

Project Name India-Proposed Andhra Pradesh Hazard Mitigation (+) ...
and Emergency Cyclone Recovery Project

Region South Asia

Sector Multisector

Project ID INPE49301

Borrower Government of Andhra Pradesh

Implementing Agency Project Management Unit
Finance and Planning Department
Andhra Pradesh Secretariat
Hyderabad, INDIA
Attention: Additional Secretary

Date Prepared 01/29/97

Projected Appraisal Date 02/12/97

Projected Board Date 05/06/97

1. Circumstances of the Disaster. Andhra Pradesh (AP) is India's fifth largest state, with an area of 274,000 square kilometers, and the fourth most populous one, with about 66 million inhabitants in 1991. The densely populated coastal districts, spread over 1,030 kilometers of coastline on the Bay of Bengal, share the fertile deltas of the Godavari and the Krishna, two of India's largest rivers. Coastal AP is probably the most vulnerable region in India to tropical storms. All nine coastal districts, along with four adjoining inland districts, are subject to frequent cyclones, storm surges and floods. Overdevelopment and denuding of coastal zones of their protective vegetation belts have resulted in increased vulnerability. The deadliest disaster in the last 20 years was the November 1977 cyclone, which killed about 10,000 people. More recently, the May 1990 cyclone, with a death toll of about 1,000 people, caused about US\$1.25 billion in damage.

2. Andhra Pradesh experienced a series of cyclones, storm surges and floods between June and November 1996. The most recent cyclone, whose wind speeds reached between 200 to 250 kilometers per hour and gave way to a storm surge of up to 2.2 meters, hit AP during the evening of November 6, entering the mainland south of the port of Kakinada. About 1,057 people died and 900 were reported missing. Most seriously affected were the coastal districts of East and West Godavari, followed by the adjoining Krishna and Khammam districts. The economic impact of the latest cyclone on the economy of AP is significant, with losses, totaling about US\$1.5 billion, represented in substantial damage to housing, municipal and rural infrastructure, agriculture, fisheries and animal husbandry.

3. The emergency response was rapid and effective. The Army, the Navy and the Air Force authorities led search and rescue. About 800 relief camps were established, and more than 200,000 persons were evacuated. Relief assistance by the government and NGOs to the affected population was begun promptly. Few families needed to stay

long in the cyclone shelters, as they quickly reconstructed their wattle and daub structures with official financial help. Revenue staff had been deputed to deal with the rehabilitation efforts by November 9. The Government of Andhra Pradesh (GOAP) called for the donations to the Andhra Pradesh Chief Minister's Cyclone Relief Fund, 1996, and requested outside help.

4. Rationale for Bank Involvement. After the May 9, 1990, cyclone, the Bank approved the Andhra Pradesh Cyclone Emergency Reconstruction Project, totaling US\$265 million, which improved infrastructure standards of restored assets successfully, but fell short in the establishment of mitigation measures and integrated delta and coastal zone management. Given the recurrence and frequency of cyclone and flood disasters, a concerted effort is still required to link effectively rehabilitation to long-term mitigation plans. This is directly related to: (i) the Bank's criteria for providing emergency recovery assistance (OP 8.50), specifically the frequency of recurring emergencies in AP and the prospects for reducing damages in the future; and (ii) the benefits of long-term disaster management versus the costs of repeated short-term post-disaster reconstruction. Bank involvement would emphasize long-term cyclone hazard reduction planning as a prerequisite for the sustainability of physical investments in need of replacement and/or reconstruction.

5. Project Objectives. Any future investment in coastal AP is non-sustainable in the absence of comprehensive cyclone and flood management. In view of the exorbitant economic and social costs of recurring disasters, the proposed project adopts long-term disaster management as the guiding principle of recovery. The project objectives are thus to assist the GOAP in (i) preparing and implementing long-term cyclone and flood hazard management in high risk areas with enhanced local community participation, and (ii) restoring lost public infrastructure within an implementing framework that incorporates improved design criteria, cyclone- and flood-resistant siting, and construction and quality control measures.

6. Proposed Components and Their Estimated Costs. The tentative total project cost would be US\$180 million in 1996 prices, including contingencies. It would finance (i) the comprehensive cyclone and flood management program, which would include inter alia: regional protocol for cyclone forecasting and early warning systems for floods; integrated coastal zone management including delta and flood control structure management; capacity building of GOAP agencies for disaster response; and public education, awareness raising and disaster planning information dissemination; and (ii) investment components, which would include the repair and reconstruction of: cyclone shelters and tree shelter belts; irrigation, drainage and flood control structures; minor irrigation; roads and bridges; power; harbor facilities; State and Panchayati Raj public buildings; and municipal roads and drainage.

7. Project Financing. The proposed IDA and IBRD credit/loan would finance about 67% of the total project cost. Bank funds would

finance eligible expenditures, excluding taxes and duties.

8. Project Implementation. As specified by the Bank's guidelines for emergency recovery assistance, the project would last three years. The GOAP would prepare a policy framework outlining the method of financing public infrastructure, the hazard reduction planning approach, and project implementation arrangements. The project would be implemented through a Project Management Unit (PMU). The head of the PMU, given fully delegated powers to decide on all project-related management issues, would grant administrative and financial sanctions, and approve contracts for procurement without a limiting value threshold. Investment components from all GOAP departments would be approved by the PMU, without referring to the Planning or Finance Departments. A high-level Steering Committee headed by the Chief Secretary of the GOAP would review and monitor the implementation process and clear any bottlenecks. The PMU would prepare a project implementation plan showing departmental responsibilities and their procurement plans. Procurement would be in accordance with the Bank's guidelines. The project management plan would include performance indicators for the investment components and the hazard reduction program. The latter would be developed and supervised by qualified international consultants. Infrastructure restoration would be financed provided that their design includes structural mitigation. Internationally experienced quality assurance consultants would also be appointed to check designs and construction, and to assist the GOAP in capacity building to ensure that standards are always enforced.

9. Benefits and Risks. The main benefit would be the establishment of long-term cyclone and flood hazard reduction measures that would lessen future disaster impacts. The major risk would be that the GOAP would focus on short-term infrastructure restoration while delaying or failing to undertake hazard reduction programs. This risk would be mitigated by sensitizing the GOAP on the importance of hazard reduction, preparing the appropriate TORs, providing the shortlists of suitable consulting firms, ensuring that the consultants for hazard reduction management are selected and appointed as soon as possible and that the funds earmarked for long-term hazard reduction studies, planning and management activities are made ineligible for reallocation to other components.

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Note: This is information on an evolving project. Certain components may not necessarily be included in the final project.

Processed by the Public Information Center week ending April 18, 1997.

ENVIRONMENTAL ISSUES

Physical characteristics (e.g., low-lying terrain and soil types), social and economic factors (e.g., high concentration of population, infrastructure, and economic activities), and the absence of disaster management, have resulted in increased vulnerability to cyclones and floods in Andhra Pradesh. Coastal zone is being overdeveloped and denuded of its protective vegetation belts (which act as natural barriers against storm surges and high winds) and are being converted into aquaculture farms or depleted for fuel wood. Due to these activities and the inadequate maintenance of infrastructure, damage to the state from cyclones and floods has been exceptionally high and would continue to grow unchecked if hazard reduction measures are not implemented as a matter of priority. No resettlement will occur in the course of the project.

The project approaches natural hazard reduction and long-term mitigation within the framework of environmental management, including:

1. Cyclone and flood management studies necessary to develop action plans and to determine the appropriate institutional framework for coastal, delta and watershed management.
2. Repair and reconstruction of irrigation canals and drains.
3. Mitigation works, included in the restoration component, to support watershed management and planting of coastal tree shelter belts.
4. School buildings doubling as cyclone shelters.
5. Community involvement in maintenance of drains and other elements of flood protection and irrigation systems through direct participation of the communities, and the use of the Vulnerability Reduction Fund.
6. Environmental monitoring by the Andhra Pradesh Disaster Management Unit (FMU). The bulk of physical investment is in the realm of repair and reconstruction of damaged or destroyed assets, not in new construction. By emphasizing an integrated approach to delta and coastal zone management connected to the flood and cyclone disaster management planning, the project would contribute to reducing harmful practices that impact adversely coastal plains. In addition to saving lives and reducing property losses in the future, the project would improve the quality of the environment by supporting watershed and coastal management, thereby helping to control natural resource depletion and improve drainage conditions.