madhya Pradesh) Resettlement
14. Indonesia ADB Power XX Project
15. Indonesia IBRD Irian Jaya Area Development
16. Indonesia IBRD Swamps Second Stage Development III

17. Indonesia IBRD Transmigration Second Stage Development
18. Indonesia IBRD Treecrop Smallholder Development
19. Jordan IBRD Transport III
20. Malaysia IBRD Sabah Forestry II Project
21. Nepal IDA Arun Hydropower
22. Sri Lanka ADB Power Systems Expansion Project

PROJECTS LOCATED IN LATIN AMERICA AND THE CARIBBEAN

23. Bolivia IDA First Regional Development of the Eastern Lowlands Project
24. Brazil IDB Belem Drainage and Roads
25. Brazil IBRD Electric Transmission and Conservation
26. Brazil IBRD Environmental Reform and Energy Conservation
27. Brazil IBRD Rondonia Natural Resource Management
28. Brazil IDB Segredo Hydropower Project
29. Ecuador IDB Electric Power Investment I
30. Ecuador IBRD Lower Guayas Flood Control
31. Ecuador IBRD Oil Production Development
32. Honduras IDB Western Region
33. Jamaica IBRD Agricultural Sector Adjustment Project
34. Jamaica IDB Second Stage Small Farmer Development Program
35. Mexico IDB Forest Development Program

December 1989

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

PROJECTS LOCATED IN AFRICA

1. The Gambia AfDB River Basin Development
Projected AfDB funding: unknown
Projected Project Cost: \$400 Million

Description: The proposed project involves two dams on the Gambia River, a hydropower station and irrigation blocks. The Balingho Dam to be located in the Gambia would prevent saltwater intrusion in the downstream portion of the river. The upstream dam would be located in Kekreti, Senegal and would generate power and control water for irrigation in the Gambia.

Issues: Issues have been raised concerning the impact of the project on river ecology, fisheries, estuaries, mangroves and on the livelihoods of peoples engaged in swamp cultivation in the Gambia River Basin.

Status: In the mid-1980's, A.I.D. financed an extensive environmental and socio-economic impact study of both dams. On the basis of that study and other information, the AfDB has decided not to support the project as initially conceived, noting environmental problems and doubtful economic viability. However, the Bank has indicated a willingness to fund additional studies of smaller scale project alternatives as well as an analysis of alternative sites for the upper dam. The project is currently on hold. A.I.D. will continue to monitor developments.

2. Lesotho IDA Highlands Water Construction I
Projected IDA funding: \$50 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, loss of fauna and flora in impoundment area, and impacts on riverine ecosystem from the construction of the dam.

Status: The pre-feasibility study conducted in 1983 included a baseline analysis of the physical environment of the area to be affected by the project. Further studies of potential social and environmental impacts were conducted in 1985. The Lesotho Highlands Development Authority and the University of Lesotho continue to examine potential impacts and mitigation alternatives with technical assistance funded in part by the European Economic Community. The results of this work will be made available prior to project appraisal. The government is also developing a program to compensate the population that may be adversely affected. 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. 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. The project is under preparation. 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.

3. Madagascar IDA Ilmenite Mining
Projected IDA funding: \$ 38.3
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. An environmental impact study is 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 on-going Environmental Action Plan. The Action Plan is a multidonor effort in which A.I.D. is a principal participant.

4. Mozambique AfDB Massingir Dam Rehabilitation Project
Projected AfDB 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.

5. 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 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: The project is still in early stages of preparation and is currently in the Bank's reserve program. Project planning will take place in four stages. The first stage, that of data collection, is complete. The second stage, the development of scenarios for the valley (including dikes, dams and channelization) has recently been completed by a French consulting firm. The third stage will be the selection of the optimal scenario, and the fourth stage will be the development of the master plan for the valley. In response to international concern about the environmental implications of the project, the Bank has 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. The second phase will specifically delimit these zones for the proposed areas of development, and recommend regulatory or other measures necessary to protect sensitive zones. Bank staff have solicited A.I.D. advice on environmental issues for this project and A.I.D. believes the methodology is appropriate. In addition, the Bank is working in collaboration with A.I.D. in developing an Environmental Action Plan for Rwanda. The plan will assess, among other things, the environmental implications of marais development.

6. Somalia IDA Baardhere Dam
Projected IDA Funding: \$62 million
Projected Project Cost: Unavailable
7. Somalia IDA Baardhere Resettlement
Projected IDA Funding: \$10 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: A.I.D. has financed an extensive, three year study of environmental and socio-economic issues associated with the project. 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 FY91.

PROJECTS LOCATED IN ASIA AND THE NEAR EAST

8. 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 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. According to Bank documents an environmental study has been completed. We are contacting our mission for further information.

9. People's Republic of China IBRD Three Gorges Dam
Projected IBRD Funding: Unavailable
Total Project Cost: Estimated at \$10 Billion

Description: The project would finance a dam in the Three Gorges region of the Yangtze River basin to provide flood control, electrical power and inland navigation. The executing agency would be China's Ministry for Water Resources and Electric Power.

Issues: Significant concerns have been raised regarding the required resettlement of roughly one million people to make room for the impoundment. Other issues would include effects on fisheries, rare and endangered species (the Chinese alligator and a species of sturgeon), and inland navigation. Concerns have also been raised regarding the hydrological and economic effects of altering sedimentation regimes as well as potential effects on Dongting and Poyang lakes located a considerable distance downstream from the project.

Status: The Chinese have postponed consideration of the Three Gorges Project for five years. Therefore, the Bank has suspended the project from its work program. Bank involvement dates from 1986 when it prepared terms of reference for a feasibility study, later carried out by a consortium of Canadian consultants with financial assistance from the Government of Canada. The Three Gorges Feasibility Report was submitted to the Chinese authorities for review in October 1988. It contained a detailed discussion of environmental effects, both positive and negative.

Further Bank commitment to this project is currently limited to reviewing complementary studies of the resettlement plan and of the program for environmental protection and enhancement identified in the feasibility report. The Bank states that a decision to help in project execution would be conditioned on a commitment by the government to execute resettlement and environmental protection plans that are fully consistent with internationally accepted criteria for sustainable development.

10. Egypt IBRD Northern Sinai Agricultural Development
Projected IBRD funding: \$ 50 Million
Total project cost: unknown

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; and use of drainage water for irrigation.

Status: The Mission has collaborated with the Bank on the scope of environmental studies required. Two studies 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. An environmental assessment is being carried out. A.I.D. will continue to monitor its progress.

11. India ADB Second North Madras Thermal Power
Projected ADB funding: \$ 170
Total project cost: \$ 393.6

Description: The project consists of two components: (i) provision of the third 210 MW coal-fired generating unit for North Madras Thermal Power Station (eventual capacity- 2,050 MW); and (ii) the first half of a ten year development program for electrical transmission/distribution systems in Metropolitan Madras. The executing agency is the Tamil Nadu Electricity Board (TNEB).

Issues: Issues include regional air quality impacts from sulfur dioxide, nitrogen oxides and particulates; coal ash disposal; cooling water intake and thermal pollution impacts from cooling water discharge on receiving waters.

Status: Various aspects of the project are under review. A.I.D. concerns were forwarded to Bank staff. The Bank reply indicates that an environmental impact assessment has been completed, and that the loan contains a stronger environmental covenant than the First North Madras loan. A.I.D. has requested copies of the environmental impact assessment and loan covenants.

12. India IBRD/IDA Narmada (Madhya Pradesh) Dam and Power.

13. 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.

Status: The project has been delayed, and appraisal is awaiting satisfactory resolution of resettlement and other outstanding issues. Continued controversy surrounding inadequate resettlement for the Sardar Sarovar 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; (4) and 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 U.S. and Executive Directors from other donor countries will continue to monitor this project.

14. Indonesia ADB Power XX Project
Projected Bank Funding: \$203 Million
Total Project Cost: unknown

Description: The project will finance the construction of the 175 MW Singkarak hydro-power scheme in West Sumatra and the construction of 10 mini hydro-power schemes in North Sumatra, Sulawesi and Nusa Tenggara. The implementing agency is the National Electricity Corporation.

Issues: Concerns have been raised about mitigation of environmental impacts associated with hydro-power projects, including possible acceleration of deforestation in Sumatra. With respect to projects in Nusa Tenggara, questions have been raised about the effect of the project on downstream flows. The area is very dry, and it may be necessary to compensate by planning multipurpose water use.

Status: Bank documentation indicates that various aspects of the project are under review. According to ADB staff a thorough environmental impact assessment has been completed, and the loan will include specific mitigation measures and funding to ensure implementation. A.I.D. has requested copies of the environmental impact assessment and loan covenants.

15. 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: Project preparation is underway. Concerns were 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 recently been produced by the World Wildlife fund, but has yet to be implemented. A.I.D. has contacted World Wildlife Fund for more information. A.I.D. will continue to monitor unresolved issues of environment and institutional capacity.

16. Indonesia IBRD Swamps Second Stage Development III
Projected IBRD funding: \$ 120
Total project cost: unknown

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

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 capability within the Ministry of Agriculture.

Status: 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. A.I.D. will continue to monitor the project.

17. Indonesia IBRD Transmigration Second Stage Development
Projected IBRD Funding: \$104 million
Total Project Cost: Unavailable

Description: The project will increase income and agricultural production in nine 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: 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. Environmental impact assessments have been prepared for all nine sites. 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. The Bank November 1988 appraisal mission included an environmental specialist/consultant whose task was to reassess potential environmental impacts identified in earlier studies, and to establish an environmental management plan for implementation at each of the project sites. 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. A.I.D. has requested further Bank documentation on this project. Bank documentation indicates that the appraisal report is under preparation.

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

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 needs more land capability analysis. The project may also result in attracting new settlers to project sites, creating secondary impacts.

Status: 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.

19. Jordan IBRD Transport III
Projected IRBD funding: \$ 25 Million
Total project cost: \$70 Million

Description: The project includes a wide range of activities which have yet to be defined, but which may include: (i) new road construction and rehabilitation/strengthening of existing roads in Southern Jordan; and (ii) the design of a 39 km railway spur to connect the new phosphate mine at Es Shidiya to the existing railway near Batn El Ghul. It may also include technical assistance for: (i) the establishment of a post-graduate diploma course in infrastructure maintenance at the University of Amman; (ii) the provision of experts -- one transport planner for the Ministry of Planning; one transport economist/traffic engineer and one environmental adviser for the Ministry of Public Works and Housing (MPWH); and one operations specialist and one financial analyst for the Aqaba Railway Corporation; (iii) a study of the Port Corporation at Aqaba to examine possibilities of increased foreign exchange earnings; and (iv) a road safety program.

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.

Status: The appraisal mission is scheduled for September 1990. The Mission remains concerned about the institutional capability of the project to protect antiquities. It has recommended that environmental reviews should be conducted on a sub-project basis and that the reviews include corridor archeological studies. The Bank indicated that conservation of the environment and protection of antiquities would be assisted through the environmental adviser to be appointed in the MPWH. A.I.D. is continuing to monitor this project.

20. Malaysia: IBRD Sabah Forestry II Project
Projected IBRD funding: \$60 Million
Total Project Cost: unavailable

Description: The proposed project is a follow-on to the Sabah Forestry Technical Assistance project. It will establish a large pulpwood plantation (35,000 hectares) with smallholder outgrowers. 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 are also included..

Issues: The plantation 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.

Status: Bank staff recently indicated that this project is being reformulated and that it may change substantially from its initial conception. A.I.D. expects to see a new project description in about three months. A.I.D. will monitor this project as its development proceeds.

21. Nepal IDA Arun Hydro-power
Projected IDA funding: \$ 70 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: The environmental impacts 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 material which currently produce medicine, food, and fiber and serve as a source of income for local people.

Status: An environmental analysis of the likely impacts of the two projects considered together has been undertaken by IDA staff, government officials, and consultants. The Bank assured A.I.D. that the following environmental measures are being taken.

1. With respect to the Access Road Project, the road alignment has been carefully designed and extended an additional 40km from the original length to minimize cut and fill and avoid rice terraces. The best engineering and bio-engineering techniques have been used. Only 27 houses will be directly impacted by the road. To avoid deforestation the road will include several continuously-manned control gates to prevent access by logging trucks. Only kerosene can be used for cooking and heating in the construction camps and teashops. The workforce will be restricted to an area close to the road right of way. The Forest Department has prepared a special forest supervision plan for the area and will increase its supervision staff. A land acquisition, compensation and resettlement plan has been prepared and is now under implementation. It will provide adequate and timely compensation for affected residents, including farmers and, tenants. Where families are seriously affected they will have the option of resettlement in the vicinity. Assistance to the local panchayats (village councils) will be provided under the project, to help them manage the growth of their settlements. As part of the agreement on the road project the government will prepare a conservation management plan for the dam watershed covering the Upper Arun Valley and involving the local people. The plan will include the proposed extension of the Mt. Everest National Park into the Barun Valley. A tourism/trekking management plan for the Arun Valley will also be prepared with the objectives of harmonizing tourism and conservation. Terms of reference for the work have been agreed with IDA. An environment and resettlement unit will be created within the Department of Roads.

With respect to the Hydro-power Project, a study of aquatic life will be undertaken and the results used to implement measures to mitigate the dam's impact. Implementation measures emerging from the conservation and tourism management plans will be agreed with the government as part of the negotiations on the hydro-power project. Studies to minimize the impact of construction on the landscape, the river regime and the forest submerged by the lake will be undertaken, and the results, together with a study on the risk and possible impact of glacial lake outbursts, will be used to influence dam design and construction and afforestation requirements. An environment and resettlement unit will be created within the Nepal Electricity Authority.

An action plan to ameliorate the hydro project's environmental impacts is under preparation and will be implemented in conjunction with this project.

22. Sri Lanka ADB Power Systems Expansion Project
Projected ADB Funding: \$74.3 Million
Total Project Cost: \$97.5 Million

Description: The project consists of three components: (i) Rural Electrification Phase II; (ii) 40 MW diesel power generation capacity extension at Sapugaskanda; and (iii) engineering and environmental services. The executing agency is the Ceylon Electricity Board (CEB).

Issues: The major issue raised in the previous edition of this list was whether or not the project is intended to be the vehicle for construction of the first stage of the Trincomalee Thermal Power Generation Plant proposed by the Ceylon Electricity Board to be located at China Bay. Issues associated with the Trincomalee plant include: impact of air pollution emissions on tea growing areas; thermal pollution effects on marine life; and impairment of scenic value in surrounding tourist area.

Status: Bank board papers are under preparation. Concerns related to this project were forwarded to Bank staff, who said there is no connection between this loan and the Trincomalee project. Trincomalee will be postponed until 1992.

PROJECTS LOCATED IN LATIN AMERICA AND THE CARIBBEAN

23. Bolivia IDA First Regional Development of the Eastern Lowlands Project
Projected Bank Funding: \$35 million
Total Project Cost: Unknown

Description: The project will provide support for long term regional development of the eastern lowlands, focusing on the rational development of the region's resources. The project will also focus on: the production of agricultural export commodities; support for soil studies and mapping; agricultural research and extension; feeder road system; and credit. The project will address selected environmental and indigenous people issues. The implementing agencies are the Ministry of Agriculture and CORDECRUZ.

Issues: Concerns were raised over the potential adverse environmental impacts associated with altering land use in the lowlands. Introduction of roads may lead to in-migration and deforestation. Lowland soils are acidic and prone to compaction with agricultural machinery. They lack nutrients and are characterized by poor drainage. As such they are easily degraded, and require appropriate agricultural and agroforestry techniques. As originally envisaged, the project would involve the clearing of several thousands of acres of tropical lowland rainforest for the planting of soybeans for export. Questions have been raised about the need to undertake soil studies to determine if the soil could sustain a monoculture cropping system. Also at issue is the wisdom of clearing additional land instead of working with farmers to make more productive use of land already cleared. Questions have also been raised about possible effects on indigenous people. A.I.D. Mission strongly encourages use of local environmental capability in the Center for Land Use Planning (CUMAT) and the League for the Defense of the Environment (LIDEMA). The project should be subject to an environmental impact assessment.

Status: In an earlier communication the Bank assured A.I.D. that the focus has shifted from a narrowly conceived agricultural production project to a regional development project promoting sustainable development. However, there remain some questions about how significantly the project has been redesigned. According to Bank officials, the project

is intended to promote the long-term rational development of the Santa Cruz Department of Natural Resources and the sustainable production of agricultural export and import-substitution commodities (primarily soya in rotation with wheat, sorghum and sunflower seed.) Project preparation funds are being provided by the IDA in the form of a Project Preparation Facility (PPF) to "establish the current status of land clearing and the long term sustainability of agricultural production by assessing in detail the land use capability of the areas identified as having agricultural production potential through the use of aerial and satellite imagery combined with soil sampling. The assessment would be used to direct credit flows under the proposed IDA credit to those areas exclusively."

A.I.D. continues to have serious concerns about lack of environmental planning or safeguards associated with this project. As currently conceived, the project itself will not include credit for clearing land, only for agricultural development. However, A.I.D. Mission employees report that great areas of land are being cleared by illegal slash and burn methods possibly in anticipation of Bank credit for development. There is a clear need for environmental and land use planning associated with this project.

24. Brazil IDB Belem Drainage and Roads
Projected IDB funding: \$60 million
Total project costs: \$80 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 have investigated this issue and conclude that the area is already so fully developed that its ecological functions as a wetland are currently without value.

Status: 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.

25. Brazil IBRD Electric Transmission and Conservation
Projected IBRD Funding: \$350 Million
Total Project Cost: Unavailable
26. Brazil IBRD Environmental Reform and Energy Conservation
Projected IBRD Funding: \$325 Million
Total Project Cost: Unavailable

Description:

Electric Transmission: This loan finances a time slice of power transmission and conservation investments in selected utilities. The project is expected to finance investments associated with specific power projects and programs of sector utilities.

Environmental Reform and Energy Conservation: The loan is a continuation of support for government measures to strengthen environmental and conservation programs in the power sector.

The implementing agency for both loans is ELECTROBRAS.

Issues: Both of these loans provide 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, two major issues were raised: lack of attention to energy conservation, and inadequate environmental review and planning for sub-projects.

These two current projects appear to address these concerns and are seen as environmentally beneficial. The transmission loan includes a \$35 million component to the National Energy Conservation Program. The Environmental Reform loan supports the implementation of the environmental master plan that was developed after approval of Power Sector I.

Status: A.I.D. will continue to monitor these projects primarily to assess the adequacy of the solutions they propose to difficult environmental and institutional issues.

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

Description: The project would consolidate the first phase of Northwest projects in Rondonia through policy improvements, agricultural intensification in established areas, forest management support for forest extractive activities, environmental and tribal protection, and continued support for small farmer community projects and social services.

Issues: Earlier Bank supported projects to Rondonia, including support for the major road (BR 364), have led to major ecological destruction. Much of the development that followed the road was not sustainable. This loan attempts to redress many of the problems. However, there is concern that continued development, especially of forest management activities, may still prove unsustainable.

Status: The appraisal report is under preparation. The U.S. Government is looking at issues of long term sustainability associated with this loan.

28. Brazil IDB Segredo Hydropower project
Projected IDB funding: \$ 128 Million
Total project cost: \$ 756.5 Million

Description: The project involves construction of a 1,260 MW hydropower plant to meet projected increase in electric energy demand in the State of Parana and in the South and South-East regions. Segredo is the fourth hydroelectric dam to be built on the Iguacu River with two additional dams in the planning stages.

Issues: Issues include: the clearing of roughly 84 km² to be inundated by the impoundment (24 km² is forest which will be cleared to avoid eutrication impacts; the rest is farmland); potential pollution from a planned pulp and paper mill which will use the wood from the forest clearing; relocation of some 550 families; and limited siltation of the impoundment lake from land use practices in the upper watershed.

Status: A meeting was held between Treasury, State, AID and IDB staff to raise environmental issues and discuss mitigation. IDB indicated that \$ 1 million had already been spent on analysis of social and environmental issues and that an estimated \$18 million have been planned for environmental impact mitigation and resettlement. Annual reporting requirements have been imposed to ensure monitoring and oversight. Negotiations on the project are completed, but the project is on hold pending internal Brazilian legal procedures.

29. 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 activities as a possible loan for future funding. 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.

30. Ecuador IBRD Lower Guayas Flood Control
Projected IBRD Funding: \$30 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 flood-prone 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. Two alternative sites have been proposed for the outlet channel: one is located north of the Manglares-Churute Mangrove Reserve; the other is routed into the Reserve itself. The second site is preferred because of its relatively lower cost.

Issues: The western portion of the Manglares-Churute Reserve contains Ecuador's only protected mangrove forest ecosystem. The Reserve is home to two important species of waterfowl, both with low populations in Ecuador: the comb duck, which is seasonally present in the mangrove forests along the coast; and the horned screamer, which inhabits the 900 ha Laguna de el Canclon in the eastern portion of the Reserve. The horned screamer population is declining throughout its range, having become extinct in Trinidad and Guyana and falling throughout western Columbia. The estimated resident population of horned screamers in the Reserve is less than one hundred individuals. In addition, limnological studies by the University of Guayaquil show the Laguna to be a climax fresh water community with high planktonic and emergent plant diversity. Isolation provided by the surrounding Churute Hills has allowed a unique ecosystem to evolve in the Laguna, safe from flood conditions that develop in surrounding areas.

As originally proposed, the lower-cost outlet channel would drain directly into the Laguna, which would be dammed at its western end to buffer flows during peak flood periods. Scientists who have studied the area are concerned that during a flood period of just 10 hours the entire lake basin could be covered by water nearly one meter deep, potentially affecting the emergent vegetation on which the horned screamers and other waterfowl depend for food and shelter. Floodwaters draining the Andes and adjacent agricultural areas will be high in suspended sediment and possibly fertilizers and pesticides. Many characteristics of the relatively isolated Laguna environment will change dramatically if these floodwaters are permitted to drown the Churute marsh periodically.

A.I.D. believes that the environmental impact of draining flood waters into the Canclon Lake should be examined by recognized experts and that alternatives to the proposed solution should be examined more closely. Economic analysis of alternatives should include an estimate of environmental costs and must reflect the fact that Canclon Lake lies within a nature reserve. Finally, the project should include a plan to manage the montane watersheds draining into the Guayas Basin.

Status: An appraisal mission is scheduled for January 1990. The Ecuadorian government held a public meeting to explore environmental concerns about the project in April 1989. Representatives of public and private institutions were not satisfied with the ecological section of the project's feasibility study and agreed to form a committee to study the environmental impact of the project and possible alternatives. Participants suggested that an environmentally acceptable alternative would be to extend the outlet channel south past the Churute Hills and Canclon Lake. Bank documents indicate that an environmental impact assessment study is under preparation. A.I.D. Mission environmental personnel have begun working with Bank staff to coordinate further ecological study of proposed alternatives. A.I.D. has indicated its concern to the Bank and requested more information. A.I.D. will continue to monitor the project.

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

Description: The project will provide financing for: oil field development; secondary recovery; exploration promotion; Transecuadorian crude pipeline expansion; technical assistance; and environmental studies. The project is currently under identification. The project is to be located in the Ecuadorian Amazon or Oriente region. The implementing agency will be the newly established state oil company, Petroecuador, formerly the Corporation Estatal Petrolera Ecuatoriana (CEPE).

Issue: The project entails significant environmental and cultural impacts associated with oil exploration, development and transport in the Ecuadorian Amazon, including the Yasuni National Park. To construct a pipeline through the Yasuni, it will be necessary to construct a road to bring in heavy equipment, sections of the pipe and for maintenance one the line is completed. Construction of the road will increase colonization in the park, endangering local flora and fauna and further threatening the Huaorani Indians living in the area. The impact of oil exploration goes beyond the Yasuni National Park and is likely to affect other reserves such as the Cuyabena which has already been significantly colonized due to oil exploration and associated road construction. The Oriente comprises almost half the surface area of Ecuador; yet it is still relatively unsettled with rich biodiversity and includes other Indian tribes in addition to the Huaorani. Petroecuador is at the center of oil exploration in the Oriente and bears ultimate responsibility for ensuring that environmental and social impacts are assessed prior to oil exploration and production. Petroecuador reimburses foreign oil companies, in this case Conoco, for exploration and pipeline construction costs in return for a portion of the profits from the oil that is finally produced.

Status: The project is under identification. Discussions with Bank staff indicate that a small portion of the project will support the establishment of a unit within Petroecuador for data collection and environmental policy development. However, current institutional capacity for environmental planning associated with oil exploration is weak. The project will include an environmental impact assessment which will be completed prior to appraisal. A Bank issues and options paper is available now. A.I.D. will continue to monitor the project.

32. 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. Efforts to substitute coffee for staple food crops may jeopardize the already tenuous food security of the rural poor. Coffee's effectiveness as a soil-stabilizing crop is questionable: rapid soil erosion during the five years required for coffee trees to reach maturity may eliminate potential soil conservation benefits. Flowers are pesticide-intensive crops. Lack of adequate pesticide regulations, technical expertise and regulatory institutions in Honduras may result in unacceptable threats to the environment and the health of farm workers. Road improvement may lead to increased colonization of the fragile western highlands.

Status: Bank documents indicate the project is pending definition. According to Bank officials the project is on hold pending resolution of credit terms. A.I.D. will continue to monitor the situation.

33. Jamaica IBRD Agricultural Sector Adjustment Project
Projected IBRD Funding: \$25 Million
Total Project Costs: Unavailable

Description: The project is a quick disbursing policy-based operation with objectives designed to assist in policy reform and institutional strengthening in the agricultural sector. The executing agency is the Bank of Jamaica.

Issues: A possible concern has been raised regarding use of pesticides.

Status: The U.S. Executive Director's office has raised concerns with Bank staff. Current Bank documentation indicates that project preparation is underway. The Government of Jamaica has set up a team to prepare an operational working paper on environment and deforestation as part of the agriculture adjustment project preparation efforts. The loan would include as one of its conditions the preparation, by an independent agency satisfactory to the Bank, of a study on the policy and regulatory framework for the use of chemical pesticides. The A.I.D. mission has met with Bank staff and discussed loan conditions relating to pesticides and watershed management. A.I.D. will continue to monitor, but does not foresee major problems with this loan. Bank documentation indicates that negotiations are in progress.

34. Jamaica IDB Second Stage Small Farmer Development Program

Projected IDB funding: \$19.4 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 analyses on the project.

35. 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: Bank documents indicate the project is under preliminary analysis. Also under preliminary analysis is an IDB technical cooperation project to produce an environmental impact study for the Forest Development Program. A feasibility study funded by the Finnish government is completed. The environmental study is expected to begin in early 1990 and will require four months to complete. A.I.D./Washington is contacting A.I.D./Mexico environmental officers for further information.

PROJECTS WHICH WERE DROPPED FROM THE PREVIOUS LIST

1. Costa Rica IBRD Electric Development II
Project approved.
2. Indonesia IBRD Nucleus Estate Phase II Project
Project dropped from lending portfolio.
3. Mauritania AfDB Village Water Supply (bore holes)
Project dropped from the lending program.
4. Mexico IBRD Hydroelectric Development Project
Project approved.
5. Morocco IBRD Industrial Finance Loan
Project approved.
6. Nepal ADB Secondary Crops Development
Project approved.
7. Pakistan IBRD Kalabagh Dam
No longer in active in lending program.
8. Somalia IDA Farahaane
Project approved.
9. Sri Lanka IDA Forestry Sector Development
Project approved.