I. Project Context

Country Context

India is highly vulnerable to natural hazards, particularly earthquakes, floods, droughts, cyclones and landslides. Studies indicate that natural disaster losses equate up to 2% of India’s Gross Domestic Product (GDP) and up to 12% of federal government revenues. About 5,700 kilometers of India’s coastline is exposed to severe cyclones and approximately 40% of the total population lives within 100 km of the coastline. As climate change and variability become more pronounced, hazard events are set to grow and intensify.

India has made great strides in moving from a reactive emergency response to being proactive and implementing disaster preparedness and risk reduction initiatives. India enacted the Disaster Management Act in 2005 and established the National Disaster Management Authority (NDMA) and State Disaster Management Authorities (SDMAs). NDMA has proactively formulated
guidelines and procedures for dealing with specific natural disasters and is mandated to frame policies, plans and guidelines for Disaster Management. The Risk Management Framework developed in India has served as a blue print and best practice model for other countries.

For more than a decade, the Bank has been assisting GoI in effectively responding to disasters. 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 that will ultimately benefit millions of people vulnerable to natural disaster risks at the national, state and district - including village - level in India.

In keeping with its commitment to disaster risk mitigation at the national and state level, and building on the World Bank financed: India – Emergency Tsunami Reconstruction Project (ETRP), the GoI has proposed the ‘Tamil Nadu and Puducherry Coastal Disaster Risk Reduction Project’ (CDRRP) for World Bank financing. The project will focus on new initiatives in risk reduction and mitigation, integrating lessons from the previous ETRP along with lessons from other disaster events faced by this coast and emphasizing the need for capacity building of Government institutions and vulnerable coastal communities. The underlying principles of the framework are that both loss of life and economic impact of disasters can be reduced by advance planning, an improved policy and incentive framework, and targeted investment programs.

Tamil Nadu

Tamil Nadu is the southernmost state on the eastern coast of peninsular India, bound by the Bay of Bengal on the east and the Indian Ocean on the south. With a 15.6% rise in population over the past decade, Tamil Nadu is now the seventh most populous state in India with a total population of 72 million. Over 50% of the State’s population lives in the densely packed coastal districts, including approximately 9 million people in the capital of Chennai. The human capital of these areas is also noteworthy, as three of the top districts in literacy rankings are located along the coast.

These coastal areas are not only densely populated but also constitute the economic hub of Tamil Nadu. As of 2012-2013, the state possesses the second largest economy in India and ranks as the second most industrialized state in the country. Various economic activities along the coast, including fishing, agriculture, tourism, shipping, and industry, are important drivers of the overall state economy. Fishing alone provides livelihoods to about 200,000 families. In particular, with its long coastline of 1,076 km and its 3 major and 17 non-major ports, Tamil Nadu has the capacity to handle almost one-quarter of container traffic and one-fifth of India’s total cargo traffic.

Union Territory of Puducherry

The Union Territory (UT) of Puducherry consists of four small, unconnected districts: Puducherry, Karaikal, Yanam, and Mahe. In particular, the districts of Puducherry and Karaikal are both enclaves of Tamil Nadu and constitute 76% of the total population of the UT. Similar to the surrounding areas of Tamil Nadu, about two-thirds of the population in these districts live in densely packed urban settlements along the coast. The important sources of revenue include fisheries, agriculture, tourism, and the service sectors.

**Sectoral and institutional Context**
Coastal Tamil Nadu and Puducherry are endowed with rich human and natural resources which are important economic, social, and developmental drivers of the region. However, the coastal population and economic assets are prone to multiple hazards including high frequency and intensity of cyclones, storm surges, coastal floods and tsunamis. Approximately, 90% of the annual rainfall in the area is concentrated during the three-month north-east monsoon season, during which the delta regions experience frequent and wide spread flooding. This season also overlaps with cyclones in the Bay of Bengal, and data going back to 1891 indicates that on average, a moderate to severe cyclone strikes the Tamil Nadu coast every two years. Over the past century, 55 cyclones have crossed Tamil Nadu. Some coastal areas have recorded storm surges up to 6 m in height.

Cyclone Thane was the last major cyclone to hit Tamil Nadu and Puducherry in December 2011, causing heavy damage to life, livestock, agricultural lands, property, and public infrastructure. Over 46 lives were lost and about 200,000 hectares of land were damaged. In addition fallen electric poles and poor road conditions made large areas inaccessible. During the 30 year period, 1976-2007, cyclones and tsunami have damaged/destroyed over 350,000 houses and have caused over 10,000 deaths. These areas also faces threats of rise in sea levels, shoreline erosions, salt water intrusions, and severe depletion of ground water resources, degradation of mangroves and shelterbelts, and increasing commercial and developmental pressures. Such natural and man-made hazards are significantly affecting a highly vulnerable population and the risks are likely to increase due to the impact of climate change.

The Indian Ocean Tsunami that occurred on December 26, 2004 is an example of the types of hazards that can impact the coastal areas of Tamil Nadu and Puducherry and cause widespread damage to human life and property. Tamil Nadu suffered 8,081 reported deaths, over 150,000 houses were destroyed or damaged, basic infrastructure took an extensive hit, and the fisheries and agriculture sector was significantly impacted. Similarly, Puducherry suffered over 1,000 deaths in addition to economic damage suffered from the loss of livestock, fisheries, crops, and houses.

In the immediate aftermath of the Indian Ocean Tsunami of December 26, 2004, the World Bank approved: India - Emergency Tsunami Reconstruction Project (ETRP) for Tamil Nadu and the UT of Puducherry. The objective of the ETRP was to revive livelihoods and promote recovery in Tsunami affected areas. Over 80% of the project funds were marked for the reconstruction of damaged houses. However, the Government of Tamil Nadu (GoTN) rebuilt the houses using unprecedented support from non-government organizations and the Government of India (GoI). As a result the ETRP accumulated significant cost savings and was restructured in August 2009, with the addition of a new component: ‘Vulnerability Reduction of Coastal Communities (VRCC)’. The restructured project was rescheduled to close by December 31, 2011. The VRCC extended the housing reconstruction program beyond those affected by the tsunami to the entire coast, targeting communities regularly exposed to cyclones, storm surges, coastal flooding (and potential tsunamis), also addressing these communities’ poor access to evacuation shelters and early warning systems. In a way, this was the first major initiative towards risk mitigation in the region.

ETRP closed on the December 31, 2011. At the time of closure, several works were either not completed or were yet to be taken up. A significant amount of undisbursed credit of US$235 million was cancelled on December 30, 2011. At the time of closing the ETRP, it was discussed that with the agreement of the Government of Tamil Nadu, the Government of the Union Territory of Puducherry and the Government of India, the Bank could consider extending further help for disaster risk reduction initiatives that could include completing the unfinished works from ETRP.
and along with other new capacity building initiatives on risk reduction/mitigation also including the component of sustainable fisheries management, based on lessons learnt from the Fisheries Management for Sustainable Livelihoods (FIMSUL).

Both Tamil Nadu and Puducherry have established mechanisms to respond to disasters for immediate relief and long term reconstruction. However, understanding has grown over the past decade around the important role played by disaster risk mitigation and preparedness, in reducing the overall impact of a disaster.

The proposed, ‘Tamil Nadu and Puducherry Coastal Disaster Risk Reduction Project (CDRRP)’, with focus on new initiatives in risk reduction and mitigation, integrating with the previous ETRP, takes into account the lessons from other disaster events faced by this coast, the need for capacity building of various Government institutions and that of vulnerable coastal communities. The proposed CDRRP will address the multiple hazard exposure related challenges faced by coastal Tamil Nadu and the UT of Puducherry, with a focus on risk reduction and mitigation.

Higher Level Objectives to which the Project contributes:

The CDRRP is aligned to the Bank’s Country Partnership Strategy CPS FY12-15; under the Inclusion objective that aims to assist in promoting human development and strengthen social programs which support more inclusive growth with emphasis on enhanced coastal disaster risk management systems.

II. Project Development Objectives

Increasing the resilience of coastal communities in Tamil Nadu and Puducherry, to a range of hydro-meteorological and geophysical hazards along with improving project implementing entities’ capacity to respond promptly and effectively to an eligible crisis or emergency.

III. Project Description

Component Name

Component 1: Vulnerability Reduction
Component 2: Sustainable Fisheries
Component 3: Capacity building in Disaster Risk Management
Component 4: Implementation Support

Py - Component 1: Vulnerability Reduction
Py - Component 2: Sustainable Fisheries
Py - Component 3: Capacity building in Disaster Risk Management
Py - Component 4: Implementation Support

IV. Financing (in USD Million)

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V. Implementation
A. Institutional and Implementation Arrangements

For the implementation coordination of the earlier ETRP, the GoTN had created a central PMU in the Revenue Administration, Disaster Management and Mitigation Department (RADMMD). This PMU is still functioning and is overseeing the on-going balance works of the ETRP. It is headed by an experienced officer from the Indian Administrative Services and staffed with procurement, accounts, environmental and other supporting staff. This will remain as the nodal agency for the GoTN. The works will however be implemented by the respective implementing agencies. The RD & PR Department has a functioning Project Implementing Unit (PIU) and is fully staffed, with field offices in all the districts, which will implement housing and evacuation routes components. Other implementing agencies also have dedicated PIUs and field staff for implementing the works.

In Puducherry, the Project Implementation Agency (PIA) in the Department of Revenue & Disaster Management (DR&DM), implemented works on behalf of all other departments in the ETRP. Now it is proposed to implement works related to the Public Works Department by the respective agency and other works including cyclone resilient electrical network by the PIA. The financial management and payments will continue to be made by the PIA which will continue to be the nodal agency for the CDRRP.

All implementing agencies in Tamil Nadu and Puducherry that were part of ETRP are well conversant with the implementation requirement of Bank projects. New agencies will be supported by the PMU and PIA. There is a web based MIS system functioning in Tamil Nadu, which will be further developed and a similar system will be instituted in Puducherry.

The District Collector’s office would ensure effective coordination of multiple department efforts at the district level and would also be responsible for ensuring effective coordination at the Block and the Gram Panchayat levels. The Gram Panchayat at the village level would be the primary institution coordinating all disaster response and risk reduction activities at the village level through the village disaster committees (VDCs) that would have representation of all sections including particularly the vulnerable: women, children, elderly, low caste groups, landless and disabled from all villages and hamlets covered by each Evacuation Shelter.

B. Results Monitoring and Evaluation

Project will monitor and evaluate the achievement of the PDO and the outcome indicators. Project monitoring will occur as a periodic function, and will include process reviews, accounting audits, social audits, reporting of outputs, and maintenance of records. Broad thematic areas that will be supervised and monitored include the following: i) Social and Environmental Monitoring; ii) Regular Quality Supervision & Independent Quality Monitoring; and iii) Periodic Physical and Financial Progress Monitoring.

Social and Environmental Monitoring: This will comprise the following sets of activities: i) monitoring compliance with environmental regulations, social safeguards, and Environment and Social Management Framework; and ii) continuous social impact monitoring at the community levels and oversight at state/project level.

Regular Quality Supervision and Independent Quality Monitoring: This will be carried out by the respective implementing units within the line departments. Third party quality monitoring and
independent certification of goods and works procured under the project shall form the Quality Management System. Detailed quality management guidelines will be developed by PMU/PIA and adopted by all implementing units and other stakeholders.

Periodic Physical and Financial Progress Monitoring: Physical progress monitoring will be carried out by the implementing units within the line departments on a monthly basis and will report to PMU/PIA, which will in turn share the reports on a quarterly basis with the concerned line agencies and the Bank. The implementing units within the line departments will be the nodal agencies for reporting to PMU/PIA. Financial progress will be reported through the quarterly Interim Financial Reports (IFRs). PMU/PIA will strengthen the existing MIS and create a detailed MIS where needed for management of the information database, which will be an online tool for gathering updates by the implementing units within the line departments. A portion of this database will also be uploaded on the project websites as part of regularly sharing information with the public.

C. Sustainability

Sustainability of the interventions proposed has been enhanced due to the following:

Ownership: The respective governments; Tamil Nadu and Puducherry, have shown keen interest and initiative in taking this project forward and have continued to implement works from the earlier project. Ministry of Home Affairs and the Department of Economic Affairs (DEA) have given high importance to the project and to the partnership with the Bank in the area of disaster management. All this indicates strong commitment and sense of ownership which enhances the sustainability of the project.

Institutional Capacity: The SDMA’s are the legally empowered nodal disaster management agency at the state level. This project will help develop the SDMAs as an operational institution and would help sustain investments in risk mitigation and its mainstreaming into development. In addition the key outcome of the project will be improved capacity of the respective line departments, District Administration, NGOs and Community to engage in long term planning to manage and maintain infrastructure investments.

Community participation and feedback mechanisms: The project is designed to involve the community in selection and planning of investments, actual implementation and in management and maintenance of Evacuation shelters and the EWDS. In addition, a well thought communication strategy will create awareness, inform communities about various components, along with a grievance redressal system. This will promote local level ownership making the project sustainable. Effective participation of the Gram Panchayats’ with inclusion of all sections of the village community in particular the fishing community as well as vulnerable sections of the community: women, elderly, landless, children, disabled, low caste groups etc. through the village disaster committees (VDCs) is critical for the effective implementation of the community led disaster risk management approach including regular maintenance and upkeep of the facilities.

Insurance: The houses built under the project will be insured. This is a novel initiative for the region to ensure sustainability of this private infrastructure

Financial Sustainability: The project will support the development of a long term financing strategy. The work undertaken in multiple components will enable the GoTN and GoPy to strategically
budget for and invest in risk mitigation and fisheries infrastructure along with policy and capacity building programs on a more holistic basis. The effective co-management of fisheries would also generate conditions for increased sector profitability and wealth accretion by the fishing community. Additionally, a Management and Maintenance Strategy will be created, and it will focus on the development of an asset management and maintenance fund for risk mitigation and fisheries infrastructure.

VI. Safeguard Policies (including public consultation)

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VII. Contact point

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