

**PROJECT INFORMATION DOCUMENT (PID)  
APPRAISAL STAGE**

Report No.: AB4707

<b>Project Name</b>	India Cyclone Risk Mitigation Project (ICRMP)
<b>Region</b>	SOUTH ASIA
<b>Sector</b>	General water, sanitation and flood protection sector (100%)
<b>Project ID</b>	P092217
<b>Borrower(s)</b>	GOI (80%); State Government (20%)
<b>Implementing Agency</b>	Ministry of Home Affairs
<b>Environment Category</b>	<input checked="" type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> FI <input type="checkbox"/> TBD (to be determined)
<b>Safeguard Classification</b>	<input type="checkbox"/> S <sub>1</sub> <input checked="" type="checkbox"/> S <sub>2</sub> <input type="checkbox"/> S <sub>3</sub> <input type="checkbox"/> S <sub>F</sub> <input type="checkbox"/> TBD (to be determined)
<b>Date PID Prepared</b>	December 16, 2004/updated on Dec 2, 2009
<b>Estimated Date of Appraisal Authorization</b>	December 2009
<b>Estimated Date of Board Approval</b>	March 2010

1. Key development issues and rationale for Bank involvement

India is highly vulnerable to natural hazards, particularly earthquakes, flood, drought, cyclone and landslides. Studies indicate that natural disaster losses equate up to 2% of India's GDP and up to 12% of federal government revenues. Cyclone is one of the most recurring natural disasters in India, with nearly 300 cyclones (of which 40 percent were severe) affecting the country during the past century. Analyzed data for the period 1980-2000 indicates that on an average, annually, 370 million people are exposed to tropical storms and cyclones in India and economic losses resulting from these cyclones are staggeringly high, estimated at about US\$ 200 million annually. As climate change and variability become more pronounced, hazard events are set to grow, both in terms of frequency and intensity. Climate change prediction models show greater number of high storm surges. In addition, models show an increased occurrence of cyclones in the Bay of Bengal, particularly in the post-monsoon period, along with increased maximum wind speeds associated with cyclones.

For more than a decade now, the Bank has been assisting GoI in effectively responding to disasters following the Latur (Maharashtra) earthquake in 1993, the Andhra Pradesh cyclone in 1997, the Orissa super-cyclone in 1999, the Bhuj, Gujarat earthquake in 2001, and the Tsunami in South India in 2004. Globally, understanding has grown over the past decade around the important role played by disaster risk mitigation and preparedness projects in reducing the overall impacts of a disaster. In India too, this partnership between GoI and the Bank and their joint learning experience of disaster recovery and reconstruction, are leading to an increased focus towards future oriented, risk mitigation programs and strategies.

India's response to two of the biggest disasters in this current decade, the Gujarat earthquake and the Asian tsunami, has been efficient and very effective. Through this period India has made great strides in moving from reactive emergency response to being proactive and implementing disaster preparedness and risk reduction initiatives. India enacted the Disaster Management Act in 2005 paving the way for the establishment of the National Disaster

Management Authority (NDMA) and State Disaster Management Authorities (State DMAs). The NDMA has proactively formulated guidelines and procedures for dealing with specific calamities. NDMA is mandated to lay down the policies, plans and guidelines for Disaster Management to ensure timely and effective response to disasters. They are engaged in prioritizing and building capacity for risk mitigation programs across the country. The Risk Framework developed in India has served as blue print and best practice model for other countries.

The 11<sup>th</sup> five year plan, 2007-2012, by the Planning Commission, Government of India (GoI), has clearly outlined the aim of consolidating progress made towards disaster preparedness, prevention and risk mitigation by integrating them into the development process. Significant level of capacity need to be built and resources committed in order for India to make meaningful progress towards minimizing its overall risk and vulnerability to natural hazards.

The World Bank is committed to continuing its efforts of reducing vulnerability of India to natural disaster events and its social and economic impacts by promoting a proactive and strategic approach to managing natural disaster risk. The underlying principles of the framework are that both loss of life and economic impact of disasters can be reduced by advance planning and investment. The development of a national level mitigation program specifically targeted to cyclones would allow the implementation of a demand-driven program aimed at reducing cyclone impacts in the most vulnerable states, and strengthening capacity of different states and other related institutions in dealing with various disasters. This is also consistent with the Bank's Country Assistance Strategy FY 2009-2012 which states that "World Bank Group's assistance will help to increase the resilience of people and the economy to nature-related and man-made shocks"; and "Support India's comprehensive efforts to reduce the country's vulnerability to cyclones, earthquakes and other natural perils.

## 2. Proposed objective(s)

The overall development objectives of the program is to assist the Government of India in mitigating the risks and vulnerability of the people of India to natural disasters, particularly cyclones, in order to save lives and reduce social, economic and financial impacts in the event of future disasters. The PDO of the ICRMP is to reduce the vulnerability of coastal communities to cyclone and other hydrometeorological hazards through (i) improved early warning and communication systems, (ii) enhanced capacity of local communities to respond to disasters, (iii) improved access to emergency shelter, evacuation, and protection against wind storms, flooding and storm surge in high risk areas, and (iv) strengthening disaster risk management capacity at central, state and local levels in order to enable mainstreaming of risk mitigation measures into the overall development agenda.

In collaboration with the state governments, this is expected to be achieved through: a) reliable early warnings and communication system; b) enhanced disaster response capabilities; (c) improved access to emergency shelters, evacuation and protection against wind storms, flooding and storm surges; and (d) strengthened institutional capacity towards disaster risk management including program management capacity at central and state level. The program is designed as Adaptable Program Loan (APL) and is expected to have at least three phases. Phase I includes the states of Orissa and Andhra Pradesh that are ready to start implementation of the

program. Phase II will focus on West Bengal, Maharashtra and Gujarat. The remaining coastal states will be covered under phase III. The programmatic approach of APL will allow for incorporation of lessons learned from earlier phases, incorporation of new ideas and technological advancements in management of risks into subsequent phases of the program including. The programmatic approach will also help in creation and upscaling of monitoring and evaluation capacities of the NDMA and other state nodal agencies and will also relate to the readiness of various coastal states vis-à-vis identification and detailing of the specific investment proposals.

### 3. Preliminary description (Phase I)

The project development objective is expected to be achieved through the following main components:

*Component A: Early Warning Dissemination to Coastal Communities (\$15 million):* The overall objective of this component is to reduce the vulnerability of coastal communities by addressing the gap of early warning dissemination in a timely, reliable and efficient manner. The component will support installation of an early warning system allowing the state and/or district/sub district level control centre to send communication directly to the village level; and strengthening of community capacity in maintaining and operating the early warning system as well as community mobilization during an emergency. It is proposed to use GSM/CDMA based technology for triggering the warnings in the villages.

*Component B: Cyclone Risk Mitigation Infrastructure (\$240 million):* The objective of this component is to mitigate cyclone risks through strengthening related infrastructure along the coastal areas. These include cyclone shelters and evacuation routes; improving access to key roads and bridges; strengthening coastal embankments; drainage improvement measures and creation of corpus funds for operation and maintenance of cyclone shelters.

*Component C: Technical Assistance for Strengthening Capacity towards Disaster Risk Management (\$6 million):* The objective of this component is to help understand risk and vulnerabilities better, and prepare the key institutions for addressing them effectively, across all 13 vulnerable coastal states and UTs in a demand responsive manner. This component mainly consists of studies, assessments, training and capacity activities related to risk and damage assessments, institutional capacities; development of training modules, training and capacity building action plans and implementing them.

*Component D: Project Management and Implementation Support (\$19.6 million):* This Component's objective is to support project implementation through provision of necessary office equipment and financing of associated incremental cost of project management teams with NDMA, State PIU's and various Implementing Agencies. This component would also finance the cost of related consulting services for design, planning, implementation support and monitoring.

#### 4. Safeguard policies that might apply

Cyclone risk mitigation investments have the potential to have some environmental and social (involuntary settlement) impacts, particularly in the construction/repair/reconstruction of cyclone shelters, coastal embankments, drainage improvement measures, road and bridge works. In order to ensure effective environmental management in a scenario where multiple sub-projects will be located in different parts of the coastal region across different states the approach of Environment and Social Management Framework (ESMF) preparation has been adopted in the project. The ESMF serves as a comprehensive and a systematic guide covering policies, procedures and provisions, which are being/will be integrated with the over-all project cycle to ensure that the social and environmental aspects are systematically identified and addressed in all the sub-projects funded under the project. It will also support and assist the compliance with applicable GoI and state laws/regulations apart from Bank policies. Each sub-project investment will undergo a social and environmental screening to identify the likely adverse/undesirable impacts. In case significant impacts are identified, detailed environment and social impact studies will be carried out and sub-project specific social and environmental management plans will be prepared.

<b>Safeguard Policies Triggered by the Project</b>	Yes	No
<b><u>Environmental Assessment (OP/BP 4.01)</u></b>	[X]	[ ]
<b><u>Natural Habitats (OP/BP 4.04)</u></b>	[ ]	[X]
<b><u>Pest Management (OP 4.09)</u></b>	[ ]	[X]
<b><u>Physical Cultural Resources (OP/BP 4.11)</u></b>	[X]	[ ]
<b><u>Involuntary Resettlement (OP/BP 4.12)</u></b>	[X]	[ ]
<b><u>Indigenous Peoples (OP/BP 4.10)</u></b>	[X]	[ ]
<b><u>Forests (OP/BP 4.36)</u></b>	[X]	[ ]
<b><u>Safety of Dams (OP/BP 4.37)</u></b>	[ ]	[X]
<b><u>Projects in Disputed Areas (OP/BP 7.60)*</u></b>	[ ]	[X]
<b><u>Projects on International Waterways (OP/BP 7.50)</u></b>	[ ]	[X]

#### 5. Tentative financing

Source:	(\$m.)
BORROWER/RECIPIENT	62
INTERNATIONAL DEVELOPMENT ASSOCIATION	247
Total	309

#### 6. Contact point

Responsible Agency  
 Mr. C V Sankar,  
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\* By supporting the proposed project, the Bank does not intend to prejudice the final determination of the parties' claims on the disputed areas

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