

# Environment and Social Management Framework

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Odisha Disaster Recovery Project

January 16, 2014  
(Revised Version)

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(including annexures)

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(including annexures)

## Acronyms

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BCR	Benefit Cost Ratio
BeMC	Berhampur Municipal Corporation
CBO	Community Based Organization
CRZ	Coastal Regulation Zone
CSMMC	Cyclone Shelter Management and Maintenance Committee
CSO	Civil Society Organization
DC	Direct Contracting
DEA	Department of Economic Affairs
DGM	Deputy General Manager
DIU	District Implementation Unit
DPR	Detailed Project Report
DRM	Disaster Risk Management
DSS	Decision Support System
EA	Environmental Assessment
EC	Empowered Committee
EMF	Environmental Management Framework
ESMF	Environment and Social Management Framework
FLGRC	Field Level Grievance Redress Committee
GIS	Geographic Information System
GM	General Manager
GoI	Government of India
GoO	Government of Odisha
GRC	Grievance Redress Committee
GRM	Grievance Redress Mechanism
H&UD	Department of Housing and Urban Development
HTL	High Tide Line
IA	Implementing Agency
IBRD	International Bank for Reconstruction and Development
ICB	International Competitive Bidding
ICZM	Integrated Coastal Zone Management

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IDA	International Development Association
IFR	Interim Financial Reports
ISP	Implementation Support Plan
ISRO	Indian Space Research Organization
JRDNA	Joint Rapid Damage and Needs Assessment
LARRA	Land Acquisition, Resettlement and Rehabilitation Act
M&E	Monitoring & Evaluation
MD	Managing Director
MIS	Management Information System
PPR	Periodic Performance Review
QCBS	Quality and Cost Based Selection
RAY	<i>Rajiv Awas Yojana</i> (Government Housing Scheme)
SDMA	State Disaster Management Authority
SDR	Special Drawing Rights
SEPA	Procurement Plan Management System
SIL	Specific Investment Loan
SLGRC	Senior Level Grievance Redress Committee
SRM	Supervision, Reporting & Monitoring
TOR	Terms of Reference
TPQA	Third Party Quality Audit
UN	United Nations
VSCS	Very Severe Cyclonic Storm
W&S	Water & Sanitation

## Project Background and Description

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On October 12, 2013 Cyclone Phailin hit the state of Odisha with wind gusts up to 220 kilometer per hour, heavy rains measuring up to 25 centimeter and storm surge over 3 meters; the sea pushed in as much as 40 meters along parts of the coast. It was the strongest cyclone to hit the Indian coast in the past 14 years: a category 4 cyclone (Katrina in comparison, was category 3 upon landfall) similar to the Super Cyclone 05B of 1999 that hit Odisha and killed more than 10,000, destroyed 275,000 homes and left 1.67 million homeless. Cyclone Phailin hit a densely populated area in coastal Odisha, with 4.5 million people within the cyclone force wind path with significant proportion of kutcha housing.

Reports however came of a death toll of 44, 0.4 percent that of the 1999 cyclone; the ongoing National Cyclone Risk Mitigation Project (NCRMP-I) and Odisha Cyclone Reconstruction Project that closed in the year 2004 contributed to this enhanced resilience. The state governments, in collaboration with the NDMA evacuated over 1 million people from low-lying coastal areas in the states of Odisha and Andhra Pradesh; the target states of the NCRMP-I, the largest such operation in India's history. State authorities set up over 1,200 relief camps and stocked over 500 cyclone shelter with adequate food, water and supplies. Over 2,300 officers from the National Disaster Response Force and 600 personnel from the Indian Army fanned out to provide relief and assess the damage across 14,500 affected villages.

Despite limited loss of life, the impact on the lives of coastal residents is still massive. In the Ganjam District of Odisha alone, about 90,000 houses were partially or fully damaged along the coastal areas, many of them mud/thatched houses belonging to poor fishermen, farmers and landless. Crops in over 780,000 hectares of agricultural land have reportedly been damaged. Power and communication lines were also severely affected across Odisha. A request for assistance emerged from the Government of India to the Bank which prompted the proposed emergency recovery project, preceding which there was request dated November 14, 2013 for conducting a joint rapid damage and needs assessment in the state of Odisha.

### **Joint Rapid Damage and Needs Assessment**

The World Bank and the Asian Development Bank (ADB), upon receiving a request from the Department of Economic Affairs (DEA), GoI, carried out a Joint Rapid Damage and Needs Assessment (JRDNA) Mission that visited the State from November 26 to December 3, 2013. In collaboration with the Government of Odisha (GoO), the JRDNA Mission undertook a multi-sectoral assessment of the damages and laid the groundwork for an immediate recovery and reconstruction needs framework. The assessment relied upon the damage and loss assessment carried out by the State government.

The catastrophic event has severely impacted the state, and particularly the districts of Ganjam (where most of the damage took place and the landfall of cyclone occurred), Puri, and Khordha. The report estimated the cost of damage reconstruction to be about

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US\$1.45 billion, of which the housing sector was the most severely hit with reconstruction needs estimated to be around US\$480 million. Based on the findings of the JRDNA, the DEA, GoO, ADB and the World Bank agreed on a framework for assistance in the disaster recovery and future risk reduction.

As per the agreed framework, the ADB will be assisting the GoO in the Agriculture, Irrigation, and Energy sectors, while the World Bank assistance has been sought in rebuilding houses, slum improvements, expanding creation of risk mitigation infrastructure, enlarging the scope of plantations and livelihood enhancement activities.

### **Sector and Institutional Context**

The State of Odisha is vulnerable to multiple natural hazards. Due to its sub-tropical littoral location, the state is prone to various hydro-meteorological hazards such as tropical cyclones, storm surges and tsunamis. Although the coastline of Odisha is only about 17% (480 km long) of the Indian east coast, it has been affected by nearly 35% of all cyclonic and severe cyclonic storms that have crossed the east coast and associated storm surges that have often inundated large tracts of coastal districts. In addition, while large parts of the state are under Earthquake Risk Zone-II (Low Damage Risk Zone), the Brahmani Mahanadi graben and their deltaic areas come under Earthquake Risk Zone-III (Moderate Damage Risk Zone) and this covers 43 out of the 103 Urban Local Bodies in the state. Furthermore, the state is also vulnerable to flash floods and landslides.

The Odisha State Management Authority (OSDMA) was formed post the 1999 super cyclone under a Government approved resolution. Along with the OSDMA, the Revenue & Disaster Management Department, and the Office of the Special Relief Commissioner are the major institutions in the State that are responsible with all the phases of disaster management. The OSDMA has made long strides towards improving disaster preparedness and response standards of the state since 1999 through construction of disaster resistant infrastructure, trained community based organizations like Cyclone Shelter Management and Maintenance Committees (CSMMCs) and strengthened state and district emergency operation centers. Apart from preparedness, OSDMA has initiated a number of efforts and response mechanism to meet both natural and manmade disasters.

### **Rationale for the Bank's Involvement and Recovery Strategy**

The Bank is a key partner of the GoI in general, and of the GoO in particular, in their risk mitigation and management efforts. The current National Cyclone Risk Mitigation Project-I (NCRMP I) has been supporting the Governments of Odisha and Andhra Pradesh since 2010 with improving their capacity to manage hydro meteorological hazards, which contributed to the limited impact of Cyclone Phailin's damage in comparison with earlier events of comparable magnitude. The Bank is also supporting the GoI with similar efforts in Bihar, Tamil Nadu, Uttarakhand, and other states, as well as at the national level.

This Project is part of a broader package to support the GoO's reconstruction and recovery efforts, as well as their ongoing capacity strengthening to manage future

events. These include an additional financing for the ongoing NCRMP-I, expansion of activities under the Integrated Coastal Zone Management Project (ICZM) and Odisha State Livelihood project and assistance from ADB.

#### 1.4 Project Description

The project seeks to support specific interventions in the three Phailin affected districts of Ganjam, Puri and Khordha in Odisha. The proposed project interventions are categorized into the following components:

#### Component 1: Resilient Housing Reconstruction and Community Infrastructure US\$167.3 million (US\$117.1 million Bank financing)

##### *Sub-component 1.1: Housing reconstruction*

A significant percentage of the population in the affected districts of Ganjam, Puri and Khordha lived in mud thatched and other forms of kutcha<sup>1</sup> houses, all of which were more severely hit by the cyclone and subsequent floods. As per the JRDNA carried out 2,301 pucca<sup>2</sup> houses and 17,823 kutcha houses were fully or severely damaged and 139,674 houses were partially damaged in these three districts.

#### Details of house damage in three districts of Ganjam, Khordha and Puri<sup>3</sup>

District	Building Typology	Number of Units		
		Total	Partially Damaged	Fully/Severely Damaged
Ganjam	Pucca		75,936	2,288
	Kutcha			11,380
	Total	89,604	75,936	13,668
Khurdha	Pucca		53,906	13
	Kutcha			3,542
	Total	57,461	53,906	3,555
Puri	Pucca		9,832	0

<sup>1</sup> Semi-permanent houses of wattle and daub construction with thatched roofs or asbestos sheets.

<sup>2</sup> Houses made with Reinforced Cement Concrete (RCC) structure with RCC roofs or with brick/laterite masonry with RCC roofs.

<sup>3</sup> As per JRDNA.

District	Building Typology	Number of Units		
		Total	Partially Damaged	Fully/Severely Damaged
	Kutchha			2,888
	Total	12,720	9,832	2,888
<b>Grand Total</b>		<b>159,785</b>	<b>139,674</b>	<b>20,111</b>

The project would support reconstruction of about 30,000 houses in the designated rural areas in the coastal belt 5 km from the HTL in the districts of Ganjam and Puri, and 5km from the Chilika Lake boundary as defined by the Survey of India in the district of Khordha.

### ***Housing Reconstruction Strategy***

The project will broadly adopt two approaches based on beneficiary needs and ground conditions, based on the conditions outlined in the GoO's Housing Reconstruction Policy, always in consultation and agreement with beneficiaries. The modalities will be: (i) Owner Driven Construction of Houses (ODCH) and (ii) Contractor Built.

**a) Owner Driven Construction of Houses (ODCH):** A total of about US\$4,670 (INR280,000) will be provided to eligible beneficiaries in four tranches through direct credit to the beneficiary's bank accounts. A first tranche of US\$1000 (INR60,000) at the signing of contract for clearing the land, laying the foundation and building up to plinth level; a second tranche of US\$1,500 (INR90,000) for construction up to lintel level; a third tranche of US\$1,833 (INR110,000) for completion of the roof, and a fourth and final tranche of US\$333 (INR20,000) for all basic finishes, with an additional about US\$166 (INR10,000) provided as an incentive for those households who complete their houses within 8 months.

Each stage will be certified by an Engineer at the Panchayat level, or a designated agency, before the release of the following tranche. If beneficiaries choose to do so, they will have the option to jointly carry out the reconstruction of their houses by pooling their resources to procure materials, hiring of masons, and other necessary tasks for housing reconstruction. For these cases, the Project will provide communities with facilitation support.

**b) Contractor Built:** Under this modality OSDMA will procure the services of contractors to undertake reconstruction of houses, which could be either in relocation sites or, in-situ on the land of the damaged house where households prefer such an approach. The estimated cost of each house under this modality has been estimated at about US\$4,670 (INR280,000), with an additional provision of 12% over this cost to finance essential public service infrastructure for the cases of relocation sites.

**Identification of beneficiaries.** For both modalities of housing reconstruction (ODCH and Contractor built) the District Administration is in charge of identifying the eligible beneficiaries. The beneficiary identification process will include i) obtaining a valid proof of identity and land ownership records, ii) discussion and endorsement of the beneficiary lists in a village meeting, iii) disclosure of the list, and iv) submission of the list to OSDMA.

**Selection of modality.** The modality will be ODCH in case of (a) beneficiaries willing to rebuild their damaged houses in situ individually or in groups, 'Contractor Built' in case of: (a) when in-situ reconstruction is not possible and construction will take place at alternative locations, and (b) when the beneficiaries are unwilling to rebuild their in-situ houses under ODCH.

Whenever feasible, the reconstruction will take place in-situ at the original location of the damaged house and in such cases where beneficiaries do not own the land the GoO will to the extent possible ensure that the same land is conveyed in favor of the beneficiaries to reduce the need for relocations. If not feasible due to vulnerability of the site, land title issues and/or other such factors, houses will be constructed at a new location, whenever possible in the same village area. For this last category, land will be provided by the GoO. Relocation when required will also take into account to the extent possible the aspect of keeping the community together.

The principles guiding the process of identifying beneficiaries and choosing the construction modality are outlined in the Housing Reconstruction Policy, and further detailed in the Project's Operations Manual.

**Rental allowance and relocation expenses.** A rental allowance of INR1,500 (US\$25) per month will be transferred into the joint bank account of the beneficiaries during the construction phase. The allowance will be provided until the completed house is delivered to the beneficiary under contractor built modality, and for up to eight months for beneficiaries under ODCH. An additional one-time 'Relocation Payment' of INR12,000 (US\$200) will be provided for relocation to households that will move to new sites.

**Hazard Resistant Design.** Multiple type designs have been proposed for a 280 sq. ft. house by the consultant appointed for developing the design in consultation with the affected communities. These designs were reviewed and approved by the OSDMA. The design types and the layouts within respective sites developed take into account possible future expansions in terms of construction details, and functional and spatial needs to the extent possible.

**Livelihood specific design.** About 1,000 households in the three targeted districts belonging to the handicraft and handloom sector will be taken up for reconstruction. In these and similar such cases wherein the house design is integral to peoples' livelihoods, a special house design will be considered to address these particular needs.

**Multi-hazard insurance.** All houses built under the Project will be insured against multi-hazard risks for a period of 10 years by OSDMA.

***Dovetailing with other Schemes.*** The GoO will coordinate with central and state sponsored schemes to ensure alignment and strengthening the housing reconstruction component to provide civic infrastructure and social services such as roads, street lights, water and sanitation. The ongoing schemes include; Total Sanitation Campaign, Drinking Water Schemes, Rural Roads, Rural Electrification, Health and General/Life Insurance schemes and others.

In order to bring about convergence a state level meeting may be held exclusively for the purpose by the Chief Secretary at a regular interval in which all the State level departments/agencies responsible for different schemes may be called and an action plan for convergence prepared to ensure that there is automatic and simultaneous convergence in favour of project beneficiaries.

### ***Sub-component 1.2: Selected community infrastructure***

This sub-component will finance public infrastructure improvements to complement the housing reconstruction. These improvements may consist of public service infrastructure including roads, water supply, solid waste management, power grid extensions and community infrastructure such as community and health centers, playgrounds, etc.

For in-situ housing reconstruction a Village Development Plan will be prepared which will serve as a guide for community/ public infrastructure investments that may be taken up within the current project itself or by the Government as part of ongoing State and Central Government programs or independently through investments by NGOs, multilateral aid agencies. As part of the World Bank assisted project and an allocation of US\$10,000 (INR600,000) for villages of up to 100 HH and US\$20,000 (INR1,200,000) for villages of more than 100 HH will be assigned per village to finance selected investments within that plan.

Taking into account implementation modalities in each village, the process of preparing the Village Development Plan using a Participatory Rural Appraisal (PRA) approach would be facilitated preferably by the same Third Party Support Agency contracted for ODCH, and when this is not feasible a firm will be hired to carry out this exercise. The firm will also support the community in selecting those investments within the available budget, and identifying additional sources of funding such as NGOs, foundations, or other government programs.

The process will include (i) a communication and information campaign to increase public awareness about the project, its objectives, methodology and inviting the village to participate in its development planning, (ii) mobilization of the village population in coordination with the Panchayat in a series of sessions to design its development plan.

Priority infrastructure will be identified and budgeted, and the community will then select the investments to be carried out with the available funds. CRZ clearance would then be sought if required based on the development plan. The resulting works will be integrated as part of contracts awarded for village infrastructure under the Constructor Built

modality, combined with housing contracts in-situ, or procured separately depending on the type of infrastructure and timing.

## **Component 2: Urban Infrastructure in Berhampur – US\$30 million (US\$21 million Bank financing)**

This component will finance investments to improve public services in Berhampur (Ganjam district), the largest city in the district most severely hit by Cyclone Phailin, while at the same time reducing the vulnerability of its population. The component will be implemented by the Berhampur Municipal Corporation (BeMC), under the aegis of Department of Housing & Urban Development (H&UD).

With over 40% of its 350,000 inhabitants living in more than 200 slums scattered throughout the city (as per the 2011 census), and persistently high rates of population growth, there is an urgent need to improve the current living conditions of those in most vulnerable conditions, while at the same time carry out necessary planning and investments to improve the city's capacity to deliver services to its current and future population.

*Sub-component 2.1: Upgrading of slums - US\$15 million (US\$10.5 million Bank financing)*

This subcomponent will finance infrastructure to improve the living conditions of households living in slums in the city of Berhampur. These improvements include community streets, access to improved water and sanitation, drainage, septic management, and street lighting. The level of service to be provided will be determined by the available trunk infrastructure, the physical conditions and size of the settlements, and the available resources. The work will be undertaken in about 80 slums of the city covering a population of about 30,000.

*Sub-component 2.2: Public service infrastructure - US\$11.7 million (US\$8.2 million Bank financing)*

This subcomponent will finance priority infrastructure at the city level to improve service delivery and living conditions. The BeMC has carried out an assessment of damage and needs after Cyclone Phailin from which an investment plan is being prepared. Investments include priority roads and trunk water supply infrastructure among others.

*Subcomponent 2.3: Community participation - US\$1.7 million (US\$1.2 million Bank financing)*

To fund the facilitation costs to ensure resident community participation in the planning of settlement level infrastructure as mentioned in sub-component 2.1.

*Sub-Component 2.4: Technical Assistance - US\$1.7 million (US\$1.2 million Bank financing)*

To support the Municipal Corporation of Berhampur towards preparation of improved city-wide sectoral master plans and priority DPRs. These will include drainage, sewerage, street lights and other relevant areas identified.

**Component 3: Capacity Building for Disaster Risk Management - US\$5 million (US\$3.5 million Bank financing)**

Odisha is recognized within India and the rest of the world for their demonstrated capacity to prepare and quickly respond to natural disasters. The GoO's efficient management of Cyclone Phailin and associated flooding has underscored the importance of disaster preparedness and investing in ex-ante measures for reducing vulnerability and building disaster resilient communities and institutions. The objective of this component is to help the GoO further strengthen their disaster preparedness and response capabilities. This component will finance the following activities:

*i) Establishing a dedicated GIS and Decision Support Center*

This subcomponent will support expanding GIS capabilities and establish a Decision Support Center at OSDMA. This will entail the development and establishment of a GIS-based decision support system in close collaboration with ORSAC, NRSC, ISRO and other relevant stakeholders.

Given the massive scale of the recovery, reconstruction and planning & monitoring disaster-sensitive activities in Odisha, it is important to put in place a decision support system (DSS) for aiding the decision-makers and ensure coordination among various stakeholders and implementing departments. Ideally, such DSS should be web-based and make optimum use of the existing networks and facilities.

*ii) Capacity augmentation of the OSDMA*

By providing them specialized dedicated manpower and through need-based hiring of technical experts in the areas of disaster risk management, hydro-met systems, risk assessment and financing, structural engineering, remote sensing, GIS, others to provide timely support to various project activities.

*iii) Supporting recovery and risk reduction needs of vulnerable & marginalized groups*

This sub-component will support recovery and risk reduction needs of the socially vulnerable and marginalized groups (specifically scheduled caste habitations) in the project area where people do not have land, secure housing and incomes and are therefore exposed to disproportionate impact of hazard events. This sub-component will support: community-based vulnerability mapping and need assessment, provision of common facilities for income activities and community-based DRM activities.

#### **Component 4: Implementation Support - US\$16.3 million (US\$11.4 million Bank financing)**

This component will finance the incremental operating costs of the Project Management Units (PMU) in OSDMA and the Department for Housing and Urban Development, and the PIUs in OSDMA and the Berhampur Municipal Corporation (BeMC). In addition, the component will include consultancies required for the preparation and supervision of specific activities, trainings, exposure visits and knowledge exchange programs.

*Sub-Component 4.1: Implementation Support for PMU-OSDMA - US\$12.5 million (US\$8.7 million Bank financing)*

*Sub-Component 4.2: Implementation Support for PMU-H&UD - US\$3.8 million (US\$2.7 million Bank financing)*

#### **Component 5: Contingent Emergency Response - US\$0 million**

Following an adverse natural event that causes a major natural disaster, the respective governments may request the Bank to re-allocate project funds to support response and reconstruction. This component would draw resources from the unallocated expenditure category and/or allow the government of Odisha to request the Bank to re-categorize and reallocate financing from other project components to partially cover emergency response and recovery costs. This component could also be used to channel additional funds should they become available as a result of an emergency.

Disbursements would be made against a positive list of critical goods or the procurement of works, and consultant services required to support the immediate response and recovery needs. All expenditures under this component, should it be triggered, will be in accordance with paragraph 11 of OP 10.00 and will be appraised, reviewed and found to be acceptable to the Bank before any disbursement is made.

In accordance with paragraphs 11 and 12 of OP 10.00, this component would provide immediate, quick-disbursing support to finance goods (positive list agreed with the Government), works, and services needed for response, mitigation, and recovery and reconstruction activities. Operating costs eligible for financing would include the incremental expenses incurred for early recovery efforts arising as a result of the impact of major natural disasters.

### **1.5 Project Cost and Financing**

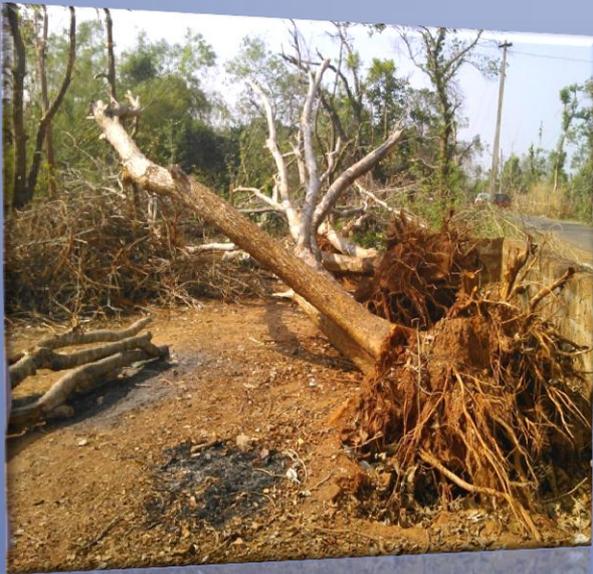
The lending instrument will be a Specific Investment Loan (SIL), and the implementation period for the project is five years. SILs provide the flexibility to build human and institutional capacity, construct infrastructure, and support the gradual design and implementation. A SIL also allows for close follow-up of defined activities and procedures and, making adjustments where necessary, on the part of the government and the Bank.

A summary of the financing per component, in addition to IDA financing and % financing is in the table below:

### Finances per Project Component

Project Components	Total Cost (US\$ M)	IDA Financing (US\$M)
Component 1: Resilient Housing Reconstruction and Community Infrastructure	167.3	117.1
<i>Subcomponent 1.1: Housing reconstruction</i>	164.3	115.0
<i>Subcomponent 1.2: Selected community infrastructure</i>	3.0	2.1
Component 2: Urban Infrastructure in Berhampur	30.0	21.0
<i>Subcomponent 2.1: Upgrading of slums</i>	15.0	10.5
<i>Subcomponent 2.2: Public service infrastructure</i>	11.7	8.2
<i>Subcomponent 2.3: Community mobilization</i>	1.7	1.2
<i>Subcomponent 2.4: Technical assistance</i>	1.7	1.2
Component 3: Capacity Building in Disaster Risk Management	5.0	3.5
Component 4: Implementation Support	16.3	11.4
<i>Subcomponent 4.1: Implementation support for OSDMA</i>	12.5	8.8
<i>Subcomponent 4.2: Implementation support for H&amp;UD and BeMC</i>	3.8	2.7
Component 5: Contingency Emergency Response	0	0
Total	218.6	153.0
<i>Total Project Costs</i>	<i>218.6</i>	
<i>Total Financing Required</i>	<i>153.0</i>	

Note: Total may not match due to rounding off.



# Environment Management Framework (Part A)

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Odisha Disaster Recovery Project

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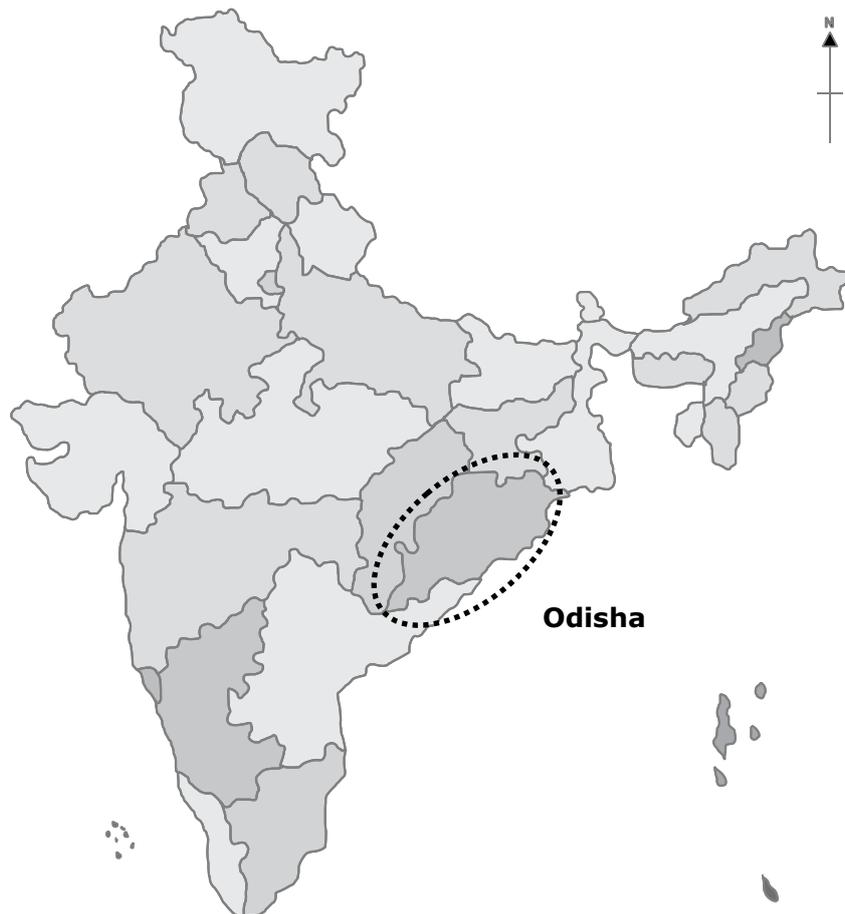
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## Section 1: Environmental Setting of the Project Area

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### 1.1 Over-all Environmental Profile of the State – Odisha

The state of Odisha extends from latitude 17° 31' to 20° 31' N and longitude from 81° 31' to 87° 30' E. It is surrounded by West Bengal North East, Bihar in North, Andhra Pradesh on the South East, and Chhattisgarh in the West and Bay of Bengal in the East. The total area is 155707 sq. km., which is divided into two natural divisions: The Coastal Plain & North Western Plateau. The location map of the state is given below:



### General Administration

The state is divided into 30 districts<sup>4</sup> consisting of 58 sub-divisions, 138 towns, 317 Tehsils, 314 Blocks, 6234 Gram Panchayats and 51,349 villages. There are two Municipal Corporations working in Odisha, namely Bhubaneswar Municipal Corporation and Cuttack Municipal Corporation. In addition, there are 35 Municipalities and 66 Notified Area Councils. The total population as per 2011 census is 4,19,74,218 and that in 2001 census was 3,68,04,660.

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Source: <http://www.envis.nic.in/soer/soer-orissa/soer.htm>

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## **Climate**

The state has tropical climate, characterized by high temperature, high humidity, medium to high rainfall and short and mild winters. On the basis of climate type, Odisha has been divided into ten agro-climatic zones. The normal rainfall of the state is 1451.2 mm. About 75% to 80% of rainfall is received from June to September. Floods, droughts and cyclones occur almost every year in varying intensity. The list of cyclone/earthquake occurrences in the state is given in **Annexure 1**.

## **Coastal environment**

The Odisha coast, which is 480 km long and 10-100 km wide, forms a part of east coast of India. The coastal territory is drained by a number of rivers like Mahanadi, Brahmani, Baitarani, Devi, Budhabalanga, Subarnarekha, Rushikalya and some other smaller ones. These rivers carry a large volume of sediments which have formed the above huge single delta.

The coast line is in general oblique to the global wind system which generates strong littoral currents and represents one of the world's largest littoral drift areas with 1 million cubic meters of drift at Paradip. The average spring tide in the Odisha coast varies from 1m to 4m. The average significant wave height is within 2m. In the northern Odisha coast, i.e. north of Dhamra coast, the tidal range increases and wave energy diminishes resulting in formation of mudflats. The brackish water coastal lagoon i.e. Chilika lagoon has been formed because of formation and growth of barrier spit from Paluru. The other important features of Odisha coast are mangroves, estuaries and other related sedimentary as well as sandy environments like sand dunes.

The oxygen values at Gopalpur (in Ganjam District) transect exhibit relatively lower values of BOD and nitrate indicating the impact of discharge of untreated, domestic sewage. The sediment samples also showed high concentrations of lead and mercury. A study of sources of pollution along the coastal waters revealed that direct discharge of domestic and industrial wastes was confined to few places. When the discharges reach coastal waters, there is a dilution due to interaction of salt and sea water and lack of flushing in certain areas, and the pollutants settle down and get absorbed and accumulated in sediments. Such areas are likely to become polluted areas in due course, severely affecting the benthic fauna and other bottom feeding organisms. Puri, Gopalpur port, Paradip port, mouth of rivers Subarnarekha, Baitharani, and Chilka Lake have been identified as such areas.

## **Soil**

The soil of Odisha may be classified as transported and residual soil on the basis of its mode of formation. The catchment basins of the different drainage systems in Odisha are dominated by granite and gneissic rock, which have resulted in sandy soil. Clayey soils are predominant in the middle and lower reaches of the drainage channels.

## Forests

In 1990, the state had only 57,183 sq. km of forests, which constituted 36.7% of the total geographical area of the state. However as per remote sensing data, the actual forest cover was only 30.3% of the total geographical area. The break up of the forest area is as:

- Parts of Angul, Balasore, Bargarh, Bolangir, Boudh, Cuttack, Deogarh, Dhenkanal, Gajapati, **Ganjam**, Jajpur, Jharsuguda, Kalahandi, Kandhmal, Keonjhar, **Khurda**, Koraput, Malkangiri, Mayurbhanj, Nabrangpur, Nayagarh, Nuapada, **Puri**, Rayagada, Sambalpur, Sonapur, Sundargarh districts – Dense forest (ecologically sound) – 27,349 sq. km
- Sparse dense forest (ecologically sensitive forest) – 19,661 sq. km
- Parts of Balasore, Bhadrak, Jagatsinghpur and Kendrapara districts – Tidal (Mangrove) forest – 195 sq. km
- Almost devoid of trees and fallow forest land – 9,978 sq. km
- Parts of Balasore, Bargarh, Bolangir, Boudh, Cuttack, Deogarh, Dhenkanal, Gajapati, **Ganjam**, Jagatsinghpur, Jajpur, Jharsuguda, Kalahandi, Kandhmal, Kendrapara, Keonjhar, **Khurda**, Koraput, Malkangiri, Mayurbhanj, Nabrangpur, Nayagarh, **Puri**, Rayagada, Sambalpur, Sonapur, Sundargarh districts – Reserve Forests
- Nandanakanan, Bhitarkanika, Similpal – National Parks
- Bhitarkanika, **Chilika Lake**, Similpal National Park, Nandankanan, Raigarh, Dhenkanal, Deogarh Sanctuary, **Balukhand Sanctuary**, Ushakothi Sanctuary, Sambalpur, Avayaranya Sanctuary – Wildlife and Bird Sanctuaries
- Similpal – Tiger and Biosphere Reserve
- **Chilika Lake** and Bhitarkanika Mangroves – Ramsar areas

\*\* The ones in bold above pertain to project area.

However, as per the remote sensing data given by the Forest Survey of India (FSI) the actual forest area is getting further reduced. The Government of Odisha also reported that by 1993, the dense forest cover has further reduced to 18,000 sq. km (16.9% of the total area of the state).

## Mangroves

The coastal mangroves house a number of rare and endangered species. Some of the mangrove species, including 38 angiospermic taxa have been identified to have medicinal values. Mangrove forests comprise taxonomically diverse, salt tolerant trees and other plant species, which thrive in inter-tidal zones of sheltered tropical source, estuaries and over-wash islands. Mangrove forest, which once dominated have depleted due to over-harvesting, fresh water diversion, urban growth pressures, charcoal and timber industries and mounting pollution. Rapid depletion of mangrove forest has made Odisha coast more vulnerable to cyclones.



## Socio-Demographic Profile

The following is the demographic profile of the project area covering the three districts, i.e., Ganjam, Puri and Khorda. This data is based on census 2011.

S.No.	Characteristics	Ganjam	Puri	Khordha
1	Geographic Area (in Sq. km)	8,070.60	3479.00	2,813.00
2	District Headquarters	Chhatrapur	Puri	Khurda
3	Distance from State Headquarters	Bhubaneswar, 140 km	Bhubaneswar, 60 km.	Bhubaneswar, 26 km
4	Number of blocks	22	11	10
5	Number of villages	3,229	1,715	1,551
6	Number of ULBs (Towns)	18	4	5
7	Total Population (2011)	3,529,031	1,698,730	2,251,673
	Total Male	1,779,218	865,380	1,167,137
	Total Female	1,749,813	833,350,	1,084,536
	Total Rural	2,761,030	264,930	1,167,357
	Rural Male	1,383,363	137,167	595,809
	Rural Female	1,377,394	127,763	571,548
	Total Urban	768,001	1,443,800	1,084,316
	Urban Male	395,582	728,213	571,328
	Urban Female	372,419	705,587	512,988
8	Population Sex Ratio	983	963,	929
9	Child Sex Ratio	908	932	916
10	Decadal growth rate	11.66	13.05	19.94
11	Density- per sq. km.	430	488	800
12	Literacy Rate	71.09	84.67	86.88
	Total Male	80.99	90.85	91.78
	Total Female	61.13	78.28	81.61

S.No.	Characteristics	Ganjam	Puri	Khordha
	Total Urban Male	90.96	90.82	94.24
	Total Urban Female	83.54	77.32	87.46
	Total Rural Male	90.82	90.96	89.38
	Total Rural Female	77.32	83.54	76.28
13	% SC/ST population	18.57/2.88	16.13/0.26	11.32/4.33
	Total SC	586,798	273,917	254,251
	Total ST	90,919	4,482	97,186
	SC Rural	518,036	205,438	179,088
	SC Urban	68,763	68,479	75,163
	ST Rural	87,311	4,062	64,925
	ST Urban	3,608	420	32,261
14	Prominent Tribes	Kondhs, Soura	Suara	NA

### Land Use

As per Odisha Agriculture Statistics of 2006-07, the land use pattern in the 3 project districts is given below.

Land Use	Ganjam	Puri	Khurda
	Area, Ha	Area, Ha	Area, Ha
Total geographical area	8,21,000	3,48,000	2,81,000
Forests	3,15,000	14,000	62,000
Permanent pastures and other grazing lands	20,000	9,000	5,000
Culturable wasteland	11,000	3,000	8,000
Land put to non agriculture	21,000	1,15,000	46,000
Barren & uncultivable land	20,000	8,000	15,000
Current fallows	29,000	51,000	1,000

Land Use	Ganjam	Puri	Khurda
	Area, Ha	Area, Ha	Area, Ha
Fallow lands other than current fallows	6,000	1,000	6,000
Net area sown	3,77,000	1,38,000	1,28,000

### Groundwater Sources

As per the Odisha Groundwater Resources Report 2008-09, the following are the groundwater availability and quality of the three project districts.

District	Groundwater Availability (HM)	Groundwater Utilization (HM)				Ground Water Quality
		Irrigation	Domestic	Industries	Total	
Ganjam	114,541	26,437	6,235	736	33,408	high salinity, iron and biological contamination
Puri	58,806	7,246	2,863	339	10,448	high salinity, iron and biological contamination
Khurda	47,618	9,140	4,702	299	14,141	Fluoride Contaminated

### Surface Water Resources

As per the Odisha Groundwater Resources Report 2008-09, the following are the surface water availability and quality of the three districts.

District	Surface Water Source	Surface Water Availability, (in Ha)	Surface Water Quality
Ganjam	Chilika lake, Rushikulya and Bahuda River nad Major, minor projects	183,313	Nitrate
Puri	Mahanadi, Daya, Bhatgavi, Devi, kushbadhra, Major Projects, minor Projects and water harvesting structures	188,180	Nitrate polluted

Khurda	Mahanadi, Daya, Bhatgavi, Rana, kushbadhra, Kusumi	NA	Fluoride
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### Rainfall and Climate

As per India Meteorological Department data of 2013, the following are the rainfall and temperature and relative humidity of the three districts.

District	Rainfall, mm	Temp. Max. C	Temp. Min. C	Relative humidity
Ganjam	1,275	42	14	47 to 97
Puri	1,488	45	10	55 to 87
Khurda	1,443	41.5	9.5	51 to 91

### Soils

The soils of the three project districts range from sandy loams to clay.

Districts	Major Soils
Ganjam	Sandy loam, Loam, Clay loam, Clay
Puri	Sandy loam to loamy Soil.
Khurda	Sandy loam, Loam, Clay loam, Clay

### Agriculture - Cropping Patterns

As per the Odisha Agriculture Statistics of 2008-09, the following are the crops grown the three project districts.

District	Major Crops	Area Grown for each crop (Ha)
Ganjam	Paddy	2,360
	Ragi	734
	Maize (Green gram)	1,104
	Mung (Grey Gram)	430
	Biri (Black Gram)	408
	Arhar (Red Gram)	674
	Groundnut	1,182

District	Major Crops	Area Grown for each crop (Ha)
	Til	417
	Sugarcane	7,000
	Vegetables	5,978
	Cotton	132
	Chilli	840
Puri	Paddy	1,000
	Pulse	63,000
	Oil seeds	17,000
	Sugarcane	610
Khurda	Paddy	11400
	Wheat	80
	Biri	1000
	Sugarcane	1035

### Livestock Population

As per Animal Husbandry Census of Year 2007, the following is the livestock population of the three project districts.

District/ Livestock	Cattle	Buffaloes	Sheep	Goat	Pigs	Dogs & Rabbits	Horses & Other	Total Animals	Total Poultry
Ganjam	213,554	84,775	120,064	238,755	12,323	NA	NA	NA	1,239,981
Puri	20,290	27,401	67,446	132,717	1,950	4,641	125	NA	455,820
Khurda	3,645	13,871	52,702	100,322	2,997	NA	NA	NA	1,067,911

### Industries

As per the report of the District Industries Corporation & MSME 2007-08, the following are the industries in the three project districts.

S No.	Type of Industry	Districts		
		Ganjam	Puri	Khurda
1	Misc. Manufacturing	410	1,285	504
2	Agro based	2,368	1,323	673

S No.	Type of Industry	Districts		
		Ganjam	Puri	Khurda
3	Textiles	858	324	415
4	Forest wood based	332	162	246
5	Paper and paper Products	181	0	282
6	Livestock and Leather	42	21	15
7	Rubber and Plastic	138	51	161
8	Chemical and Allied	439	90	233
9	Glass & Ceramics	833	301	0
10	Engineering and Metal Based	1,097	383	915
11	Electrical and Electronics	68	0	261
12	Repairing and Servicing	3,155	3,160	3,023
13	Mineral Based	0	0	385

### Forests

As per the Forest Department reports, the following is the area of forests in the three project districts.

Project District-wise Forest Cover (Area in Km<sup>2</sup>): Year of Assessment

District	Geographical Area	Very Dense Forest	Mod. Dense Forest	Open Forest	Total
Ganjam	8206	156	1037	800	1993
Puri	3479	0	56	44	100
Khurda	2813	23	191	180	394

### Biodiversity

As per the Forest Department, their following are the various flora and fauna in the three project districts. The National Parks, Conservation areas and Wildlife Sanctuaries in the three project districts are also given in the table.

Detail	Ganjam	Puri	Khurda
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<b>Detail</b>	<b>Ganjam</b>	<b>Puri</b>	<b>Khurda</b>
Flora	Tropical Dry deciduous forests with Coastal Plantations comprising of Casuarina, Neem, Cashew & others such as Poaceae, Cyperaceae & Seagrass	Tropical Dry deciduous forests with Coastal Plantations comprising of Casuarina, Neem, Cashew & others such as Poaceae, Dinebra retroflexa, Euclasta clarkei, Isachne globosa, Riverine, Mangorove & scrub	Tropical Dry deciduous forests comprising of Sal, Teak, and Riverine flora
Fauna	Ungulates, carnivores, Avian fauna, Reptiles, Amphibians, Molluscs & Micro organisms White belled Sea egle, Paria Kite, Brahminy kites	Avian fauna, carnivores, Reptiles, Amphibians, Molluscs & Micro organisms Mouse Deer, Sambhar	Ungulates, carnivores, Avian fauna, Reptiles, Amphibians, Molluscs & Micro organisms Flying Squirrel, Bison, leopard, sambar, spotted deer, gaur, elephant, Black Panthers & Gharial Crocodiles
National Parks	Nil	Nil	Nandankanan zoo
Conservation Areas	Chilika Lake	Chilika Lake, Balukhand, Konark	Chilika Lake
Wildlife Sanctuaries	1 Chandaka – Dampara Sanctury, 2.Lakheri-Valley Wildlife Sanctuary, Chilka Lake	Balukhanda- Konark Wildlife Sanctuary; spread over 87 sq.km along Bay of Bengal. Nalabana Bird sanctuary, Chilika spread over 15.53 sq.km Baishipal wildlife Sanctuary,.	Chandaka- Dampara Wildlife sanctary spreading over 193.39 sq.km. Chandaka Elephant Reserve. Chilka Lake

### **Archeological Sites**

As per the GoO, the following are the areas of Archeological importance, heritage and religious sites in the three project districts.

<b>Detail</b>	<b>Ganjam</b>	<b>Puri</b>	<b>Khorda</b>
Areas of Archeological Importance	Buguda and Kulad	Puri, Konark, Kuruma, Brahmagiri, Manikpatna, Baliharachandi, Sakhigopal, Chaurasi and Kakatpur	Hirapur, Dhauli, Khandgiri and Udaygiri Banpur and Khurda
Heritage sites	Ganjam Fort Potagarh	Konark Temple	Chilika, Twin hills Udayagiri and Kandagiri hills
Important religious sites	Narayani, Mantridi, Kulada, Nij Bankeshwari, Antharapada	Puri Jagannath Temple, Gundicha Mandir (Temple), Satyabadi (Sakshigopal), Konark Temple, Ramachandi Temple, Pipili, Raghurajpur, Sakhi Gopal	Arikama, Banapur, Dhauligiri, Garamanitri, Lingaraj temple. Maa Ugra Tara, Shikar Chandi

## **Section 2: Need for Environment Management**

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### **2.1 Need for Environmental Management**

The primary objective of the proposed project is supporting the Government of Odisha in post disaster reconstruction and recovery efforts through project interventions described in preceding section. The implementation of the proposed project interventions of varying types and scale are spread in different topographical settings within the three districts that are proposed to be covered in the project.

Consequently, the potential impacts on the environment will vary depending on the local geographical setting and the scale of proposed project activities. Hence, a need was felt to prepare a document that will 'guide' the planning, design and construction elements of project interventions/sub-projects and help in harmonizing the principles/approaches for project preparation and execution. In this context, a Framework approach has been adopted and an Environment Management Framework has been prepared for the project.

### **2.2 Objectives of Environment Management Framework**

Typically, the post-disaster response projects focus mainly on reconstruction of damaged physical infrastructure and restoration of affected population. However, the other side of minimizing risk and damage in case of future disasters is giving adequate consideration on disaster preventive measures like proper siting of human settlements away from vulnerable environmental setting. Proximity to vulnerable environmental setting/s is one among various other factors responsible for losses of life and damage to property/assets.

The project therefore provides a right platform to start work on preventive measures during planning and design of various project components, which will be more environmentally sustainable (than the present/current baseline) and contributes to avoiding or at least minimizing the vulnerability of population residing in the three project targeted coastal districts of Odisha to natural disasters like cyclone or flooding. This necessitates an integrated approach during planning, preparation and implementation. The EMF will act as an instrument providing necessary guidance and management process to attend to environmentally sound project planning, preparation and implementation through;

1. Establish clear process, procedures and methodologies (including screening) for environmental planning, review, approval and implementation of sub-projects to be financed under the Project.
2. To provide practical guidance for planning, designing and implementing the environmental management measures as an integral part of sub-project planning, design and execution.
3. Specify appropriate roles and responsibilities, and outline the necessary reporting procedures, for managing and monitoring environmental and related social concerns of the sub-projects and;

4. Determine any other specific arrangements, including those related to training, capacity building and technical assistance (if required) needed to successfully implement the provisions of the EMF.

The application and implementation of the EMF therefore, will:

- 1) Support the integration of environmental aspects into the decision making process of all stages related to planning, design, execution, operation and maintenance of sub-projects, by identifying, avoiding and/or minimizing adverse environmental impacts early-on in the project cycle.
- 2) Enhance the positive/sustainable environmental and social outcomes through improved/ sensitive planning, design and implementation of sub-activities.
- 3) Minimize environmental degradation as a result of either individual sub-projects or through their indirect, induced and cumulative effects, as much as possible.
- 4) Protect human health and
- 5) Minimize impacts on cultural property, if any.

### **2.3 Key Contents of the Environment Management Framework**

The framework describes the principles, objectives and approach to be followed for selecting, avoiding, minimizing and/or mitigating the adverse environmental impacts that are likely to arise due to the project. The framework details out the various policies, guidelines and procedures that need to be integrated during the planning, design and implementation cycle of the Bank-funded project. It also outlines the indicative management measures required to effectively address or deal with the key issues that have been identified. The required institutional arrangements for effective environment management have also been outlined as a part of this framework.

Specifically, the Environmental Management Framework includes the following:

- Information on GoI's environmental legislations, standards and policies and World Bank safeguard policies that are relevant in the over-all project context.
- Process to be followed for environmental screening to guide decision-making about proposed sub-projects
- Steps and process to be followed for conducting environmental impact assessment and preparation of Environmental Management Plans for selected sub-projects
- Preliminary assessment of anticipated environmental impacts in the context of broad/known project interventions.
- Generic environment management measures to avoid, minimize and mitigate anticipated impacts
- Institutional arrangements for environment management, including monitoring and reporting.

## 2.4 Application of the EMF

The EMF needs to be integrated into the preparation and implementation stages of the various project components. It is an essential ingredient aligned with the project/sub-project activities and is to be followed through the entire project cycle from planning, including site identification; design; implementation and operation/maintenance to attain the above outlined purpose and objectives.

The use / implementation of the **Environment Management Framework** (also referred as **Part A**) will also support the achievement of compliance with applicable laws and regulations as well as with the requirements of relevant Bank policies on environment aspects.

The social management process/requirements and management strategy have been provided as a standalone section, referred as **Part B – Social Management Framework**. The two parts together complement each other and have been referred as **“Environment and Social Management Framework”** in the various legal and other project documents.

## 2.5 Revision/Modification of the EMF

The EMF will be an ‘up-to-date’ or a ‘live document’ enabling revision, when and where necessary. Unexpected situations and/or changes in the project or sub-component design would therefore be assessed and appropriate management measures will be incorporated by updating the Environment Management Framework. Such revisions will also cover and update any changes/modifications introduced in the legal/regulatory regime of the country/ state. Also, based on the experience of application and implementation of this framework, the provisions and procedures would be updated, as appropriate in consultation with the World Bank and the implementing agencies/ departments.

## Section 3: Policy and Regulatory Framework

This chapter deals with the laws, regulations and policies, of Government of India, Government of Odisha and the World Bank, related to environment. Only the laws, regulations and policies relevant and applicable to the project are discussed. This sections needs to be updated as when new laws, regulations and policies are made and enforced or the existing ones are revised.

### 3.1 Applicability of World Bank Policies

The safeguards policies of the World Bank were reviewed and the table below describes their relevance/applicability in the context of the project along with the justification.

Policy	Key Features	Applicability to this project
<p><b>OP/BP 4.01 Environmental Assessment</b></p>	<p>Potential environment consequences of projects identified early in project cycle.</p> <p>EAs and mitigation plans required for projects with significant environment impacts or involuntary resettlement.</p> <p>EAs should include analysis of alternative designs and sites, or consideration of "no option"</p> <p>Requires public participation and information disclosure before Board approval.</p>	<p><b>Applicable.</b></p> <p>Some key environmental concerns that would require consideration in the project include: (a) existing blockages of natural drainage system/channels resulting in water logging in some areas; (b) absence of sanitation facilities and open defecation; (c) waste water stagnation and associated health hazards; (d) poor solid waste management practices; (e) uprooting of trees; (f) damage to natural habitats/buffers and; (g) erosion in specific areas. While some of the said environmental issues are associated directly with the cyclone and resultant floods, a few others are associated with the over-all quality of life of people in the affected areas. In the aftermath of a disaster, some of these existing environmental issues affect the health and safety of residents (in varying degrees depending on their location) and therefore would require some consideration in the process of reconstruction and redevelopment.</p>

<b>Policy</b>	<b>Key Features</b>	<b>Applicability to this project</b>
<b>OP/BP 4.04 Natural Habitats</b>	<p>Prohibits financing of projects involving "significant conversion of natural habitats unless there are no feasible alternatives".</p> <p>Requires environment cost benefit analysis.</p> <p>Requires EA with mitigation measures.</p>	<p><b>Applicable.</b></p> <p>Since the project itself is located in the coastal realms of a state that is marked by various degrees of vulnerability and sensitive environmental features, including natural habitats, there are some risks or issues that need to be managed through appropriate planning and upfront care during the site selection process</p>
<b>OP 4.09 Pest Management</b>	<p>Supports environmentally sound pest management, including integrated pest management, but does not prohibit the use of highly hazardous pesticides.</p> <p>Pest management is the borrower's responsibility in the context of a project's EA.</p>	<p><b>Not Applicable</b></p> <p>Project is not financing any activities related to agriculture or horticulture or procurement of any pesticides. The Project will not fund any procurement or usage of pesticides.</p>
<b>OP/BP 4.11 Physical Cultural Resources</b>	<p>Purpose is to assist in the preservation of cultural property, such as sites having archaeological, paleontological, historical, religious and unique cultural values.</p> <p>Generally seeks to assist in their preservation and avoid their elimination.</p> <p>Discourages financing of projects that will damage cultural property.</p>	<p><b>Applicable.</b></p> <p>A few project interventions may be located close to sites, structures, natural/man-made features that have historical, archaeological, religious or other cultural significance. Through screening and assessment process, the project's potential impacts on physical cultural resources will be determined and management measures, as required will be taken and integrated into the sub-project cycle. The ESMF also provides procedures to deal with chance finds during the sub-project implementation.</p>

Policy	Key Features	Applicability to this project
<b>OP/BP 4.36 Forestry</b>	Prohibits financing for commercial logging operations or acquisition of equipment for use in primary moist tropical forests.	<b>Not Applicable.</b> No commercial logging is to be supported under the project.
<b>OP/BP 4.37 Safety of Dams</b>	Applies to large dams (15 meters or more in height).  Requires review by independent experts throughout project cycle.  Requires preparation of EA and detailed plans for construction and operation, and periodic inspection by the Bank.	<b>Not Applicable.</b> Not being triggered for this project as there is no construction of new dams or activities that are concerned with safe functioning of existing dams
<b>OP/BP 7.50 Projects on International Waterways</b>	Covers riparian waterways that form boundary between two or more states, as well as any bay, gulf, strait or channel bordered by two or more states.  Applies to dams, irrigation, flood control, navigation, water, sewage and industrial projects.  Requires notification, agreement between states, detailed maps, feasibility surveys.	<b>Not Applicable.</b> OP 7.50 will not be triggered for this project as there are no interventions planned/ proposed over or around an international waterway that could cause a potential conflict. There are also no activities that may affect the use or pollute such a waterway.
<b>OP/BP 7.60 Projects in Disputed Areas</b>	Applies to projects where there are territorial disputes present.  Allows Bank to proceed if governments agree to go forward without prejudice to claims.  Requires early identification of territorial disputes and descriptions in all Bank documentation.	<b>Not Applicable.</b> OP 7.60 is not being triggered as the project is not proposed in any disputed area.

Other important World Bank Policy is the OP 17.50. This policy deals with Disclosure of Operational Information. The Bank's [Policy on Disclosure of Information](#), has been incorporated in the project implementation plan.

### 3.2 Policy and Regulatory Framework of GoI and GoO

This deals with various policies, acts, rules and regulations promulgated by the central and state governments related to environment and relevant to present project. Scope of key relevant environment regulations and their relevance is presented in the table below.

#### Key Environment Regulations and their Applicability

S.No.	Relevant Act	Scope of the Act	Relevance
1	The Environment (Protection) Act No.29 of 1986	<p>Under this Act, the central government is empowered to take measures necessary to protect and improve the quality of the environment by setting standards for emissions and discharges; regulating the location of industries; management of hazardous wastes, and protection of public health and welfare. This encompasses all legislations providing for the protection of environment in the country.</p> <p>It includes the power to direct the closure, prohibition or regulation of any industry, operation or process by the government.</p>	<p>Relevant.</p> <p>The proposed project intervention involves construction activities that will have indirect or direct impact on the overall quality of the environment. However, Environment Clearance will not be required for the proposed project interventions.</p>
2	Water and Air (Prevention and Control of Pollution) Act, 1974 & 1981 (Central Act 6 of 1974) as amended in 1988	<p>This Act prohibits the discharge of pollutants into water bodies beyond a given standard and lays down penalties for noncompliance.</p> <p>Water act includes the maintenance or restoring the wholesomeness of the water</p> <p>Air act restricts the operation of any industrial plant in an air pollution control area without a valid consent.</p>	<p>Relevant.</p> <p>The construction activities involved to attain the project objective may create localised deterioration in air and water quality, if executed without proper diligence.</p>

S.No.	Relevant Act	Scope of the Act	Relevance
3	Forest (Conservation) Act No. 69 of 1980 and amended in 1988	<p>This Act restricts the powers of the state in respect of de-reservation of forests and use of forestland for non-forest purposes.</p> <p>All diversions of forestlands to any non- forest purpose, even if the area is privately owned, require approval of the central government</p> <p>Leases of forest land to any organization or individual require approval of the central government</p> <p>Proposals for diversion of forest land for construction of dwelling houses are not to be entertained</p>	<p>Not relevant.</p> <p>As project interventions will not be located in notified or protected forest area/s and therefore will not require diversion of forest land.</p> <p>Such areas shall be avoided as far as possible while selecting sites through the screening exercise.</p>
6	The Wildlife (Protection) Act 1972, Amendment 1991	<p>This Act provides for protection to listed species of Flora and Fauna in the declared network of ecologically important protected areas such as wild life sanctuaries and national parks.</p> <p>The wildlife protection act has allowed the government to establish a number of national Parks and Sanctuaries, over the past 25 years, to protect and conserve the flora and fauna of the state</p>	<p>Not relevant.</p> <p>As project interventions will not be located in notified or designated protected areas, such as Wildlife Sanctuaries and National Parks.</p> <p>Such areas shall be avoided while selecting sites for project components through the screening exercise.</p>
8	The Ancient Monuments, Archaeological sites and Remains Act, 2010	<p>The Ancient Monuments and Archaeological sites should be protected from any developmental activity. The area within the radial of 100 m and 300m from the Protected Property are designated as Protected area and Controlled</p>	<p>Relevant.</p> <p>While project activities are not envisaged in such areas, considering the possibility of chance finding of objects of historical importance (given the</p>

S.No.	Relevant Act	Scope of the Act	Relevance
		<p>Area respectively.</p> <p>No development activity (including building, mining, excavating, blasting etc.,) is permitted in the Protected Area and developmental activities likely to damage the protected property are not permitted in the Controlled Area without prior permission of the Archaeological Survey of India.</p>	<p>state's and project areas cultural setting) during implementation of sub-projects, this has been triggered.</p>
9	<p>Biological Diversity Act 2002</p> <p>and</p> <p>Biological Diversity Rules 2004</p>	<p>The Biological Diversity Act, which came into force in February 2003, aims to promote conservation, sustainable use and equitable sharing of benefits of India's biodiversity resources. It provides for establishment of a National Biodiversity Authority at national level, State Biodiversity Boards at state level and Biodiversity Management Committees at the level of Panchayats and Municipalities</p>	<p>To be ascertained for each sub-project during screening/ preparation process. Some sites/activities may be located close to ecologically sensitive areas that are beyond the protected domain.</p>
10	<p>Coastal Regulation Zone (CRZ) Regulations, 1991 (amended upto 2011)</p>	<p>The purpose of CRZ - 2011 is to ensure livelihood of fisher communities and other communities living in the coastal areas and conservation and protection of coastal stretches and its unique environment and marine environment.</p>	<p>Relevant.</p> <p>Many of sub-projects are situated in CRZ areas and will require obtaining permission before start of construction.</p>

Based on the policy and regulatory analysis, it emerges that the proposed project interventions to be taken up does not fall under any of the project categories listed in Schedule-I of the Environment Impact Assessment Notification and hence does not require any formal environment clearance of the Ministry of Environment and Forests, Govt. of India.

### 3.3 List of Other Statutory Clearance/s Required

The project needs to comply with the various existing statutory requirements and it is envisaged that certain permission/s and clearance/s will be obtained from the competent authority/authorities as part of sub-project preparation and/or execution. This will depend mainly on the area, type, size and scope of the sub-project. This broad requirements envisaged at this point of time is summarized below:

#### List of Statutory Clearances Requirement

S.No.	Clearance/ Authorization	Relevant Act	Competent Authority	Responsibility
1	Tree Cutting Permission	Forest Conservation Act, 1980	State Forest Department	PMU/ Line Department
2	Plants such as Crushers and/or Batching Plants	Air (Prevention and Control of Pollution) Act, 1981 and Noise Pollution (Regulation and Control) Rules, 2000	State Pollution Control Board	Concerned Contractor
3	Storage, handling and transport of hazardous material/s	Hazardous Waste (Management and Handling) Rules, 1989 and Manufacturing, Storage and Import of Hazardous Chemicals Rules, 1989	State Pollution Control Board	Concerned Contractor
4	Location/ layout of workers camp, equipment and storage yards	Environment Protection Act, 1986 and Manufacturing, Storage and Import of Hazardous Chemicals Rules, 1989	State Pollution Control Board	Concerned Contractor
5	Discharges from Labor Camp	Water (Prevention and Control of Pollution) Act, 1974	State Pollution Control Board	Concerned Contractor

S.No.	Clearance/ Authorization	Relevant Act	Competent Authority	Responsibility
6	Permission for sand mining from river bed	Environment Protection Act, 1986	Mines and Geology Department, GoO	Concerned Contractor

**Environmental, health and safety issues during construction stage generally involve equity, safety and public health issues.** The construction agencies require complying with laws of the land, which include inter alia, the following:

**Payment of Wages Act, 1936:** It lays down as to by what date the wages are to be paid, when it will be paid and what deductions can be made from the wages of the workers;

**Equal Remuneration Act, 1979:** The Act provides for payment of equal wages for work of equal nature to Male and Female workers and not for making discrimination against Female employees;

**Child Labour (Prohibition and Regulation) Act, 1986:** The Act prohibits employment of children below 14 years of age in certain occupations and processes and provides for regulation of employment of children in all other occupations and processes. Employment of child labour is prohibited in Building and Construction Industry;

**Minimum Wages Act, 1948:** The employer is supposed to pay not less than the Minimum Wages fixed by appropriate Government as per provisions of the Act;

**The Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996 and the Cess Act of 1996:** All the establishments who carry on any building or other construction work and employs 10 or more workers are covered under this Act; the employer of the establishment is required to provide safety measures at the building or construction work and other welfare measures, such as canteens, first-aid facilities, ambulance, housing accommodation for Workers near the workplace, etc.;

**Workmen's Compensation Act 1923:** The Act provides for compensation in case of injury by accident arising out of and during the course of employment;

**Contract Labour (Regulation and Abolition) Act, 1970:** The Act provides for certain welfare measures to be provided by the contractor to contract labour;

**Inter-State Migrant Workmen's (Regulation of Employment and Conditions of Service) Act, 1979:** The inter-state migrant workers, in an establishment to which this Act becomes applicable, are required to be provided certain facilities such as housing, medical aid, travelling expenses from home to the establishment and back, etc.;

**The Persons with Disabilities (Equal Opportunities, Protection of Rights and Full Participation) Act, 1995 and Rules, 1996**

**Hazardous Wastes (Management and Handling) Rules, 1989:** Occupiers generating hazardous wastes given in the list shall take all practical steps to ensure that such wastes are properly handled, i.e. collection, reception, treatment, storage, and disposed of without any adverse effects to human health and environment (Rule 4 Such occupier shall apply for authorization in prescribed format to the State Pollution Control Board)

## Section 4: Potential Environmental Impacts/Issues

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### 4.1 Planned/proposed Investments

The planned investments under the project primarily include: (i) construction of resilient houses and supporting community infrastructure in the districts of Ganjam, Khordha and Puri and; (ii) improvement/ upgrading of urban infrastructure/public services (such as community streets, water connections, sanitation facility, solid and waste water management and street lighting) in Berhampur, the largest city in Ganjam district, which was most severely hit by Cyclone Phailin.

A brief narration below on the two specific/typical kind of project interventions is provided below, which will help in better appreciation of the key environmental issues/impacts described further ahead in this section.

#### Housing in Affected Villages

About 27 percent of the people living in the coastal villages affected by the cyclone are poor living in mud and thatch and semi-concrete houses. Their source of livelihood is fishing, and agriculture. While those with land engage in cultivation, the majority of fishing population is solely dependent on marine fishing for their livelihood.

The scheduled caste population is about 18.5% in Ganjam, 16% in Puri and 11.3% in Khordha districts, poverty level among whom is higher compared to the general population. A few of 140 odd cyclone/flood affected villages have scheduled caste habitations. These communities are generally without secure housing and agricultural land and work as manual laborers in sectors such as agriculture, construction, and the male members of the house seasonally migrate out in search of gainful employment.

The literacy rate is about 71%, 86% and 87% in Ganjam, Puri and Khordha districts respectively. The literacy levels amongst the older persons in the coastal fishing and scheduled caste villages may be lower than the district averages, literacy amongst the younger age group could be in the range of 85% to 95%.

#### Urban Slums

The Municipal Area of the Berhampur city is 37 km sq. The master plan area of 84.97 km sq includes 18 nearby revenue villages. The town has many educational institutions and small businesses. It has a population of (2011) 3,50,000 with density of 9436 persons/km sq. The decadal growth rate of population between 2001 to 2011 was 16% and that of 1991-2001 was 45%. Slum population in the city in is 153445 persons or 43% of the population (2011 census). National Highway-5 runs close to city providing direct linkage to Kolkata and Chennai. Distance from Bhubaneswar is 170 km. The current master plan (1969) has been prepared by the Behrampur Development Authority. It is due to be revised in 2014. Of the municipal area, 13% is residential, 3% (commerce and industrial) ; 5 % public zone; 6% roads; 5% tanks. A large number of

slum pockets are spread all over the city. Many are adjacent to tanks and drains. The city has 56 water tanks/ponds which are spread out. These are used for washing and even drinking (20-25% of the population). Many drains are let into these tanks and they are filled with plants/weeds and solid waste. Most have slums on around them. These are classified as untenable/semi-tenable slums. During the rainy season and cyclone, most of the tanks overflow and submerge the slums/residences. The works will be carried out only in tenable slums.

## **4.2 Key Environmental Issues**

By and large, the nature and scale of activities associated with these proposed project interventions and their impact on physical and natural environment are not likely to be significant or irreversible per se. However, since the project itself is located in the coastal realms of a state that is marked by various degrees of vulnerability and some sensitive environmental features, there are some risks or issues that need to be managed through appropriate planning and upfront care during the site selection process, particularly in case of settlements/habitations located close to the shoreline or high tide line influence area or in low lying area/s.

In a more localized context, some key environmental concerns that would require consideration in the project include: (a) existing blockages of natural drainage system/channels resulting in water logging in some areas; (b) absence of sanitation facilities and open defecation; (c) waste water stagnation and associated health hazards; (d) poor solid waste management practices; (e) uprooting of trees; (f) damage to natural habitats/buffers and; (g) erosion in specific areas.

While some of the said environmental issues are associated directly with the cyclone and resultant floods, a few others are associated with the over-all quality of life of people in the affected areas. In the aftermath of a disaster, some of these existing environmental issues affect the health and safety of residents (in varying degrees depending on their location) and therefore would require some consideration in the process of reconstruction and redevelopment.

From this perspective, the process of reconstruction under the project provides an opportunity to partially address the existing/current local environmental issues in the three Phailin affected districts of Odisha. Additionally, some environmental issues associated directly with construction such as impacts due to construction material sourcing (laterite stone, sand, water, earth, wood) and management of debris/construction waste would also require some management measures.

The table given below provides envisaged potential impacts that the project has to consider during planning, preparation and construction stage.

### Potential Environmental Impacts/Issues

Project Components	Activities	Environmental Impacts
<b>Potential Adverse Impacts</b>		
<b>Housing Reconstruction</b>		
<p>Owner Driven House Construction (In-situ as well as on relocation sites)</p>	<ul style="list-style-type: none"> <li>• Site Suitability Assessment (from a vulnerability perspective)</li> <li>• House Design</li> <li>• Selection/choice of Construction Material</li> <li>• Construction</li> </ul>	<p>Poor site selection - flooding, water logging - may not reduce or may actually increase vulnerability of people and their assets from losses in case of future disaster/s.</p> <p>Inappropriate site planning (for utilities and common facilities) and housing design may create issues regarding usage/functionality of space/s (including socio-economic perspective); ventilation/natural light</p> <p>Indoor air pollution from using wood as fuel - effect on human health, especially women exposed to smoke during cooking</p> <p>Issues related to material extraction for housing construction (e.g. laterite, wood) impacting topography, aesthetic of landscape etc.</p> <p>Disruption of access to existing utilities such as water, power etc.</p>
<p>Contractor Driven House Construction</p>	<ul style="list-style-type: none"> <li>• Site Suitability Assessment (from a vulnerability perspective)</li> <li>• Physical Planning</li> <li>• House Design</li> <li>• Selection/choice of Construction Material</li> <li>• Site Cleaning and Grubbing</li> <li>• Construction</li> </ul>	<p>Poor site selection - flooding, water logging - may increase vulnerability.</p> <p>Inappropriate housing design may create issues regarding usage/functionality of space/s (including socio-economic perspective); ventilation/natural light</p> <p>Indoor air pollution from using wood as fuel - effect on human health, especially women exposed to smoke during cooking</p> <p>Issues related to material extraction for housing construction (e.g. laterite, wood, bamboo) impacting topography, aesthetic of landscape etc.</p> <p>Tree cutting during site preparation</p> <p>Construction related issues/impacts</p>

<b>Urban Infrastructure Improvement in Berhampur</b>		
		Labour and host community conflicts
Slum Up-gradation (in-situ or relocation)	<ul style="list-style-type: none"> <li>• Infrastructure Gap assessment</li> <li>• Physical Infrastructure planning</li> <li>• Construction of               <ul style="list-style-type: none"> <li>- Storm water drain</li> <li>- Water supply</li> <li>- Roads</li> </ul> </li> </ul>	<p>Impact on natural drainage pattern</p> <p>Pollution – water, noise and soil</p> <p>Leakage from water supply/sewerage system leading to stagnation creating health hazards</p> <p>Absence of disposal point/out fall creating water pollution, soil contamination, health issues/concerns</p> <p>Traffic safety and management concerns/ disruption during construction</p> <p>Health and Safety Issues during construction</p> <p>Inconvenience to public at large due to poor construction planning and sequencing</p> <p>Increase water demand leading to exploitation of ground water</p> <p>Constraints in working due to congestion/limited site availability in some slums/urban areas</p> <p>Disruption of access to existing utilities such as water, power etc.</p>
<b>Likely Positive Impacts</b>		
Owner Driven House Construction (In-situ, Private Land)	<ul style="list-style-type: none"> <li>• Reduced Vulnerability to Disaster</li> <li>• Minimize damage/s to assets in case of hydro-meteorological events</li> <li>• Improvement in Socio-economic condition through improvement in local environment &amp; health conditions.</li> <li>• Improved access to utilities and other civic amenities</li> </ul>	
Contractor Driven House Construction	<ul style="list-style-type: none"> <li>• Improved Living Conditions due to access to basic infrastructure, utilities/civic amenities</li> <li>• Reduced Vulnerability to Disaster</li> </ul>	
Slum Up-gradation (in-situ or relocation)	<ul style="list-style-type: none"> <li>• Minimize damage/s to assets in case of hydro-meteorological events</li> <li>• Access to cleaner water and sanitation system</li> <li>• Improved health and safety condition</li> </ul>	

A few cultural properties may be partially or fully affected due to the proposed project activities planned under both components. This is a likely/envisaged impact and specific issues/impacts will be known once the screening and sub-project specific assessment results are available.

Further, there may be long-term impact/s due to demand for natural resources such as land, water and building materials. A few ecologically sensitive areas, lying outside the domain of designated protected areas may also get affected, particularly in case of group resettlement of people to new sites that are located close to such locations. In some such cases, there could also be additional pressure on adjacent basic infrastructure, particularly water supply and village/access roads. Such long term impacts would have to be assessed as part of the sub-project planning and preparation process.

### **4.3 Conclusion**

On the whole, with due diligence and proper planning and implementation of management measures prescribed in the laws of the land and those described in this ESMF, the project interventions are not likely to cause large scale, significant or irreversible damage to natural and/or physical environment. In fact with proper care during preparation and diligence during execution, the project provides an opportunity to enhance/improve lives of several vulnerable coastal communities and their local/immediate environment, at least to some reasonable degree compared to the current difficult setting. In view of the potential impacts on the environment, the project is designated as Category B.

## **Section 5: Environmental Management – Approach and Management Measures**

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### **5.1 Environment Management Approach and Key Steps**

The environment management process and the instrument for the project have been designed keeping in mind the varied scope of work under the two components. Accordingly, to effectively plan, design and integrate environmental dimensions into the over-all project/sub-project preparation and implementation, an Environment Management Framework (EMF) has been prepared. While addressing the immediate needs of reconstruction post Phailin, the over-all environment management approach for the project proposes the use of a holistic and integrated approach in the project/sub-project planning process to prevent or at least minimize the vulnerability of people and assets from similar disasters/situations in future. Appropriate site selection therefore is central and plays an important role in minimizing the over-all adverse impact in the event of a disaster.

#### **A. Housing Reconstruction**

As per the Housing Policy Guidelines issued by the Government of Odisha, houses will be constructed in situ and or at alternative nearby locations with voluntary relocation of the beneficiaries. The provision of housing to those whose houses were damaged by the cyclone will be made mostly at existing locations, adopting “owner driven” or “contractor built” for in situ housing. In case of relocation of families to safer and tenable areas away from their existing residences, housing will be provided along with common infrastructure on land identified within the village or in the near vicinity. Housing will be supplemented with the provision of common infrastructure in the relocation sites, which may include roads, street lights, water, sanitation services, drainage, solid waste management, and other common facilities. The site planning or layouts prepared for the new settlements will include these. In case of in situ housing, common infrastructure improvements in existing villages will be undertaken through a community resolution if land is available.

For an appropriate management of issues related to the housing reconstruction keeping both medium and long term perspective in mind, the following key activities would be carried out:

a) **Identification of housing reconstruction site/s and Vulnerability Mapping.**

The identification of site/s for housing reconstruction would be informed by results from a vulnerability mapping exercise to ensure that appropriate sites/locations are chosen keeping in mind the risks from future natural disasters. As part of this exercise, consideration of aspects related to local topographic conditions; natural drainage pattern; existing land use/s; vulnerability to erosion, flooding and other hydro-meteorological events would be necessary. This being an emergency operation, the information/mapping already available with OSDMA/GoO will be used

for this purpose. Site selection for the housing will be done considering a range of factors such as vulnerability factor, availability of land close to the existing habitation, accessibility and economic considerations.

- b) **Environmental Screening.** Once the housing reconstruction sites are identified/short-listed, an environment screening exercise will be carried out. This exercise will help in identification of environmentally sensitive areas such as presence of National Parks/Sanctuaries, Wildlife Corridors, Reserved/Protected forests, Cultural Properties etc. The results from this exercise will help in: (i) finalizing the sites for the housing reconstruction; (ii) identification of the need to obtain any regulatory clearances (such as Forestry and CRZ clearances) for specific site/s (specifically where relocation is involved) and; (iii) establishing the need to carry out any further investigation/ assessment. Based on this, prioritization and phasing of the civil work program for housing reconstruction would be worked out.

Villages where housing involves significant social issues and villages falling within the CRZ with no alternative sites close by, will be considered for Phase II, subject to the findings of detailed assessments.

- c) **Public consultation.** Consultation with public, particularly the beneficiary groups and the host population (if involved) will be carried out during various stages of the component preparation. This includes consultations and seeking consensus on site identification and selection; housing designs; infrastructure provision and; for understanding any specific social-economic needs of the community. All such proceedings, decisions/community consents and resolutions will be properly documented, including written and visual means.
- d) **Integration of Environmental Requirements.** The considerations/requirements will be mainstreamed as part of the over-all decision making and execution process – the selection of sites (screening, including vulnerability assessment will determine this output), designs (including supporting infrastructure – environment, health and safety requirements which will be reflected in the site planning outputs such as maps and DPR/other reports) and execution/completion of works. Environment, health and safety requirements to be adhered to during construction will be integrated into the Bidding Documents – this will be relevant only for works where a contractor/construction agency will be engaged.

## **B. Urban Infrastructure Restoration/Improvement in Berhampur**

The slums at Berhampur are located generally on the public lands, and houses within these slums are constructed on public lands, and in some cases on lands with legal ownership or tenability rights. The project will provide common infrastructure such as access roads, street lights, sanitation facilities and water supply within the existing carriage way within tenable slum clusters. The proposed width of the entry access is about 5.5 meters and street width within the clusters is 3 to 3.5 meters. Sanitation

facilities shall be provided where feasible and government land is available. Water supply lines will be laid within the existing carriage way of the streets.

For an appropriate management of issues related to the urban infrastructure restoration/improvement in Berhampur, including the slum improvement sub-component, the following approach has been suggested:

*At the Over-all/Sectoral/City Level*

1. Conduct Environment and Social Screening (including vulnerability dimensions) for the proposed sub-projects/settlements to be included under the project
2. Categorization of sub-projects (to be dropped and those to be taken in first/second tranche of the project) based on results from the screening exercise
3. Preparation of Sectoral Master Plans (including consideration of environment and social dimensions and consultation with key stakeholders at various stages prior to their finalization)

*At the Sub-project Level*

1. Preparation of Settlement Profile (including information on environment/social aspects)
2. Preparation of physical plan and/or DPR for the selected sub-project/slum/settlement (covering environment and social dimensions as part of the planning process/criteria)
3. Consultation with concerned Community and other Stakeholders (along with proper documentation of the process and outcome)
4. Seeking of regulatory permissions/clearances, if required for specific sub-project/s
5. Preparation of Bidding Document/s and integration of environment, health and safety requirements as part of it.

## **5.2 Consultation with Stakeholders**

Stakeholder involvement mechanisms are/will be central to the design and implementation of the project and provide opportunities for information sharing, consultation and collaboration measures. While planning stage involvement requires participation in site selection and design, implementation phase requirements encourage community feedback for a more participatory monitoring. Guidance for this purpose has been laid out in the Environment and Social Management Framework to ensure proper consultation and involvement of key stakeholders during key stages of sub-project preparation and implementation.

Apart from the community/field level interactions that were carried out during the cyclone damage and need assessment exercise, OSDMA conducted a state-level stakeholder consultation at Bhubaneswar on December 2, 2013. The workshop provided a platform to present the contours of the proposed Odisha Disaster Recovery Project and note the views and key concerns of the stakeholders. The consultation was attended by district and block level officials, UNDP, UNICEF, Oxfam, Care-India, and local NGOs. The

key take-away points from this forum included the following: planning of new cyclone shelter in safer locations; provision of sites and services to the affected slums; emphasizing in-situ rebuilding of houses and choosing relocation as the last option (unless there are issues related to vulnerability); provision of technical assistance for owner driven housing; restoration/improvement of services (such as water and sanitation) and; collaboration with NGO and CBOs in the reconstruction process.

The OSDMA will also hold consultations at district, block and community level to facilitate involvement of stakeholders and solicit feedback on sub-project identification/selection, preparation/design, implementation plans and other such key elements of project delivery. Key stakeholders such as project affected persons, opinion makers, experts, and different department personnel would be consulted both through individual discussions, village meetings and block level meetings.

Similar approach and system will be adopted by Urban Development Department and BeMC for Component 2. Design consultants will be engaged to prepare the sub-project DPRs under the Urban Infrastructure Component. In the ToR for these consultants, there is/will be an explicit requirement to carry out and properly document the public/stakeholder consultations.

### **5.3 Lessons Learned and Reflected in the Project Design**

The proposed project incorporates lessons learned from the completed Emergency Tsunami Reconstruction Project (ETRP), the on-going National Cyclone Risk Mitigation project (NCRMP-I) and the on-going Bihar Kosi Flood Recovery Project (BKFRP) financed by the Bank.

Evidence from ETRP and projects in Bangladesh clearly shows the benefit of involving the local community in determining infrastructure locations and designs. These lessons will be incorporated in the proposed Project under the multiple components of resilient housing and upgrading slums. The consultation process to finalize locations and designs will involve engagement with the community.

Technical codes and standards utilized should be resilient to natural hazards. Previous projects have shown the importance in utilizing technical standards during the design phase in order to build back better by factoring in various natural hazard risks. Hence the type of designs and construction methods should be tailored to local conditions and utilize appropriate material. Technical assistance in this area will be provided to ensure compliance under the project.

Disaster Risk Management (DRM) institutions are frequently over stretched between regular operations and emergencies. This means project implementation/management units should have clear roles, so that staff can continue to work on on-going projects independent of the emergency. This would ensure continuity, and is especially important in countries with highly recurrent events

Globally, there is evidence that some flood response programs have focused heavily on rebuilding infrastructure and not enough on better adaptation and preparedness for the

future in complementary investments such as rural financing, water and flood management, drainage, urban planning and others. A strong disaster risk mitigation mechanism aims at not only saving lives but also focuses on long term risk reduction. The project will address some of these issues.

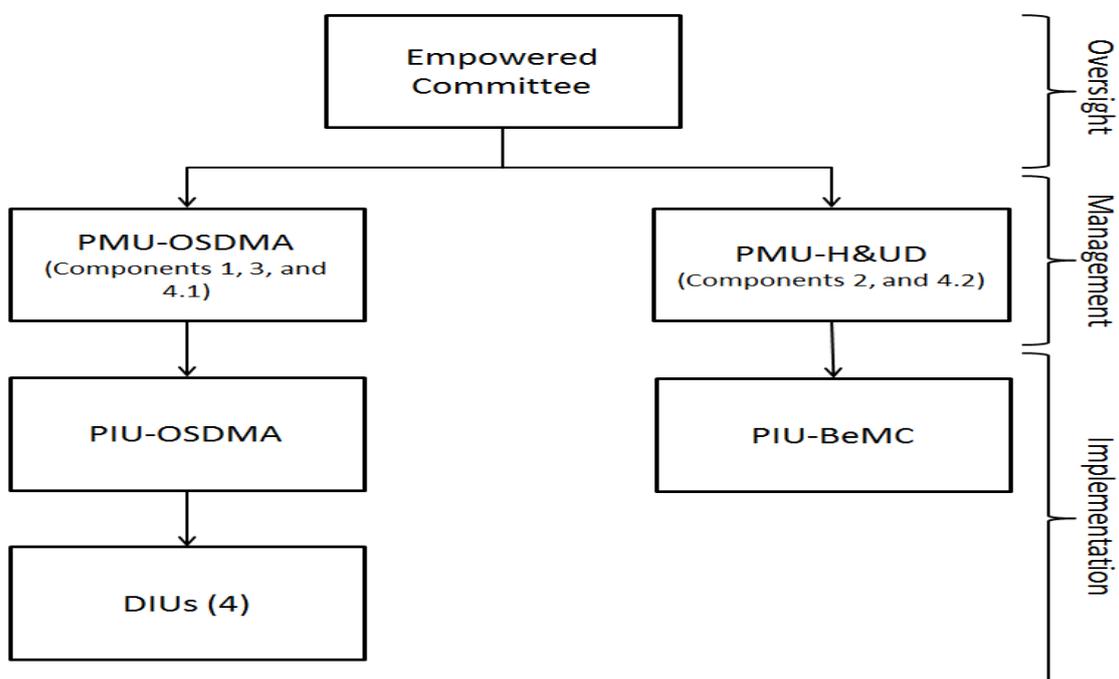
Regular third party technical auditing of various construction activities of the rural housing reconstruction has resulted in better quality of construction. Following the ETRP experience, this practice has been extended to other Government schemes as well. This practice will be continued in the Odisha Disaster Recovery Project (ODRP).

**5.4 Project Institutional and Implementation Arrangements**

The apex decision making body for the Project will be the Empowered Committee (EC). The EC will comprise members of the NCRMP - I Steering Committee including Collectors of the participating districts.

The management responsibility for the Project will fall under two Project Management Units (PMUs), headed by full time project directors supported by coordinators for each of the components and advised by function and technical experts. For components 1 and 3 the PMU will be OSDMA supported by a Project Implementation Unit (PIU) in the same institution, and four District Management Units (DIUs) on the field (2 in Ganjam and one each in Puri and Khordha districts). For component 2 the PMU will be Odisha’s Department of Housing and Urban Development (H&UD), with a PIU within the Berhampur Municipal Corporation (BeMC). Implementation support will be funded by subcomponents 4.1 and 4.2 for OSDMA and H&UD respectively.

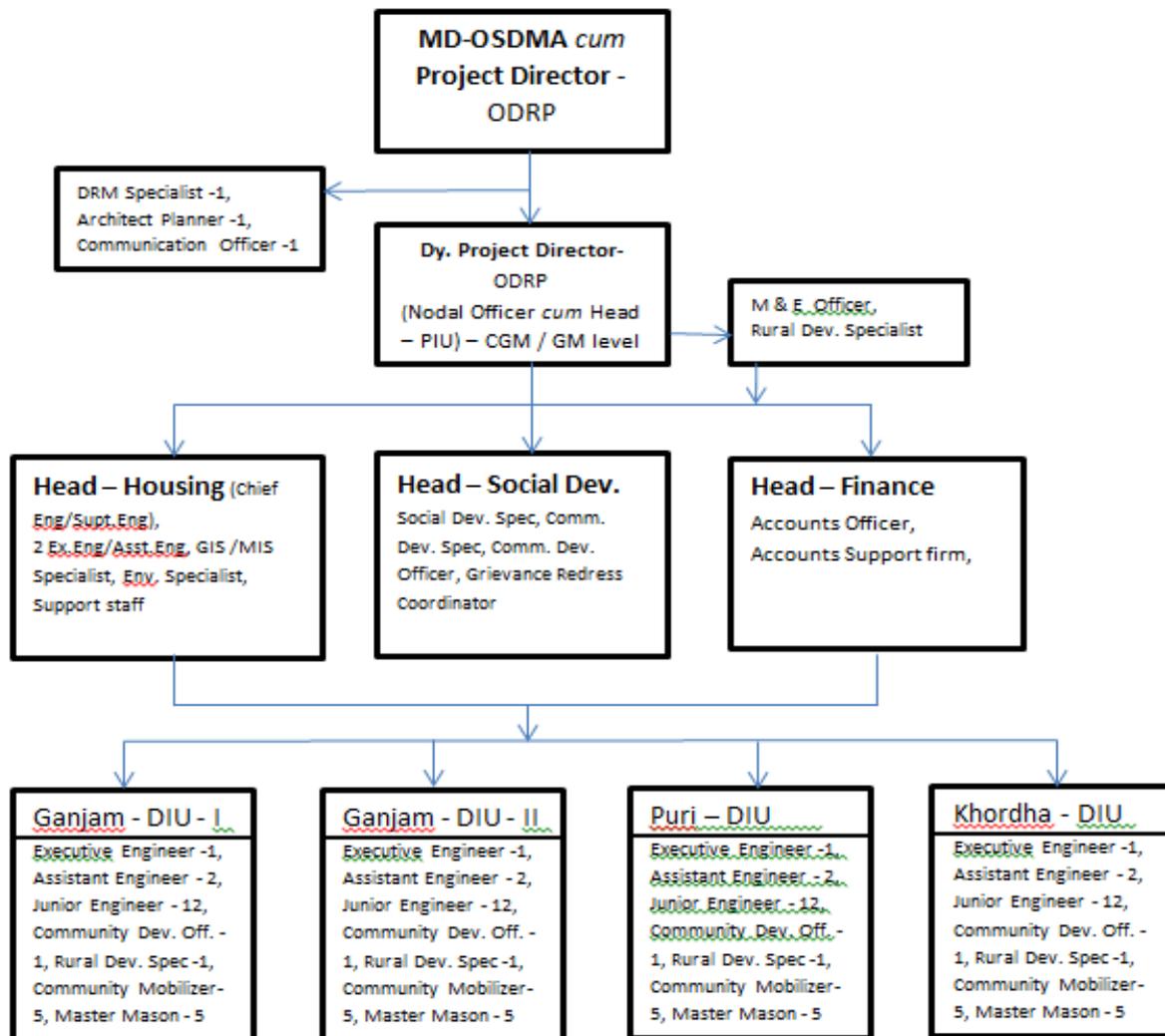
**State Level Implementation Arrangements**



## Project Administration Mechanism

The structure of the PIU for implementation of Components 1 and 3 is:

Implementation Arrangements for PMU-OSDMA



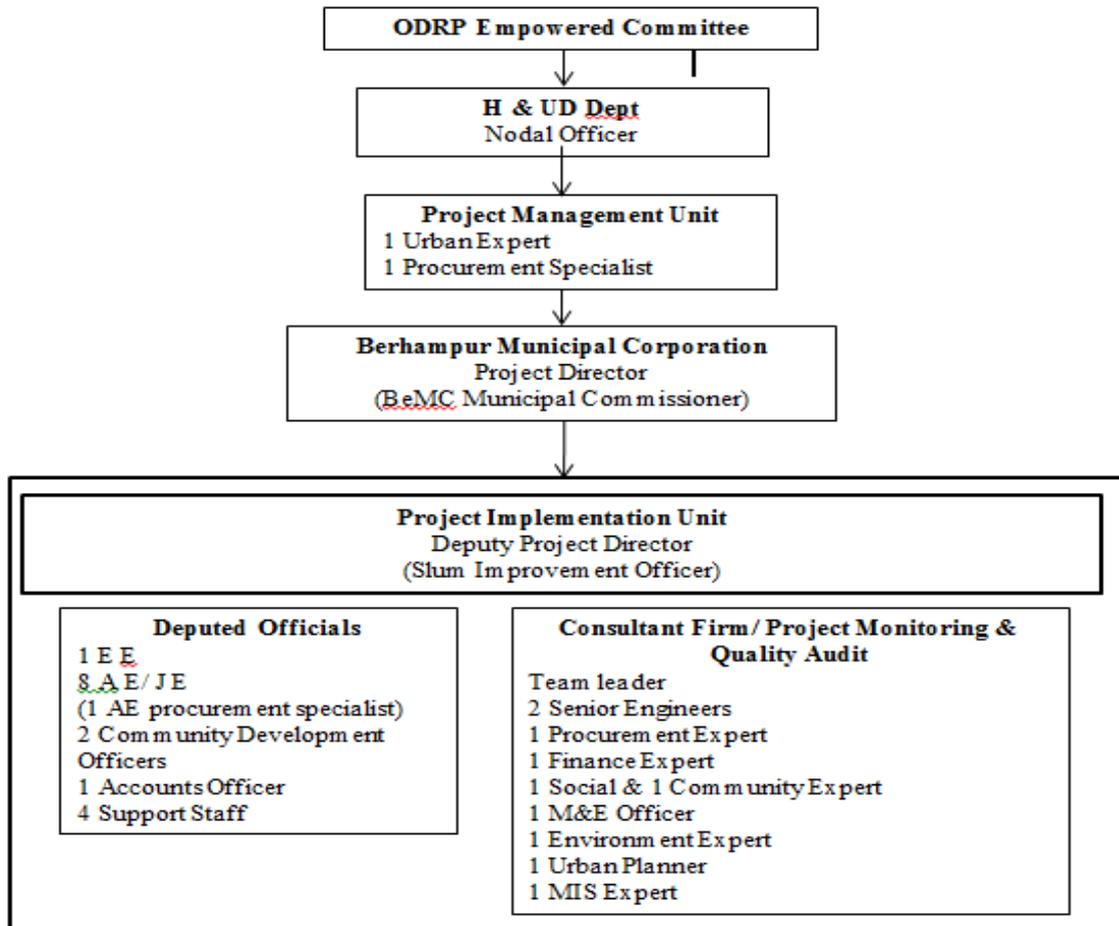
Overall implementation of the component will be managed by a dedicated Dy. Project Director, under the aegis of OSDMA's Managing Director (MD) cum Project Director. Reporting to the GM there will be three Deputies which will be in charge of implementation for Subcomponents 1.1 and 1.2, and Financial Management respectively. Component 3 will be under the direct management of the Dy. Project Director. At the field level there will be four District Implementing Units (DIUs), two for Ganjam and one for Puri and Khordha districts, comprised of engineering, environmental, social, and support staff. The District Administrators will coordinate with DIUs for the identification of beneficiaries, monitoring of activities, and liaising with other government programs.

**Additional Implementation and Monitoring Support:** For implementation of Owner Driven Construction of Houses, development of Village Development Plans, and additional community engagement activities, the PMU-OSDMA will procure the services of a firm with appropriate social and technical expertise. For the supervision of

construction works, the services a Third Party Quality Audit (TPQA) firm will be procured. The agreed TORs for these firms are being/will be included in the Operations Manual.

**The structure of the PIU for implementation of Component 2 is:**

Implementation Arrangements for PMU-H&UD and PIU-BeMC



The project sub-component will be under the Housing & Urban Department (H&UD) which will be the nodal agency. A Nodal Officer from H&UD (Joint Secretary level) will assume the principal responsibility for providing policy-level direction, coordination, and monitoring of the project in cooperation with other departments especially the OSDMA and Finance. A Project Management Unit (PMU) will be established under the project to support H&UD headed by the Nodal Officer, H&UD. It will carry out the day to day monitoring and coordination activities for the sub-component. The PMU will also be responsible for all reporting requirements, including those to the Bank.

The Berhampur Municipal Corporation (BeMC) will be the implementing agency for the sub-component. BeMC will plan for urban infrastructure in identified communities including the sub-projects identification, preparation, implementation, financing, and repayment including the community development and technical assistance. Quality assurance will be assured through third party audits. The project will be implemented by a Project Implementation Unit (PIU) in the BeMC headed by the Commissioner. The PIU will consist of:

**Consultant Firm and short term consultants:** A PIU Consultant Firm will be appointed to support BeMC with all the day to day preparation and implementation activities. The Consultant Firm will be responsible for preparation/review of Detailed Project Reports including technical designs, surveys, investigations etc.; tendering, bid evaluation, contract management; financial management and safeguard compliance and progress and expense reporting to PMU. It will consist of 8 technical staff including team leader, 2 senior engineers, procurement expert, finance expert, social and community expert, environment specialist, urban planner and MIS specialist. It can also be supplemented by short term experts as required.

**PIU Officials:** H&UD will provide a dedicated team of government officials towards the project. It shall comprise of 1 Executive Engineer, 2 Assistant Engineers and 6 Junior Engineers. It shall also include 2 community development officers, 1 Environment Officer, 1 accounts officer and 4 support staff. They shall be responsible for day to day implementation and coordination. They shall also be responsible for quality control.

The H&UD shall be responsible to ensure that required personnel and officers are in place. Third Party Quality Supervision consultants reporting to BeMC Commissioner would be hired for all investments to help monitor and supervise the quality and progress of subprojects.

### **Arrangements for EMF Implementation**

OSDMA, which is currently implementing the Bank funded NCRMP (and will also be involved in the NCRMP's Additional Financing Project), will be the Implementation Agency for the Housing Reconstruction component. While OSDMA will be using in-house resources to prepare DPRs for the housing component, supervision will be a challenge since it involves several reconstruction activities spread over a large geographical area. From an environmental management and safeguards perspective, this further work load on the already stretched staffing of OSDAMA will pose a new challenge. Therefore, at least one Environmental Specialist to the current set-up of OSDAMA will be added to support the implementation of the proposed project. The Environment Specialist/s will coordinate and support field teams, including the Community Development Officers and Community Mobilisers towards ensuring proper integration of environmental requirements as part of the over-all planning and execution of the activities envisaged under the component.

The second component will be implemented by Berhampur Municipal Corporation. The Implementation Agency has not executed any externally funded project till date and therefore specific efforts and hand holding will be required on environment management and safeguard aspects, particularly in the initial stages of project preparation/implementation. By avoiding stand-alone/separate assessments (to a great extent) on environmental aspects, sensitization and capacity building of key players such as BeMC will be required for ensuring that environment and social dimensions are used/mainstreamed as part of the over-all decision making and execution process of the component. Additional required support for BeMC will be built through hiring necessary

expertise as part of consultant's team – both for DPR preparation as well as for supervision.

### **Overall Project Supervision, Reporting and Monitoring (SRM) Framework**

The multi-tier implementation arrangements under the Project include supervision and monitoring roles and responsibilities of the various players involved in the implementation. Supervision will generally entail routine quality certification at various stages of construction, forming the basis of payment certification and other works. Monitoring will occur as a periodic function, and will include process reviews/audits, reporting of outputs, and maintaining progressive records. Broad thematic areas that will be supervised and monitored include the following:

- I) Social and Environmental Monitoring
- II) Regular Quality Supervision & Certification
- III) Periodic Physical Progress Monitoring & Third Party Quality Audit
- IV) Monitoring and Evaluation

A summary is provided below:

**Social and Environmental Monitoring** - This will comprise of the following sets of activities:

- a) Monitoring compliance with environmental regulations, social safeguards and Environmental and Social Management Framework (ESMF) provisions
- b) Overall State-level monitoring and oversight of social and environmental issues at state/project levels.

**Regular Quality Supervision & Certification** – This will be carried out by the respective implementing departments, forming the basis of payment certification. Technical supervision staff shall be deployed by the implementing departments. In addition a third party social and technical support agency will provide quality supervision and support in certification.

**Periodic Physical Progress Monitoring & Third Party Quality Audit** - Physical progress monitoring will be carried out by the implementing agencies (IAs) on a monthly basis. The IAs will carry out monthly surveys in their respective domains (Ganjam, Khorda and Puri districts and Berhampur city) to record and report on the progress of works. They will also, in coordination with the respective beneficiaries and contractors, identify any constraints and delaying factors. In addition, a third party will be deployed for quality monitoring of works and compliance on social and environmental aspects.

**Monitoring and Evaluation (M&E)** - Continuous monitoring of the Project, and its achievements would be taken up by the Empowered Committee. The Empowered Committee will also appoint special agencies to assist them.

**Major Outcomes Expected from Project** - The major outcomes expected from this Project include: (a) Number of people provided with resilient houses reconstructed under

the project; (b) Number of people provided with access to improved public services<sup>5</sup> in Berhampur and (c) Decision Support System established in OSDMA.

### **Monitoring and Evaluation**

The multi-tier implementation arrangements under the Project include supervision and monitoring roles and responsibilities of the various players involved in the implementation. Supervision will generally entail routine quality certification at various stages of construction, forming the basis of payment certification and other works. Monitoring will occur as a periodic function, and will include process reviews/audits, reporting of outputs, and maintaining progressive records. Broad thematic areas that will be supervised and monitored include the following: (i) Social and Environmental Monitoring, (ii) Regular Quality Supervision & Certification, (iii) Periodic Physical Progress Monitoring & Third Party Quality Audit, and (iv) Monitoring and Evaluation. The borrower will carry out a household survey in the selected villages/slums to record baseline data in line with indicators set out for results monitoring.

The environment management instruments provide guidance on monitoring and evaluation parameters and describe the institutional arrangements to facilitate the 'process' and 'progress' monitoring. The application/implementation of environment management instrument, ESMF will be monitored using parameters prescribed in the instruments. A third party audit/review agency will also be selected to evaluate the level of compliance with the project's environment safeguard instruments. A comprehensive assessment report on environmental performance will be prepared by the Project Authority at mid-term and end-term.

### **Budget**

While most of the costs associated with EMF implementation will be a part of the sub-project's engineering proposition/DPR, the Project will earmark necessary budget out of the implementation management budget for supplementing any specific requirements that would be known later. The details will be worked out and agreed with the Bank as per the site need and actual budget requirement. Further, efforts will be made to dovetail the existing environmental protection works/schemes under different GoO programs, if required to mitigate and/or increase resilience of a particular site in question.

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<sup>5</sup> 'Improved public services' includes improved water and sanitation, and all-season roads.

## Disaster Occurrences in Odisha

**Vulnerability**

Orissa is vulnerable to multiple disasters. Due to its sub-tropical littoral location, the state is prone to tropical cyclones, storm surges and tsunamis. Its densely populated coastal plains are the alluvial deposits of its river systems. The rivers in these areas with heavy load of silt have very little carrying capacity, resulting in frequent floods, only to be compounded by breached embankments. Though a large part of the state comes under Earthquake Risk Zone-II (Low Damage Risk Zone), the Brahmani Mahanadi graben and their deltaic areas come under Earthquake Risk Zone-III (Moderate Damage Risk Zone) covering 43 out of the 103 urban local bodies of the state. Besides these natural hazards, human-induced disasters such as accidents, stampede, fire, etc, vector borne disasters such as epidemics, animal diseases and pest attacks and industrial / chemical disasters add to human suffering.

**History of Cyclone**

Sl.No	Date/Year	Category of Cyclone	Landfall and loss
1	7-12 October,1737	Super Cyclone	Crossed West Bengal Coast over Sunderbans
2	31 October, 1831	Very Severe Cyclonic Storm	Crossed Orissa Coast near Balasore, Loss of life-50,000
3	2-5 October,1864	Very Severe Cyclonic Storm	Crossed West Bengal Coast near Contai
4	1-2 November, 1864	Very Severe Cyclonic Storm	Crossed Andhra pradesh near Machilipatnam
5	22 September, 1885	Super Cyclone	Crossed Orissa Coast at False Point, Loss of life-5000
6	14-16 October, 1942	Very Severe Cyclonic Storm	Crossed West Bengal Coast near Contai
7	8-11 October, 1967	Very Severe Cyclonic Storm	Crossed Orissa Coast between Puri and Paradeep
8	26-30 October, 1971	Very Severe Cyclonic Storm	Crossed Orissa Coast near Paradeep, Loss of life-10,000
9	14-20 November,1977	Super Cyclone	Crossed Andhra Coast near Nizampatnam
10	4-11 May,1990	Super Cyclone	Crossed Andhra Coast about 40 Km S-W of Machlipatnam
11	5-6 November, 1996	Very Severe Cyclonic Storm	Crossed Andhra Coasr near Kakinada
12	25-31 October, 1999	Super Cyclone	Crossed Orissa Coast near Paradeep at noon of 29 October

## **Flood**

The 482 km long of coastline of Orissa exposes the State to flood, cyclones and storm surges. Heavy rainfall during monsoon causes floods in the rivers. Flow of water from neighboring States of Jharkhand and Chattisgarh also contributes to flooding. The flat coastal belts with poor drainage, high degree of siltation of the rivers, soil erosion, breaching of the embankments and spilling of floodwaters over them, cause severe floods in the river basin and delta areas. In Orissa, rivers such as the Mahanadi, Subarnarekha, Brahmani, Baitarani, Rushikulya, Vansadhara and their many tributaries and branches flowing through the State expose vast areas to floods.

In Orissa, damages are caused due to floods mainly in the Mahanadi, the Brahmani, and the Baitarani. These rivers have a common delta where flood waters intermingle, and when in spate simultaneously, wreak considerable havoc. This problem becomes even more acute when floods coincide with high tide. The water level rises due to deposits of silt on the river-bed. Rivers often overflow their banks or water rushes through new channels causing heavy damages. Floods and drainage congestion also affect the lower reaches along the Subarnarekha. The rivers Rusikulya, Vansadhara and Budhabalanga also cause occasional floods.

The entire coastal belt is prone to storm surges. The storms that produce tidal surges are usually accompanied by heavy rain fall making the coastal belt vulnerable to both floods and storm surges. People die; livestock perish; houses are washed away; paddy and other crops are lost and roads and bridges are damaged. The floods of 1980, 1982, 2001 and 2003 in the State were particularly severe; property worth crores of rupees was destroyed in the floods.

## **Earthquake**

A large portion of Orissa comes under earthquake risk zone-II (Low damage risk zone). The Mahanadi and Brahmani graven, Mahanadi delta and parts of Balasore and Mayurbhanj district come under earthquake risk zone -III (moderate damage risk zone). 43 urban centres (Census) come under earthquake risk zone-III with a population of nearly 27 lakh. Out of 9 class-I towns, 5 namely Bhubaneswar, Cuttack, Puri, Sambalpur & Balasore are located in zone-III. Besides, important industrial centres like Angul, Talcher and Paradeep also come within the same zone.

The Bureau of Indian Standards (BIS) updated the seismic hazard map of India in 2007. There are no major changes in the zones in Orissa with the exception of the merging of Zones II and I in the 1984 BIS map. Districts that lie in the valleys of Mahanadi and Brahmani river lie in zone III, and within Orissa this zone stretches from Jharsuguda along the border with Chhatisgarh in a south-easterly direction to wards the urban centers of Bhubaneswar and Cuttack on the Mahanadi Delta. The maximum intensity expected in these areas would be around MSK VII. Districts in the north and south – west of the state lie in Zone II

The districts coming under moderate damage risk zone are as follows.

- i. Sundergarh (part)

- ii. Jharsuguda (part)
- iii. Bargarh (part)
- iv. Sambalpur (part)
- v. Deogarh (part)
- vi. Angul (part)
- vii. Dhenkanal
- viii. Jajpur
- ix. Cuttack (part)
- x. Kendrapada
- xi. Jagatsinghpur
- xii. Khordha (part)
- xiii. Puri
- xiv. Bhadrak (part)
- xv. Balasore (part)
- xvi. Mayurbhanj(Part)

## Heat Wave

### Definition

- i. Heat wave can be defined as a condition of atmospheric temperature that leads to physiological stress, which sometimes can claim human life.
- ii. Quantitatively heat wave can be defined as follows:
  - The normal temperature is **< 40° C**. Any increase from the above normal temperature is called heat wave. **+ (5 or 6) ° C** – Moderate heat wave
  - **7° C**. or more – Severe heat wave
  - The normal temperature is **> 40° C**. Any increase from the above normal temperature is called heat wave. **+ (5 or 6) ° C** – Moderate heat wave
  - **7° C**. or more – Severe heat wave
  - If the maximum temperature of any place continues to be **45° C** consecutively for two days, it is called a heat wave condition

In the year 1998 the State of Orissa faced an unprecedented heat wave situation, as a result of which 2042 persons lost their lives. Though extensive awareness campaigns have largely reduced the number of casualties during post 1998 period, still a good number of casualties are being reported each year which have put the State Government in very difficult situation. It has become a menace during hard summer causing insurmountable human suffering. The poor people, farmers and workers mostly suffer from sunstroke and lose their lives. In the Orissa Relief Code, the State Government has made provision for payment of Rs.10,000/- towards ex-gratia relief to the bereaved

family of each sunstroke victims. Since there is no provision in the items and norms of expenditure for incurring expenditure from the Calamity Relief Fund (CRF) or NCCF to provide relief to the victims of 'Heat Wave', the State Government is incurring such expenditure out of the Chief Minister's Relief Fund (CMRF) though it is a natural calamity like Cyclone, Flood, and Earthquake etc.

Since the State Government is not in a position to meet the huge requirement of funds needed for preparedness in taking adequate ameliorative measures and for payment of ex-gratia to the bereaved families of Heat Wave victims out of its own fund each year, the issue has been repeatedly raised before the Government of India and Finance Commissions for consideration. During the visit of Hon'ble members of 13<sup>th</sup> Finance Commission, Government of India in February, 2009 the State Government put forth the demand to include the "Heat Wave" in the list of natural calamity under CRF

The year wise death toll due to heat wave since 1998 as mentioned below, posturizes the calamity:

Year	Human Casualty
1998	2042
1999	91
2000	29
2001	25
2002	41
2003	68
2004	45
2005	236
2006	21
2007	47
2008	68
2009 (as on 26.10.2009)	81

## **Tsunami**

A tsunami is a series of waves most commonly caused by violent movement of the sea floor. In some ways, it resembles the ripples radiating outward from the spot where stone has been thrown into the water, but a tsunami can occur on an enormous scale. Tsunamis are generated by any large, impulsive displacement of the sea bed level. The movement at the sea floor leading to tsunami can be produced by earthquakes, landslides and volcanic eruptions.

The State of Orissa falls in the peninsular shield region of India. Studies show that the margins of the shield are generally seismogenic where earthquakes are likely to occur. The earthquakes experienced occasionally along the eastern margins of the Deccan shield are attributed to uplifting of earth's crust in those areas. This uplifting is however, considered to be slower than its counterpart in the Western margin. The resultant strain is thus being accumulated which manifests itself occasionally into earthquakes.

Recent studies have also given an indication that the Mahanadi river valley is faulted and could be a potential earthquake source. Besides this, the Sumatra fault zone and tectonic plate setting along the Andaman & Nicobar Islands and Burma Micro plate boundaries remaining in the eastern part of the Bay of Bengal pose potential threats of tsunami for the coast of Orissa. As the technology stands today though earthquake prone areas are identified yet earthquakes still remain unpredictable. As per the assessment made, 266 villages of different districts are vulnerable to Tsunami. Details are given below.

<b>Districts</b>	<b>Coastal Blocks</b>	<b>GP</b>	<b>Village</b>	<b>ULBs</b>
Balasore	5	29	63	
Bhadrak	2	13	41	Chandbali
Kendrapara	2	13	64	--
Jagatsinghpur	3	10	28	Paradeep
Puri	6	35	88	Puri, Konark
Ganjam	4	15	44	Gopalpur
<b>Total</b>	<b>22</b>	<b>115</b>	<b>328</b>	

### **Lightening**

Lightning of thunder stroke is a natural phenomenon and prevention of its occurrence is beyond human control. A good number of people, nearly 300 persons succumb to death due to lightning in the State every year. Since this is not included in the list of natural disasters under Calamity Relief Fund (CRF) appropriate assistance i.e. ex-gratia cannot be given to the poor people for their death as in case of death due to other calamities like flood, fire, cyclone and earthquake etc. This issue has been repeatedly raised before the Government of India and Finance Commissions for consideration i.e. inclusion of "lightning" in the list of natural disasters so that relief can be administered to the poor people out of CRF. However, in due consideration of the gravity of the situation, the State Government has enhanced the ex-gratia to the next of kin of the deceased in the case of death due to lightning from Rs.10,000/- to Rs.50,000/- w.e.f. 01.06.2007. During the visit of Hon'ble members of 13<sup>th</sup> Finance Commission, Government of India in February, 2009 the State Government put forth the demand to include the "lightning" in the list of natural calamity under CRF.

The death toll due to lightning in the State since 2001 is mentioned below:

<b>Year</b>	<b>Human Casualty</b>
2001	183
2002	220
2003	224
2004	279
2005	214
2006	204
2007	327
2008	362
2009 (till 18.08.2009)	78

## Environment Screening Form

**Part A: General Information**

<b>Type of proposed sub-project activity</b> (tick the applicable option)	
▪	
<b>Location of the sub-project</b>	
Village	
Taluka	
District	
<b>Size of the sub-project</b> (approx. area in sq. mt/hac as relevant)	
<b>Details about the Screening Exercise</b>	
▪ Date	
▪ Name of the Person	
▪ Contact Number	
▪ E-mail Id	

**Part B (1) : Environment Screening**

Question	Yes	No	Details
1. Is the sub-project located in whole or part within the Coastal Regulation Zone?			If yes, specify the zone.
<b>2. Is the sub-project located in whole or part in/near any of the following environmentally sensitive areas? <sup>6</sup></b>			
a. Biosphere Reserve			If yes, mention name and distance.
b. National Park			If yes, mention name and distance.
c. Wildlife/Bird Sanctuary			If yes, mention name and distance.
d. Wetland			If yes, mention name and distance.
e. Important Bird Areas (IBAs)			If yes, mention name and distance.
f. Coastal area with corals			If yes, mention name and distance.
g. Mangrove area			If yes, mention name and distance.
h. Estuary with mangroves			If yes, mention name and distance.
i. Natural Lakes			If yes, mention name and distance.
j. Swamps/Mudflats			If yes, mention name and distance.
k. Habitat of migratory birds (outside protected areas)			If yes, mention name and distance.

<sup>6</sup> The PIU should take adequate steps to ensure that there are no adverse impacts on the environment **within 1 km radius** of the listed protected areas during sub-project selection/implementation. The Environmental Officers at the PIU/PMU need to ensure that the required avoidance, minimization and mitigation measures are taken care of during site selection, DPR preparation and implementation/construction stages of a sub-project. This will help facilitate project supervision and monitoring during the implementation stage as well.

Question	Yes	No	Details
l. Migratory Route of Wild Animals/Birds			If yes, mention name and distance.
m. Area with threatened/rare/ endangered fauna (outside protected areas)			If yes, mention name and distance.
n. Area with threatened/rare/ endangered flora (outside protected areas)			If yes, mention name and distance.
o. Reserved/Protected Forest			If yes, mention name and distance.
<b>3. Is the sub-project located within 500 meters from rivers, streams, estuaries or deltaic mouths?</b>			If yes, mention name/s and distance/s.
<b>4. Is the sub-project located in whole or part near any of the following sensitive features? <sup>7</sup></b>			
a. World Heritage Sites			If yes, mention name and distance.
b. Archaeological monuments/sites (under ASI's central/state list) <sup>3</sup>			If yes, mention name and distance.
c. Historic Places (not listed under ASI - central or state list but regionally/locally important)			If yes, mention name and distance.
d. Reservoirs/Dams			If yes, mention name and distance.
e. Public Water Supply Areas from Rivers/Surface Water Bodies/ Ground Water Sources			If yes, mention name and distance.

<sup>3</sup> In case of archaeological sites/monuments, the prohibited area is 100 mts and the controlled area is 200 mts.

**Part B (2) : Result/Outcome of Environmental Screening Exercise**

1.	No Detailed/Stand-alone Assessment Required	
2.	Environment Impact Assessment Required	
3.	CRZ clearance required	
4.	Forest Clearance Required	

### Procedure for Conducting EA

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An environmental assessment (EA) report should focus on the significant environmental issues of a project and should include an Executive summary concisely discussing significant findings and recommended actions. The other components of the EA report are indicated below.

The following process is to be followed for sub-project activities, wherein the requirement for an EIA has been determined.

**Policy, legal, and administrative framework applicable for the project** - Discuss the policy, legal, and administrative framework within which the EA is carried out such as applicable environmental regulations – EP Act, EIA Notification, Water Act, Air Act, CRZ Regulations, etc. and applicable World Bank policies such as OP 4.01, etc.

**Project description** - Concisely describe the proposed project (detailed description of the proposed components) and its geographic, ecological, social, and temporal context, including any offsite investments that may be required (e.g., dedicated pipelines, access roads, power plants, water supply, housing, and raw material and product storage facilities). Indicate the need for any resettlement plan or indigenous people's development plan. Also include a map showing the project site and the project's area of influence.

**Baseline data** - Assess the base line conditions of the study area and describe relevant physical, biological, and socioeconomic conditions, including any changes anticipated before the project commences. Also consider current and proposed development activities within the project area but not directly connected to the project. Since the proposed pilot studies are in coastal areas include necessary base line studies on ecology of the project area such as aquatic / estuarine/ marine ecology, flora/ fauna studies and benthic studies (depending on the project activities), migratory pattern of birds, nesting grounds of fish specific studies relevant to the coastal areas. Sampling and frequency of these studies should justify the reliability of the base line studies and associated impact predictions. Wherever, not feasible utilize available secondary data.

**Environmental impacts** - Predict and assess the likely positive and negative impacts of the project in quantitative terms to the extent possible with suitable modeling analysis. Identify mitigation measures and any residual negative impacts that cannot be mitigated. Explores opportunities for environmental enhancement. Identify and estimate the extent and quality of available data, key data gaps, and uncertainties associated with predictions, and specifies topics that do not require further attention.

**Analysis of alternatives** – Evaluate and compare feasible alternatives to the proposed project in terms of location, technology, design and operation--including the "without project" situation--in terms of their potential environmental impacts. The feasibility of mitigating these impacts; their capital and recurrent costs; their suitability under local conditions; and their institutional, training, and monitoring requirements should also be

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detailed out. For each of the alternatives, quantify the environmental impacts to the extent possible, and attach economic values where feasible. Justify the basis for selecting the particular project design recommended approaches to reduce possible environmental impacts. Since the projects are in coastal areas, the proposed projects should ensure that no adverse impacts are expected on the coastal resources (environmental, ecological, social and cultural resources)

**Environmental Management Plan (EMP)** – The EMP should include a set of mitigation, monitoring, and institutional measures to eliminate adverse environmental impacts to offset or reduce them to acceptable levels. The plan also should include actions needed to implement these measures. Specifically, the EMP

- identifies and summarizes all anticipated significant adverse environmental impacts (including those involving indigenous people or involuntary resettlement);
- describes--with technical details--each mitigation measure, including the type of impact to which it relates and the conditions under which it is required, together with designs, equipment descriptions, and operating procedures, as appropriate;
- estimates any potential environmental impacts of these measures; and
- Provides linkage with any other mitigation plans (e.g., for involuntary resettlement, indigenous peoples, or cultural property) required for the project.
- Identifies **monitoring** objectives and specifies the type of monitoring, with linkages to the impacts assessed in the EA report and the mitigation measures described in the EMP.
- The recommended monitoring program should provide a specific description and technical details of monitoring measures including the parameters to be measured, methods to be used, sampling locations, frequency of measurements, detection limits (where appropriate), and definition of thresholds that will signal the need for corrective actions; and
- **Monitoring and reporting procedures** to (i) ensure early detection of conditions that necessitate particular mitigation measures, and (ii) furnish information on the progress and results of mitigation.
- The EMP should also provide a specific description of **institutional arrangements**--who is responsible for carrying out the mitigatory and monitoring measures (e.g., for operation, supervision, enforcement, monitoring of implementation, remedial action, financing, reporting, and staff training). To strengthen environmental management capability in the agencies responsible for implementation, EMPs may suggest (a) technical assistance programs, (b) procurement of equipment and supplies, and (c) organizational changes.
- For all the above three aspects (mitigation, monitoring, and capacity development), the EMP should provide (a) an implementation schedule for measures that must be carried out as part of the project, showing phasing and coordination with overall project implementation plans; and (b) capital and recurrent cost estimates (c)

sources of funds for implementing the EMP. All these cost estimates should be integrated into the total project cost estimates.

- The EMP should be integrated into the project's overall planning, design, budget, and implementation by including the EMP project contracts and establishing the EMP within the project plan to receive funding and supervision along with the other components.

The **record of stake holder consultation** carried out during the EA process shall be provided in the report along with the minutes of these meetings, views of stake holder agencies, affected people and local nongovernmental organizations (NGOs).

### Incorporating EMP/GEMP into Contract Documents

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The purpose of the annex is to provide guidelines on the integration of the EMP / GEMP documents into the contract documents

#### Environment requirements in the pre-bid documents

1. The project implementing agency, i.e. PIU / the Line Departments issue the pre-bid documents to shortlist a few (usually six) contractors, based on their expression of interest and capability. While details on environmental requirements are really not required in the pre-bid stage, it is useful to mention that the contractor's environmental management capability or experience/is expected to be good.

#### Incorporating EMP in the bid document

2. The project implementing agency (Line Department) issues the bid documents to the pre-qualified contractors. There are two kinds of bid documents, for International Competitive Bids (ICB) and National Competitive Bids (NCB). In Bank projects, these documents are prepared based on templates (separate for ICB and NCB) provided by the Bank. The ICB documents are based on the FIDIC (i.e., an acronym for the International Institute of Consulting Engineers) guidelines, while the NCB is closer to the national contracting procedures, i.e. the Central PWD contract documents in India. The bid documents contain separate volumes. For instance, a typical ICB document contains – (i) General Conditions of Contract, which is based on the FIDIC; (ii) Technical Specifications, which is based on the applicable specifications in India for similar infrastructure related works; (iii) Bill of Quantities and (iv) Drawings.
  3. The parts of the EMP should be included in the relevant locations of the bid documents in the following way:
    - Mitigation/enhancement measures & monitoring requirements tables: The cross-reference to these tables should be included in the "conditions of particular application (COPA)", which is a part of the General Conditions of Contract (e.g. Section IV, Item 19.1 of the ICB). As a standard practice, there is an overall reference to the laws that have to be followed in this section/item. The relevant laws need to be mentioned here. In addition, the adherence to the mitigation/enhancement measures and monitoring requirements tables should be included. The two tables will have to be added as Annexes or the EMP (without cost) as a whole should be attached. Either the Annexes or the appropriate section in the EMP should be cross-referred in the description of this item.
    - Modifications/additions to the technical specifications: Due to the mitigation/enhancement measures included in the EMP, there may be (a) additions/alterations required to the applicable specifications and (b) some new specifications. These are to be referred in the section on "Supplementary Specifications" in the Technical Specifications Volume of the bid documents.
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Generally, the GoI applicable specifications are taken as followed and are not repeated in the bid documents. Changes and additions to these specifications are made through the inclusion of a section "Supplementary Specifications." This section should also include additional technical specifications related to the EMP or should provide a cross-reference to the specific section of the EMP.

- Cost table: All the items in the EMP cost table relevant to the contractor have to be referred in the Bill of Quantities (BoQ) table, which is a separate volume of the bid documents. It is to be noted that the BoQ table in the bid documents includes the various tasks to be done by the contractor under different categories. Against each task, the contractor will have to indicate a unit rate while completing the bid documents.
- Drawings: Due to the mitigation / enhancement measures included in the EMP, there may be (a) changes required to the drawings and (b) new drawings. All of these drawings are to be reflected in the Bid documents under the separate Drawings Volume. If the drawings are included in the EMP, then a cross-reference should be provided in the Drawings Volume.

### **Developing the EMP to suit the bid / contract documents**

As one of the intentions is to integrate the EMP requirements into the bid documents/contract Agreement, the EMP should be developed keeping the following in mind:

- 1. Mitigation / enhancement measures table - description**: In the Mitigation/Enhancement Measure table, the text describing each measure should not include/repeat what is already covered under the technical specification, which is being cross-referred. The text should be short, clear and succinct. The description should focus on "what" and "where" of the mitigation / enhancement measure as the "how" of the measure is covered under the specification.
- 2. Monitoring requirements table**: There are certain monitoring requirements for the contractor. While developing the Monitoring Requirements table, those that pertain to the contractor should be clearly separated.
- 3. Technical specifications**: The modifications to the specifications and the additional specifications should be separately listed. These should be included as Annexes in the EMP. The (added or modified) technical specifications should be adequately detailed to avoid problems (including that of interpretations) at site.
- 4. Drawings**: The modifications to the drawings and the additional drawings should be included as Annexes in the EMP. It is important to note that all drawings included / added should be "execution drawings" detailed as per requirement of the particular item so as to execute at site with adequate quality control and workmanship. (Also, it is important to note that the quality of BoQ [or cost estimate] and technical specifications part of the contract document depends on the degree of detailing in the drawings).

5. Cost table: The items pertaining to the contractor should be clearly separated from those that are to be incurred by the project implementing agency, supervision consultant or any other agency organization. The contractor's cost table should also not be attached to the bid / contract documents.
6. Timing for finalizing EMP: It is best to finalize the EMP before the finalizing the bid documents. This is required to fully reflect the sections of the EMP relevant to the contractor in the bid documents and to ensure full integration.

**Other notes**

Variation orders: Once the completed bids have been received from prospective contractors, the project implementing agency takes a decision based on the costs and the technical merit of the bids. Following the decision, the implementing agency and the chosen contractor sign and counter-sign the completed bid documents. It becomes the contract agreement thereafter. If issues have been missed in the bid documents, it cannot be amended at the time of signing the contract agreement stage unless there is a really strong justification for the same. If there is an EMP cost item that is not reflected in the BoQ of the signed contract agreement, the supervision consultant may issue a variation order. Contractor will quote a rate and the task gets done. This issue of variation orders is a standard practice and is generally used. However, the intent of the good contracting practices is to minimize variation orders.

# **Social Management Framework**

**(Part B)**

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**Odisha Disaster Recovery Project**

## Section 1: Social Setting/Profile

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### 1.1 Affected Coastal Villages

About 27 percent of the people living in the coastal villages affected by the cyclone are poor living in mud and thatch and semi-concrete houses. Their source of livelihood is fishing, and agriculture. While those with land engage in cultivation, the majority of fishing population are solely dependent on marine fishing for their livelihood. The scheduled caste population is about 18.5% in Ganjam, 16% in Puri and 11.3% in Khordha districts, poverty level among whom is higher compared to the general population. A few of 140 odd cyclone/flood affected villages have scheduled caste habitations. These communities are generally without secure housing and agricultural land and work as manual laborers in sectors such as agriculture, construction, and the male members of the house seasonally migrate out in search of gainful employment. The literacy rate is about 71%, 86% and 87% in Ganjam, Puri and Khordha districts respectively. The literacy levels amongst the older persons in the coastal fishing and scheduled caste villages may be lower than the district averages, literacy amongst the younger age group could be in the range of 85% to 95%.

### 1.2 Urban Slums

The Municipal Area of the Berhampur city is 37 km sq. The master plan area of 84.97 km sq includes 18 nearby revenue villages. The town has many educational institutions and small businesses. It has a population of (2011) 3,50,000 with density of 9436 persons/km sq. The decadal growth rate of population between 2001 to 2011 was 16% and that of 1991-2001 was 45%. Slum population in the city in is 153445 persons or 43% of the population (2011 census). National Highway-5 5 runs close to city providing direct linkage to Kolkota and Chennai. Distance from Bhubaneswar is 170 km. The current master plan (1969) has been prepared by the Behrampur Development Authority. It is due to be revised in 2014. Of the municipal area, 13% is residential, 3% (commerce and industrial) ; 5 % public zone; 6% roads; 5% tanks. A large number of slum pockets are spread all over the city. Many are adjacent to tanks and drains. The city has 56 water tanks/ponds which are spread out. These are used for washing and even drinking (20-25% of the population). Many drains are let into these tanks and they are filled with plants/weeds and solid waste. Most have slums on around them. These are classified as untenable/semi-tenable slums. During the rainy season and cyclone, most of the tanks overflow and submerge the slums/residences. The works will carried out only in tenable slums.

### 1.3 The Poverty and Social Indicators

Though poverty reduction has accelerated in Orissa since 2000, with a poverty headcount ratio of about 46 percent, Orissa remains one of the poorest states of India. Estimates based on the uniform reference period from NSS data indicate a marginal decline in poverty by about three percentage points during 1993/94 – 2004/05, while

per capita income rose by about 48 percent during the same years. The number of people below the poverty line actually increased from 1.6 million to 1.8 million over the period. Inequality of income has gone up, from 24.6 to 28.8 in rural areas and from 30.7 to 35.9 in urban areas. However, during 2000-2005, the poverty head count declined by more than eight percentage points and 2.5 percentage points in urban Orissa. A critical constraint on economic growth in Orissa in the past, has been its low quantity and quality of human capital. Education indicators have been improving with the gross enrollment rate at about 95%. The number of primary schools/sections per 1000 children was 14 in 2008-09 while the number of upper primary schools per 1000 children was about 11 in 2008-09. The marginal decline in poverty between 1993/94 and 2004/05 masks the fact that the poverty rate for Scheduled Castes (SC) has remained largely same, while that for Scheduled Tribes (ST) has increased. Together, SC and ST groups make up 43 percent of Orissa's population but account for more than 60 percent of the poor. Regional patterns show that much of the poverty reduction was contributed by declining poverty in the Coastal region, while poverty in the South and North has gone up. In the coastal areas the poverty head count declined from 45.3 to 27.4 during the 10 years between 1993/94 and 2004/5.

1.4 The Government of Orissa (GoO) set up a Regional Imbalances Commission to look into regional imbalances, and the Commission's Report, released in 2008, found 50 percent of districts (and 53 percent of blocks) in the state to be backward or very backward, derived from a four-fold classification of districts. The analysis is based on objective data for 26 development indicators of macroeconomic, human, agricultural, industrial and infrastructural development, as well as status of weaker sections. Simple correlations show that districts with higher SC/ST populations are more likely to be backward. The fifteen districts classified as backward or very backward in the map below have more than 50 percent of their aggregate population in the SC/ST category. In contrast, the remaining districts which are classified as developed or developing have about a third of their aggregate population in the SC/ST categories. The mapping, in line with the NSS findings on spatial poverty patterns, shows Southern areas of the state to be generally backward, and coastal districts to be broadly developed or developing. This mapping is also closely correlated with the district-level Human Development Indicators – which, for example, show developed or developing districts like Khurda, Jharsuguda, Cuttack, Sundargarh, Angul, Puri and Bhadrak to have substantially better human development indicators compared backward districts like Bolangir, Boudh, Keonjhar, Rayagada, Nabarangpur, Gajapati, Koraput, and Kandhamal.

## **1.5 Gender and Social Heterogeneity**

Both men and women actively participate in the economic activities in the coastal villages, especially in the scheduled caste and fishing communities. Whereas male literacy is about 90% in the affected villages, the female literacy is 77%, 83% and 76% in Ganjam, Puri and Khordha districts respectively. The sex ratio is 908, 932, and 916 in Ganjam, Puri and Khordha districts respectively. The Odisha government has been implementing an ambitious women's micro-credit program in the state called Mission

Shakti for over a decade. As a result, almost all the affected villages have women micro-credit groups and are engaged in savings and thrift activities. These women groups have bank accounts and access loans from the Banks for a range of activities. This is less well organized in the scheduled caste villages and the degree of success of these women groups is varied. The women folk are subjected to a subordinate position in the rural areas despite their contribution to family incomes. Alcoholism is widespread among men is fishing as well as other social groups in the coastal villages. Most villages have primary schools however many do not have piped water supply and sanitation facilities. All villages have child care centers and health facilities are located generally within 5 kilometers of the villages. The marine fishing communities are telugu speaking, but understand the state's official Odia language. The coastal fishing villages have generally high bonding social capital and the affairs of the community are looked after by community leaders identified as Naidu. These community leaders are different from the elected local representatives who represent wards in the local body. Most of the village decisions are taken at the habitation level or ward level.

## Section 2: Legal and Institutional Systems

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### 2.1 The Right to Fair Compensation and Transparency in Land Acquisition and Resettlement and Rehabilitation (LARRA) Act, 2013

The Land Acquisition (LA) Act of 1984 commonly used for acquisition of land for any public purpose has been annulled with the enactment of the LARRA 2013. The rules of the new Act have just been framed and will undergo refining in days to come. The Government has decided not adopt the LARRA, 2013 for obtaining any lands for the Project, and has instead decided to obtain private land required through purchase (large parcels) or voluntary donations (small parcels). The LARRA is mentioned here to provide a perspective on the changing legal context with regard to land acquisition in the country.

The new Act emphasizes elaborate social assessment and resettlement planning even prior to issuance of the preliminary notification and proposes to provide a range of R&R benefits along with the compensation package. Some of the highlights are as follows:

- Offers compensations up to 4 times the market value in rural areas and 2 times the market value in urban areas.
- The Act applies retrospectively to cases where land acquisition award has not been made.
- LA in Scheduled Areas will require consent of the local general assembly (Gram Sabhas).
- No displacement or dispossession until full payment of compensation and RR benefits are made and alternative sites for the resettlement and rehabilitation have been prepared.
- Bill requires the consent of no less than 70 per cent and 80 per cent respectively (in both cases) of those whose land is sought to be acquired in case of PPP or private projects.
- To safeguard food security and to prevent arbitrary acquisition, the Bill directs States to impose limits on the area under agricultural cultivation that can be acquired.
- In case land remains unutilised after acquisition, the new Bill empowers states to return the land either to the owner or to the State Land Bank.
- No income tax shall be levied and no stamp duty shall be charged on any amount that accrues to an individual as a result of the provisions of the new law.
- Where acquired land is sold to a third party for a higher price than 40 per cent of the appreciated land value (or profit) will be shared with the original owners.
- In every project those losing land and belonging to the SC or ST will be provided land equivalent to land acquired or two and a one-half acres, whichever is lower (this is higher than in the case of non-SC/ST affected families) -Where the affected families belonging to the SC and the ST are relocated outside of the district then they shall be

paid an additional 25 rehabilitation and resettlement benefits to which they are entitled in monetary terms along with a one-time entitlement of 50000 rupees.

## **2.2 The Orissa Prevention of Land Encroachment (OPLE) Act 1954**

The Act deals with cases of encroachment upon the government land. The provisions of the act are helpful in preventing encroachment of buffer areas of the forest or coastal zone which are needed for several conservation related activities. The importance of OPLE lies in its provision that squatters that are land less and homesteadless are eligible for settlement of occupied land in their favour.

## **2.3 The Odisha State Resettlement and Rehabilitation Policy, 2006**

In order to ensure sustained development through a participatory and transparent process, the Government of Odisha has framed a comprehensive resettlement and rehabilitation policy in May, 2006. Basic objectives of the policy are:

To avoid displacement where possible and minimize it, exercising available options otherwise.

- To facilitate resettlement/ rehabilitation process:
- Recognizing voices of the displaced communities (emphasizing the needs of the indigenous communities and vulnerable sections); and
- Ensuring environment sustainability through participatory and transparent process;
- To help guiding the process of developing institutional mechanisms for implementation, monitoring, conflict resolution and grievance redressal.

The salient features of the policy are:

- An initial Survey and Identification of Displaced Families will be completed in 2 months
  - For the purpose of R & R benefits under this Policy, Development Projects are classified into the following types:
    - Industrial Projects;
    - Mining Projects;
    - Irrigation Projects, National Parks and Sanctuaries
    - Urban Projects and Linear Projects like roads and railways, power lines; and
    - Any other Projects.
  - Procedure prescribed by Government shall be followed in acquiring land and other property and for payment of compensation / award.
  - Based on the list approved by Government and option of displaced families, Resettlement and Rehabilitation Plan shall be prepared by the Collector for
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resettlement and rehabilitation after due consultation with displaced communities in the manner determined by the Government. Such plan should address the specific needs of the women, vulnerable groups and indigenous communities.

- Rehabilitation Assistance will be specific to the type of project as mentioned in the policy, because of difference in nature of projects, their source(s) of funding and magnitude of displacement / impact.

The State Cabinet on 31 July 2013 has approved the amendment to Odisha Resettlement and Rehabilitation Policy, 2006 to make the family definition more pronounced. After the amendment, major grandsons irrespective of their marital status and major unmarried daughters and granddaughters and major unmarried sisters would now get the benefits of the policy and can thus consider themselves as separate families. The amendment was necessitated to clear confusion during selection of beneficiaries under the R&R policy implementation. The policy is also applicable to projects for which land is directly purchased by the project proponent on the basis of negotiated price.

#### **2.4 Orissa State Slum Policy**

The Slum Rehabilitation and Development Policy (SRDP), is aimed at creating an enabling environment at the State and city level for citywide slum upgrading and poverty reduction. It will also provide the framework within which the Rajiv Awas Yojna (RAY), an urban housing scheme shall be implemented. This envisages building a Slum Free Orissa by 2020 and reducing urban poverty conditions significantly. The SRDP goals are to: (a) ensure that every slum and poor family in every city/town will have access to decent and affordable housing with network municipal infrastructure services, schooling, health care, food and social security; (b) provide all new migrating families who are poor, access to affordable rental or for-sale housing with adequate network services; and (c) achieve holistic and sustainable development of all cities through inclusive and planned urban development, improved governance and service delivery, and implementation of urban reforms.

The SRDP will address the issue of slums through the following key principles:

- Follow a citywide and comprehensive approach to slum development;
- Upgrade through in-situ development, all tenable settlements, as far as possible,
- through provision of tenure security, and minimize far-site relocation;
- Provide tenure or legal right to land in an incremental manner in all tenable sites
- to ensure a stable living environment in the long-term and to facilitate selfinvestment
- in housing upgrading;
- Mainstream all slums to city infrastructure with legal, affordable, equitable and
- improved municipal networks and social services;
- Provide basic minimum services to all slums till fully upgraded;
- Develop nearby affordable housing for slum dwellers, who currently reside on

- untenable sites and tenants in these settlements with joint house titles in the name of women and men with access to micro-finance;
- Encourage beneficiary contributions and minimize subsidies to ensure financial viability of slum up gradation programmes;
- Increase the supply of decent and affordable rental housing for new migrants throughout the city to prevent development of new slums;
- Promote sustainable livelihoods linked to city economic development to improve household incomes and affordability;
- Ensure inclusive and participatory planning and implementation processes for slum and housing development;
- Implement reforms for tenure security and legislation of property rights, internal earmarking of budgets for the poor, earmarking developed land in housing projects, rent control and planning bye-laws, and norms for basic services that enable citywide slum development with pro-poor governance; and

The respective Urban Local Bodies (ULB), the Development Authorities (DAs), and the Orissa State Housing Board (OSHB) will be implementing this Policy. To further this process of implementation, a State Level Steering Committee (SLSC), an Orissa Slum Development Task Force (OSDTF), a Department Level Monitoring Committee, a State Level Nodal agency (SLNA), Slum Free City Planning Team (SPT) in each city will be formed. The SLNA and the ULBs will set up a Slum Upgrading Unit (SUU)/PIU/Cell, which may be in charge of implementation and coordination among the agencies responsible for slum upgrading. The SLNA and the ULBs will prepare an Orissa Slum Free Plan of Action (PoA) and City slum free plan(s) for slum up gradation.

The intervention strategies are mainstreaming and networking, housing cooperatives and community land trusts, security of tenure, community mobilization, appointment of Transaction Advisors (TA), beneficiary contribution, third party certification, preventing future slums, improving access to microfinance, access to social services through convergence, livelihoods development, de-notification of rehabilitated and upgraded settlements, enabling policy and reform framework, monitoring and impact assessment and local capacity building.

The financing of slum development programs will be through state financing, municipal convergence funding, private sector funding, corporate social responsibility, institutional finance, extending tax base, levy of user charges, community cost sharing, selling of land titles, etc.

## **2.5 Other Applicable Acts**

The following acts are applicable for the sub-projects to be taken up under the present project:

- Minimum Wages Act, 1948
- Contract Labour Act, 1970
- The Bonded Labour System (Abolition) Act, 1976
- Child Labour (Prohibition and Regulation) Act 1996 along with Rules, 1988
- Children (Pledging of Labour) Act, 1933 (as amended in 2002)
- The Persons with Disabilities (Equal Opportunities, Protection of Rights and Full Participation) Act, 1995
- The Persons with Disabilities (Equal Opportunities, Protection of Rights and Full Participation) Rules, 1996
- Untouchability Offences Act, 1955
- The Scheduled Castes and the Scheduled Tribes (Prevention of Atrocities) Act, 1989
- The Scheduled Castes and the Scheduled Tribes (Prevention of Atrocities) Rules, 1995

## **2.6: Land Purchase and Voluntary Donation**

All land purchases for the project will have to be made on willing seller- willing buyer basis through negotiation and written documentation as per the applicable revenue and stamp duty regulations inviting. All voluntary land donations shall be executed transparently as have been agreed with the Bank for the National Cyclone Risk Management Project (NCRMP) for specifically common infrastructure activities in villages/slums when such parcels are very small through community resolution and in free and informed agreement with the donor, provided the donor meets the minimum threshold criteria in terms of land holding, socio-economic status, and income levels. All lands received in donation or purchased must be free from encumbrances.

## Section 3: Social Impacts and Issues

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### 3.1 Cyclone Impact and Need Assessment

A “rapid damage and need assessment” was carried as a part of Project preparation which identified a few key social issues as follows: (i) fulfilling housing needs of the poor affected households, (ii) improving affected slums in Berhampur with civic infrastructure and services such as access roads, water, sanitation, drainage, and streetlights a socially and environmentally sustainable manner; (iii) ensuring community participation in the reconstruction process; (iv) addressing differential impacts on and recovery needs of the affected vulnerable/ marginalized families and groups, specifically socially excluded families living in isolated habitations, women headed households, and disabled persons, (v) enhancing disaster resilience of coastal communities with secure public infrastructure and services in the worst affected areas. The proposed works will not have significant adverse social impacts due to the nature, type and size of the proposed works. However, the following social impacts could possibly arise out of the proposed projects:

### 3.2 Summary of Project Activities

The Component-1 will finance reconstruction of about 30,000 houses in some 150 cyclone affected villages within 5 km distance from the sea in the districts of Ganjam and Puri and Khordha along with the provision of public infrastructure such as access/ street roads, water supply, solid waste management, power grid extensions and community facilities in the housing layouts. The Project Component-2 will finance improvements in public services in Berhampur city, which may include streets, improved water and sanitation, drainage, and street lighting in the slums and overall improvement in the overall service delivery levels in the city. The Project Component-3 will support further strengthening of disaster preparedness and response capabilities in the state with improved decision making support systems and technical expertise, and with enabling the affected marginalized communities to cope with calamity risks through targeted community-based initiatives. Component 4 will provide support to project implementation and the component 5 will ensure that in case of an eventual disaster event the project is in a position to respond rapidly, efficiently and adequately.

### 3.3 Project Alternatives to Minimize Impact

Site selection of sub-project play an important role in minimizing the overall adverse impact of the disaster either socially, economically or environmentally. The key activities undertaken as a part of the Project, namely housing and slum up-grading will be carried out in situ. In case of housing, where people need to be shifted to safer locations away from the high tide line of the sea in compliance with the Coastal Regulatory Zone regulations, the government will identify alternate sites in consultation with and written consent of the affected/ beneficiary communities for informed and voluntary relocation. Site selection for the housing sub-project is done with written documentation of broad community consent considering a range of factors such as availability of land close to the

existing habitation, accessibility, economic suitability, etc. Villages where housing involves significant social issues and villages falling within the CRZ with no alternative sites close by, will be considered for Phase II, subject to the findings of detailed environment and social impact assessment studies. The decision for provision of community infrastructure, land required, and mode of land taking shall be agreed through community consultation recorded in the form of a written community resolution to ensure transparency.

### **3.4 Involuntary Resettlement**

The involuntary resettlement impacts of the project may arise out of the provision of common infrastructure within the villages where in situ housing is undertaken, and for common facilities provided in the slums as a part of component-2. The housing will require large land plots for establishing new settlements in case of housing relocation, whereas slum improvements may require small parcels of land. The government has ruled out land acquisition, which means, it will try to find government or community lands, purchase private lands when public lands are not available, and pursue voluntary donation of minor land parcels for community infrastructure where the donor meets the minimum threshold criteria. The impacts, land requirements and options for housing and slum improvement are discussed below.

**(a) Housing:** As per the Housing Policy Guidelines issued by the Government of Odisha, houses will be constructed in situ and or at alternative nearby locations with *voluntary relocation* of the beneficiaries. The provision of housing to those whose houses were damaged by the cyclone will be made mostly at existing locations, adopting “owner driven” or “contractor built” for in situ housing. In case of relocation of families to safer and tenable areas away from their existing residences, housing will be provided along with common infrastructure on lands identified within or in the near vicinity. In case of relocation, the Government will identify appropriate government lands, or purchase private lands ‘free of encumbrances’ from willing sellers for housing with common infrastructure. Housing will be supplemented with the provision of common infrastructure in the relocation sites, which may include roads, street lights, water and sanitation services, drainage, solid waste management, and common facilities. The layouts prepared for the new settlements will include these. In case of in situ housing, common infrastructure improvements in existing villages will be undertaken through a community resolution if community land is available or private land (if minor parcels) are available for donation. An estimated **100 acres** of land may have to be purchased from private parties for this project.

**(B) Slum Upgrading:** The slums at Berhampur are located generally on the public lands, and houses within these slums are constructed on public lands, and in some cases on lands with legal ownership or tenability rights. The project will provide common infrastructure such as access roads, street lights, sanitation facilities and water supply within the existing carriage way within tenable slum clusters.

The proposed width of the entry access is about 5.5 meters and street width within the clusters is 3 to 3.5 meters. This may impact on a few houses within the targeted slums. Sanitation facilities shall be provided where feasible and government land is available. Water supply lines will be laid within the existing carriage way of the streets. The impact on private or squatter structures within slums will be avoided, minimized, and where unavoidable will be mitigated. The transfer of Government land may in some case affect the occupiers living in slums. The land provision of community infrastructure such as entry access or inner streets shall be carried out within the available carriageway with design modification as necessary. When additional land is required, which is expected to be moderate with necessary design modifications, such lands shall be purchased as urban land may be hard to obtain through voluntary donation. Voluntary donation option shall be explored only in cases of minor impact on legal land and structures (open setback in front of a house, boundary wall, or front portion of a slum tenement). In such cases, the land shall be taken through Voluntary Donation with provision of a free alternative house to the donor/affected family irrespective of their tenure.

### **3.5 Impacts on Common/ Cultural Property Resources. Community**

A few cultural properties may be partially or fully affected due to the proposed slum upgrading activities. These have not been adequately enumerated as yet, and shall be done as a part of the social screening exercise undertaken for the proposed activities.

**Temporary Impacts:** Other impacts likely due to the project include:

- Temporary Loss of Livelihoods
- Loss of access to houses/ businesses
- Inconvenience and nuisance to Public
  - Due to accumulation of excavated earth
  - Disturbance to traffic and resulting congestion
  - Disruption of utilities such as water, electricity, telephone, cable, etc.
- Social issues
  - Social disruption in the area of construction
  - Management of social Social unrest issues on construction sites
  - Regional labour issues
- Safety hazards
  - To the households in the neighborhood during construction
  - Due to impact of vehicles on land outside RoW
  - Due to risk of accidents
- Health Hazards

- Due to stagnation of water leading to mosquito breeding and public health problems
- Due to spread of AIDS at construction sites
- Due to surface water pollution
- Due to groundwater pollution

Presently the sub-projects are yet to be fully identified, for the reason that this is an emergency project and specific subprojects are being given a final shape. As this situation was envisaged beforehand, GoO went ahead with the preparation of ESMF for ODRP. This ESMF has a system for Environment and Social categorization of sub-projects and Environment and Social Mitigation measures. As the sub-projects are yet to be identified and are yet to be prepared, no sub-project specific mitigation measures could be identified. As the sub-projects are continued to be identified and the identified ones are under preparation, check lists have been provided for screening the sub-projects and categorize them for further action.

## Section 4: Resettlement Policy Framework

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This Resettlement Policy Framework for ODRP is drawn in accordance with the World Bank's Safeguard Policy on Involuntary resettlement (OP 4.12), which will act as guide for mitigating the social impacts triggered by the sub-projects under ODRP.

### 4.1 Objective of RPF

The primary objective of this RPF is to provide better standard of living to the project affected persons or at least restore their standard of living to that of before project. The specific objectives are:

- Avoid or minimize involuntary resettlement where feasible, exploring all viable alternative project designs.
- Assist displaced persons in improving their former living standards, income earning capacity, and production levels, or at least in restoring them.
- Encourage community participation in planning and implementing resettlement.
- Provide assistance to affected people regardless of the legality of land tenure.

The following guidelines will be followed during implementation:

- The process of land taking through purchase or donation and rehabilitation assistance will be paid before displacement.
- Land value will be determined in consultation with the owners and with reference to the LARRA 2013
- DIU will provide information to the affected people regarding the implementation of the RPF and enable them to access income generation activities suitable for the area.

### 4.2 Land Requirement

ODRP proposes two major sub-projects to be taken up: housing and slum upgrading. These sub-projects will require land depending on their type and size.

**Housing:** The provision of housing to those affected by the cyclone will be made mostly in situ, however, in some cases may require additional lands due to (i) relocation of the families to safer and tenable areas away from their existing houses; (ii) lack of availability of adequate space for in situ housing on 1000 square feet plot been prescribed as minimum size. In such case land has to be obtained from private individuals or from government or community lands available nearby. Housing will be supplemented with the provision of common infrastructure in the relocation sites, which may include roads, street lights, water and sanitation services, drainage, solid waste management, and common facilities. The layouts prepared for the new settlements will include these. In case of in situ housing, common infrastructure improvements in

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existing villages will be undertaken through a community resolution if community land is available or private land (if minor parcels) are available for donation. An estimated 100 acres of land may have to be purchased from private parties for this project.

**Slum Upgrading:** The project will provide common infrastructure such as access roads, street lights, sanitation facilities and water supply within the existing carriage way within tenable slum clusters. Mostly, works will be carried out within the available carriageway. The proposed width of the entry access is about 5.5 meters and street width within the clusters is 3 to 3.5 meters. This may impact some houses within the slums in a few cases. When additional land is required, which is expected to be moderate with necessary design modifications, such lands shall be purchased as urban land may be hard to obtain through voluntary donation. Voluntary donation option shall be explored only in cases of minor impact on legal land and structures (open setback in front of a house, boundary wall, or front portion of a slum tenement). In such cases, the land shall be taken through Voluntary Donation with provision of a free alternative house to the donor/affected family irrespective of their tenure. The impact on private or squatter structures within slums will be avoided, minimized, and where unavoidable will be mitigated through implementing resettlement action plans.

### 4.3 Land Taking Options

GoO is implementing similar projects on a regular basis, which require land, of which the ownership could be either public or private. Accessing public land is easier, but arrangements will have to be made for securing privately owned land. When additional lands are required, GoO, as a first step, would try and secure public lands under different tenure systems where feasible and available. If private lands are required, then GoO would resort to, either through voluntary donation or by outright direct purchase. The government has decided not to apply land acquisition to obtain land required for the project.

**4.4 Voluntary Land Donation.** ODRP will completely avoid land acquisition. Whenever there is additional land requirement, ODRP will interact with the land owners and facilitate voluntary donation of land required for taking up sub-projects under the project. This use of voluntary donation option will be limited to small strips of land for slum access and street roads and small plots of land. Under no circumstances, the titleholder/ encroacher will be subjected to any pressure, directly or indirectly, to part with the land. These actions are expected to minimize adverse impacts on the local population and help in project benefits reaching all sections of community. ODRP will ensure that the process of voluntary donation of land is meticulously documented to avoid confusions, misunderstandings, litigations, etc. at a later stage. **A format for this purpose is enclosed in the Annex-2.** Original copies of all documentation of voluntary donation of land will be kept with the Block Development Officer with copies at GP/ ULB. Complete documentation along with a copy of the final document will be sent to PIU for records and for inspection at a later date. For land donation the following rule will apply:

- The Titleholder/ Encroacher should not belong to the vulnerable sections/ BPL category.

- Identification of vulnerable PAPs: The vulnerability shall be assessed by the project based on the census of the affected persons. The following categories of PAFs/ PAPs shall be entitled for support as vulnerable groups:
  - BPL households (with a valid proof), as per the State poverty line for rural/urban areas;
  - BPL households without a proof of the same and belonging to the following social categorie
  - Women headed households with women as sole earner (ii) Scheduled Caste
  - Handicapped persons, and is subject to any of the following impacts;
    - Loses land holding,
    - Loses shelter and
    - Loses source of livelihood.
- The Titleholder/ Encroacher should be holding more than the minimum prescribed land, i.e., 1 hectare of wet land and 2 hectares of dry land after donation.
- The impacts must be minor. The voluntary donation should not be more than 10 percent of the area of that particular holding of the Titleholder/ Encroacher in that category of land (dry, wet or commercial/ residential). This should not require any physical relocation of the Titleholder/ Encroacher. The land donated should not be more than 1 acre in case of dry land, 0.5 acre in case of wet land and 0.25 acre in case of commercial/ residential.
- The land must be jointly identified by the GP/ ULB, and DIU and PIU Representative or project authorities. However the project technical authorities should ensure that the land is appropriate for sub-project purposes and that the sub-project will not invite any adverse social, health, environment, safety, etc. related impacts by procuring this land.
- The land in question must be free of squatters, encroachers, or other claims or encumbrances.
- Buildings/structures on the land donated are not accepted as donation.
- Verification of the voluntary nature of land donations must be obtained from each of the persons donating land. This should be in the form of notarized witnessed statements.
- In case of any loss of income or physical displacement is envisaged, verification of voluntary acceptance of community devised migratory measures must be obtained from those expected to be adversely affected.
- The land title must be vested in the GP/ ULB and appropriate guarantees of public access to services must be given by the private titleholder.

- The Titleholder/ Encroacher donating land should be provided access on priority basis, subject to eligibility, to the Government housing/ poverty reduction/ livelihoods/ etc. programs operating in the area.
- The Titleholder/ Encroacher donating land should be made to understand that they will have equal access to the infrastructure built on the donated land like any other community member and that they cannot claim for any priority treatment.
- Grievance Redress Mechanism must be available.
- The donations and the process followed is documented, monitored and reflected in the monitoring reports.

**4.5 Direct Purchase.** GoO has experience of direct purchase of private lands for public purposes and will adopt this method, on a willing seller and willing buyer basis, to avoid delays. In agreeing the price, the government may refer to the now established LARRA 2013.

While purchasing land, in case there are some structures established on the plot, the price negotiations will take into consideration compensation for structures payable at market price of the assets to build/ procure a replacement asset, or to repair, if affected partially. As a rule land free of any encumbrances. In determining the replacement cost, depreciation of the asset and the value of salvage materials are not taken into account. Compensation for trees, crops and other assets established on land taken will also be factored into the agreed purchase price paying replacement value using existing prices prepared by relevant agencies, taking into account their productivity and/or local market prices. The price shall be mutually agreed.

#### **4.6 Valuation of Structures and Assets**

PIU or the concerned DIU shall deploy its expert in civil engineering/ geology/ agriculture/ horticulture as required or alternatively hire the services of government approved valuer for valuation of structures and other immovable assets. The objective of this exercise is to establish the extent of loss and estimation of replacement cost. The major tasks are as follows:

1. Measurement of affected structure/ immovable assets
2. Establishing construction typology
3. Establishing extent of loss
4. Estimation of replacement cost

Measurement provides required information for valuation. For valuation the latest Schedule of Rates (SR) applicable to assets being valued need to be used. This SR provides the consolidated unit rates for permanent, semi-permanent and temporary construction. Details as to how such consolidated unit rates have been arrived at is also explained in the SR. Using the analysis as guide, the expert/ valuer can arrive at the compensation value of a structure/ asset. Various SRs also provides rates for hand pumps, dug-wells, tube wells etc including installation charges. Extent of loss would be

determined primarily in terms of the portion of the structure affected. While calculating replacement cost the following principles need to be kept in mind:

- If a structure/ asset is affected 50% or more, then consider the whole structure as affected.
- Do not depreciate the cost of the structure/ asset for its age.
- Add 30% extra over and above the estimated cost to arrive at replacement value.
- Allow the PAPs to salvage and carry, for free, any materials for their use. Do include the cost of salvaged material in the replacement cost.

#### **4.7 Common Property Resources**

Grazing lands, places of worship, places of heritage value, burial grounds, water points, community wells, bore wells for drinking water, roads, path ways, community meeting places, wood lots, etc. are categorized under this heading. These resources will be restored to an acceptable level at an appropriate place as agreed with the community. Community will be fully involved in their replacement.

#### **4.8 Categories of Project Affected People**

GoO has implemented several projects similar to the sub-projects proposed under several externally aided projects in the past. From this experience, it is established that lands acquired will normally be rural agricultural lands. Residential and commercial lands may not be required to be acquired. In any case, project need not acquire any structures. Taking these into account, and given that a generic framework is being developed, following broad categories of Project Affected People (PAPs) are identified:

1. Titleholders
  - a. Agricultural
  - b. Residential
  - c. Commercial
2. Encroachers/ Squatters with no valid title
  - a. Agricultural
  - b. Residential
  - c. Commercial
3. Groups losing Livelihoods and/ or Access

#### **4.9 Cut-Off Date**

For preparing a list of PAPs, a socio-economic survey of the affected families done during the planning phase of a sub-project. This date on which the socio-economic survey is conducted will serve as the cut-off date. No additions to this list will be made unless

approved by the authorized with concrete proof by Project Director, PIU with prior community consultation.

#### **4.10 Identification of PAPs**

ODRP proposed community participation through participation of Gram Panchayats/ ULBs, to shoulder some responsibilities such as identification of PAPs, mobilizing community for voluntary land donations, implementing RAPs (if any), and grievance redressal. The following process will be adopted to identify PAPs:

- GP/ULB identifies the affected area along with DIU duly involving Panchayat/ ULB members, Palli Sabha, in identifying affected area.
- Once the land required is identified, it is classified as either government land or encroached land and/or private land based on ownership status
- GP/ULB with the DIU announces a cut-off date as the Base line Socio-Economic survey date for identification of affected people.
- GP/ULB identifies the encroachers and titleholders as per the ownership status with the help of community members.
- Based on this information arrive at the number of PAPs

#### **4.11 Social Screening and Impact Survey**

A detailed census based socio-economic survey will be conducted and extensive consultations will be held with the beneficiary communities and *project affected families, those losing land or experiencing any impact on structures, incomes*. Screening will be done using the draft format provided in Annex-1. Each target community will be identified and differentiated on the basis of their source and level of income. The survey will focus on land, structures, productive assets and incomes to plan income restoration activities where applicable. All these measures will be taken with consulting the affected families and wider community. This approach will help the project in achieving its objective of ensuring that no affected household becomes poorer with the intervention.

#### **4.12 Preparing Resettlement Action Plans**

The PIU will carry out social screening in all villages and slums for the housing and slum upgrading works prior to approval to ensure their consistency with the Resettlement Policy Framework. Based on the screening the activity will be categorized and it will be decided if to prepare an Abbreviated Resettlement action Plan or a full Resettlement Action Plan. The Entitlement Matrix of the project reflects the project plan to address adverse impacts and mitigation based on the eligibility criteria mentioned above.

#### **4.13 Social Screening and categorization of Risk: S1 Category**

As per the categorization of the projects, for S1 category sub-projects, if the number of persons exceeds 200, then PIU would ask the concerned department to conduct a comprehensive Social Assessment and prepare a Resettlement Action Plan (RAP), as per format attached as Annexure 3 A and 3 B before sub-project appraisal. Social Screening

will be carried out by the implementing agency with the help of social mobilisers, whereas RAPs will be prepared with detailed social impact assessment with the help hiring consultants or NGOs as required. SIA and RAP will be disclosed before the procurement for that sub-project. Apart from other tasks the SIA would include the following:

- Definition of component/sub-component area
- Assessment of land required under different tenure systems
- Options for land taking
- Assessment of current patterns of use of such land
- Identification of PAPs
- Census socio-economic survey
- Findings of SIA – socio, economic and cultural impacts
- Categorization of all Project Affected Persons including those without title

Where the impacted population is less than 200 persons, PIU will ensure that an Abbreviated Resettlement Action Plan (ARAP) is prepared as per format attached as Annexure 3A and 3B and the project proposals prepared by design consultants would include measures to mitigate adverse impacts as per the Resettlement Policy Framework. PIU will ensure that the ToR for the Design Consultants will include these. The rationale for using the design consultant to prepare

#### **4.14 Entitlement Matrix**

This Entitlement Matrix is developed giving various entitlements for all categories of PAPs, in the light of impacts borne by them. The Right to Fair Compensation and Transparency in Land Acquisition and Resettlement Act 2013 though not applicable has been kept as a reference point. This Matrix will be used as a guide for designing Resettlement Action Plans for sub-projects. All the families will be entitled to two broad categories of assistance; 1) compensation for land loss; and 2) livelihood (rehabilitation) assistance for starting some income generation activity, which may include the purchase of lands, as decided by the PAF. The livelihood assistance in the matrix are rather indicative (as they are average figures), whereas, the actual assistance will relate to, at the minimum restoring, if not enhancing the pre-land loss income levels. The amounts given in the Entitlement matrix are for the financial year 2013-14. After this year, these amounts will be revised by the government appropriately every year to neutralize inflation and with reference to the whole sale price index and consumer price index. Details related to the entitlements are presented in the matrix below.

### Entitlement Matrix

Impact Type	Entitled Entity	Entitlement based on The Right to Fair Compensation and Transparency in LARRA 2013.
<b>1. Mitigating Impact of Social Housing and Allied Infrastructure Activities</b>		
Impact on land and structure for provision of common Infrastructure in existing villages	Affected Family (Titleholder)	<ul style="list-style-type: none"> <li>• Direct Purchase of land with payment of replacement cost as agreed with the land loser on willing seller willing buyer basis, or through voluntary donation as per norms provided in this RPF</li> <li>• If the residual plot is not viable, the project will buy the whole plot, if the land owner demands</li> <li>• Provision of one housing unit of 280 sq. ft. on a plot of 1000 sq. ft with eligible allowances as a beneficiary of the ODRP housing program</li> <li>• All fees, stamp duties, taxes and other charges, as applicable under the relevant laws, incurred are to be borne by the government.</li> </ul>
1B. Impact on Residential Structures due to provision of common infrastructure in existing villages	Affected Family (without Title)	<ul style="list-style-type: none"> <li>• Provision of housing unit of 280 sq. ft. on a plot of 1000 sq. ft. with eligible allowances as a beneficiary of the ODRP housing program.</li> <li>• Right to salvage material from demolished structure and frontage etc.</li> </ul>
<b>2. Mitigating Impact of Slum Upgrading</b>		
2A. Loss of Residential land and Structures slum upgrading activities	Affected Family (Titleholder)	<ul style="list-style-type: none"> <li>• In case of loss of only land, purchase of the required land parcel with payment of replacement cost as agreed with the land owner on willing seller willing buyer basis, or through voluntary donation when land parcel is minor as per the norms provided in this RPF.</li> <li>• If the residual plot is not viable, the project will buy the whole plot, if the land owner demands</li> <li>• Where structure is affected, provision of a housing unit as beneficiary of Rajiv Awas Yojana (RAY) with government bearing all costs.</li> <li>• Bulk rehabilitation assistance of INR 12000</li> </ul>

<b>Impact Type</b>	<b>Entitled Entity</b>	<b>Entitlement based on The Right to Fair Compensation and Transparency in LARRA 2013.</b>
		<ul style="list-style-type: none"> <li>All fees, stamp duties, taxes and other charges, as applicable under the relevant laws, incurred in the relocation and rehabilitation process, are to be borne by the government.</li> <li>Right to salvage material from demolished structure and frontage etc.</li> </ul>
2B. Loss of immovable residential structures due to slum upgrading	Squatters Occupying the structure/ (including Tenants)	<ul style="list-style-type: none"> <li>Provision of a housing unit as beneficiary of Rajiv Awas Yojana (RAY) with government bearing all costs.</li> <li>Bulk rehabilitation assistance of INR 12000</li> <li>Right to salvage material from demolished structure and frontage etc.</li> </ul>
<b>3. Loss of Community Properties</b>		
3A. Loss of Religious, or community property	With or without Title	<ul style="list-style-type: none"> <li>Negotiated re-establishment of the affected structure in consultation with local representative, and the trust/ management who are the owners/ custodians of the property/ structure</li> <li>Right to salvage material from the demolished structure.</li> </ul>
4. Loss of Crops and Trees	Titleholders Share Croppers Lease Holders	<ul style="list-style-type: none"> <li>Advance notice to all to harvest crops, fruits and remove trees.</li> <li>The value payable for the purchase of land parcel will take into consideration the value of crops and trees as per the established procedures in the state</li> <li>In case of trees, the land owner will have the right to take the timber in lieu of value payable towards that at market price.</li> </ul>
<b>5. Loss of Livelihood</b>		
5A. Loss of Primary Source of Income/ Livelihood	Shopkeepers, traders, artisans	<ul style="list-style-type: none"> <li>Subsistence Grant of Rs. 50,000/- to the displaced poor and vulnerable families, affected share croppers losing livelihood due to the project</li> <li>One time grant of Rs. 25,000/- to artisans, and small traders</li> <li>Employment opportunity to the villagers losing livelihood due to relocation in the sub-project</li> </ul>

Impact Type	Entitled Entity	Entitlement based on The Right to Fair Compensation and Transparency in LARRA 2013.
		construction work, if available.
6. Temporary Impacts		
6A. Loss of Access	Users, residents, businesses	<ul style="list-style-type: none"> <li>• Public notice at the site informing the people about: work schedule, likely temporary impacts, signage, safety advice and mitigation measures , contact details of officer in charge and grievance redress mechanism.</li> <li>• Special measures to provide access for continuing trade/business</li> <li>• The contractor shall bear the compensation cost of any impact on structure or land due to negligent movement of machinery during construction or establishment of construction plant, as per standard contract provision.</li> <li>• All temporary use of lands for the project to be done with written approval of the concerned officer and with prior discussion with the affected landowner. Construction camps will be set up by contractors in consultation with the implementing agencies.</li> <li>• Necessary Health and Safety measures to be undertaken as a part of Environment Management Plans including measures for sound, dust pollution, minimize hazard risks through signage and safety barricades, first aid facilities at work sites/camps, etc.</li> <li>• Steps to minimize and mitigate adverse impacts on human and vehicular mobility including through traffic diversions and management; phased construction strategy; avoiding work during peak hours (in case of urban activities)</li> <li>• Ensuring equal wages for men and women working at project construction sites and preventing child labour.</li> <li>• Measures as necessary to deal with any other emergent impacts.</li> </ul>

Impact Type	Entitled Entity	Entitlement based on The Right to Fair Compensation and Transparency in LARRA 2013.
7. Other Unforeseen/ Unanticipated Impacts		
Unforeseen/ Unanticipated Impacts		<ul style="list-style-type: none"> <li>Any unforeseen/ unanticipated impacts due to the sub-projects will be documented and mitigated based on the spirit of the principle agreed upon in this framework.</li> </ul>

#### 4.17 4.15 Stakeholder Consultation

As the sub-projects are under identification and the locations yet to be finalized, the team was unable to undertake independent on-site assessment of sample sub-projects. Under these circumstances the information provided the State government of Odisha has been relied upon. During the preparation mission several meetings were held with the line departments, where some details regarding the baseline situation in the affected area were gathered. Discussions with some implementing agencies also helped to some extent negate the absence of stakeholder consultations for preparing this ESMF. A brief Stakeholder Consultation Workshop with the participating departments and other stakeholders was held by the OSDMA of GoO on 02 December 2013. The issues presented in these sections are the summary of those discussions. Once the ESMF is finalized, Disclosure workshops will be held in the project districts and at state level duly involving all stakeholders to gather their feedback on the ESMF and accordingly the ESMF will be revised.

#### 4.16 Stakeholder Involvement and Consultation

PIU would engage Design consultants to assist them in preparing the sub-project DPRs. In the ToR for these consultants, there is an explicit requirement for the consultants to carry out public/ stakeholder consultations. This is a mechanism to ensure the upfront public/ stakeholder inputs in the preparation of the sub-projects.

For all sub-projects, PIU would have to direct the consultants to preparing the DPRs/ SA/ EA / RAP/ ARAP / EMP to involve all the stakeholders and conduct consultations. In the ToRs for the preparation of these outputs, public/stakeholder consultations form an integral part. For such type of sub-projects obtaining consent of the local agencies and necessary clearances from competent authorities is mandatory and should form part of the preparation of DPRs/ SA/ EA / RAP/ ARAP / EMP. These outputs will be reviewed by the World Bank.

During sub-project implementation GPs, NGOs, Community Based Organizations (CBOs) will be involved. Project monitoring reports would be disseminated in the public consultation meetings in the GPs/ULBs. The stakeholder meetings would discuss the sub-project progress reports and make recommendations for sub-project control and modifications. These recommendations would be made use for future sub-project design. Consultations are required for preparation of all safeguards mitigation documents and

these consultations should be an on-going activity over the life of the project. These would be documented in the DPRs/ SA/ EA / RAP/ ARAP / EMP for each sub-project.

**Community Resolution:** All key activities including housing and slum improvement shall be undertaken with formal community resolutions, especially in case of the common infrastructure works to be undertaken in the villages and slums.

#### **4.18 Disclosure**

##### **State Level**

PMUs and PIUs shall disclose this entire ESMF and all Safeguards related documents and mitigation plans, viz., SA/ EA / RAP/ ARAP / EMP, at their websites. These need to be translated into local language (Oriya) and placed on their websites. The Resettlement Policy Framework will be disclosed along with the entitlement framework, though this is a part of the ESMF, these documents shall be separately identified and disclosed in the PMUs websites. These two documents shall also be translated into Oriya and made available at the PMUs websites.

##### **District/ULB Level**

PMUs and PIUs will also arrange to disclose the final versions of the ESMF, SA/ EA / RAP/ ARAP / EMP, Resettlement Policy Framework and Entitlement Matrix, in Oriya and English, in all the District Collectors Offices, ULB Commissioners' Offices and the local offices of the DIUs. These would be in place once the final versions are ready. When this document is updated, then the copies in the different locations would also be updated.

##### **Disclosure by the World Bank at the Infoshop**

The World Bank will disclose this ESMF and any future EA/ SA along with EMP/ RAP at the infoshop for downloading and reference by interested parties.

During the implementation phase, all the sub-project ESAs shall be disclosed by PMU and the PIUs both at the district/ ULB level and at the state level. These ESAs will also be disclosed at the Infoshop of The World Bank.

#### **4.19 Grievance Redress Mechanism**

A Grievance Redress Mechanism (GRM) will be established with clear guidelines set out for grievance uptake, registration, acknowledgement, follow up, resolution and feedback for social housing and slum improvement activities at different levels. For housing activities, the primary level for informal resolution of grievances will be the community recovery committee (CRC) established at the village/slum level. The Field Level Grievance Redress Committee (FLGRC) will established be at the Block (rural)/Ward (urban) level. The senior level GRC (SLGRC) will be established at the District level and at the Municipality Corporation level for rural and urban activities respectively. These GRCs will formally register, acknowledge, follow up, resolve and communicate the decision to the aggrieved party. The uptake points from the grievances will be Block/Ward Office and the District Collector/Municipal Commissioner Office respectively. The grievances can be communicated by letter, e-mail, or phone, which will be

registered by GRCs and acknowledged with a receipt/tracking number, and resolve the grievances within two weeks. OSDMA will document and monitor the working of the GRM. The decision of District/Municipal Corporation level GRC will be final and the applicant not satisfied with the decision can seek legal remedies. The Collector /Municipal Commissioner while resolving "group grievances" or grievances having "policy implications" shall refer the matter to the OSDMA for advice.

#### **4.20 Gender and Social Inclusion Framework**

The Gender Equity and Social Inclusion measures will include: (i) giving priority to vulnerable families including women headed families and socially excluded families and those having disabled members in selecting housing beneficiaries, (ii) ensuring broad community consent in beneficiary selection and community participation in the housing activities with involving CBOs, NGOs, as required, (iii) promoting owner driven and group based housing schemes with technical and social assistance, and (iv) engendering the housing program with inclusion of men and women beneficiaries and (v) supporting recovery and risk reduction needs of the socially vulnerable and marginalized groups (especially scheduled caste) through group based initiatives. Key Guidelines for mainstreaming Gender Equality and Social Inclusion (GESI) and Social Accountability in the ODRP include the following:

- (i) Giving priority to women, socially excluded, poor, elderly citizens and the disabled in social housing scheme
- (ii) Ensuring community participation by establishing **community recovery committees** and by CBOs, NGOs, as required
- (iii) Promoting owner driven housing and group based housing schemes as agreed with people with technical assistance;
- (iv) Offering housing benefits to man and woman household heads without discrimination.
- (v) Addressing special recovery needs of the marginalized/ disadvantaged groups and the poor women, affected disproportionately by the cyclone in a manner that will help to reduce their sensitivity to impoverishment risks and to increase their resilience.
- (vi) Providing technical assistance to evolve a larger social housing strategy to reduce vulnerability to natural calamities in the state.
- (vii) Understanding social and political economy dimensions of slums in near coast towns of Odisha in order for planning disaster resilient slum improvement in future
- (viii) Reviewing and updating policy guidelines for participatory management of the cyclone shelters and community-based disaster risk management activities.
- (ix) Reviewing the framework for relief and recovery aids provided to vulnerable sections such as share croppers, agricultural laborers, and businesses.

#### **4.21 Monitoring and Evaluation**

The ESMF requires detailed supervision, monitoring and evaluation of the impact of the project on the environment and social aspects. In order to carry out this, PIU will have specific arrangements made at state and district/ULB level. This includes appointment of an Environment Specialist and Social Specialist for the project period. Further the PIU will instruct DIUs on how to implement the provisions of this ESMF. Implementation of the provisions of ESMF will be new to these staff and hence several orientations and trainings are proposed as a part of this ESMF to build their capacity. In order to achieve the objectives of this ESMF and to ensure the safeguards are implemented in a proper manner, annual safeguards audits will be carried out to record achievements, lessons learnt, and update the ESMF if required to meet emerging issues and risks.

##### **Key Issues in Safeguards Monitoring and Review**

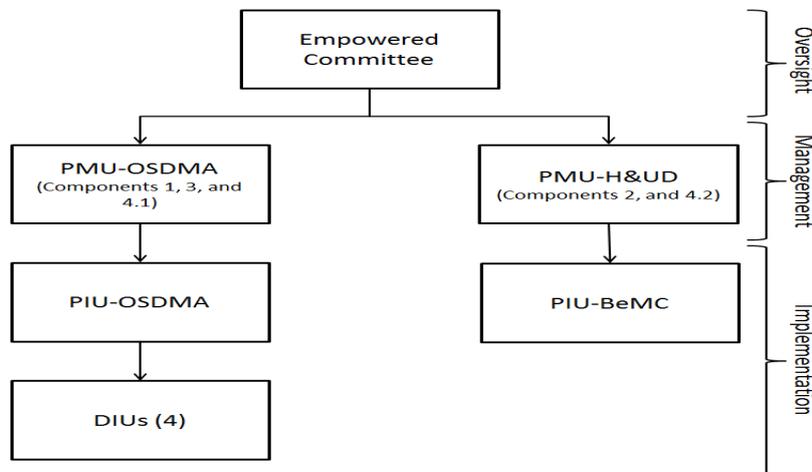
- (i)** Process followed in determining and providing RR benefits;
  - (ii)** Process followed in land purchases and voluntary donations;
  - (iii)** Acceptability of land purchase/donation deals by the sellers/donors;
  - (iv)** coordination between land taking / R&R with civil work and any delays affecting project;
  - (v)** Any additional land requirements or resettlement impacts due to alignment changes;
  - (vi)** Effectiveness of R&R measures in mitigating temporary as well as resettlement impacts;
  - (vii)** Effectiveness of consultation and people's participation during implementation;
  - (viii)** Reconstruction of affected community assets;
  - (ix)** functioning and outcome of grievance redress mechanism;
  - (x)** Data Base Management to track the implementation progress;
  - (xi)** Effectiveness of internal monitoring system and reporting;
  - (xii)** Role of consultants and NGOs in SMF implementation; improvements required;
  - (xiii)** Gender Equality and Social inclusion Measures take in implementing ODRP
  - (xiv)** Any others tasks appropriate to implement SMF;
  - (xv)** Degree to which the relocated people have re-established their shelter and incomes;
  - (xvi)** Significant changes in people's income, behaviour, health, etc following relocation;
  - (xvii)** Quality of services provided in resettlement sites
  - (xviii)** Integration and self-management at the resettlement sites
  - (xix)** Outcome of capacity building programs implemented as per the SMF.
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## Section 5: Implementation Arrangements

### 5.1 Project Institutional and Implementation Arrangements

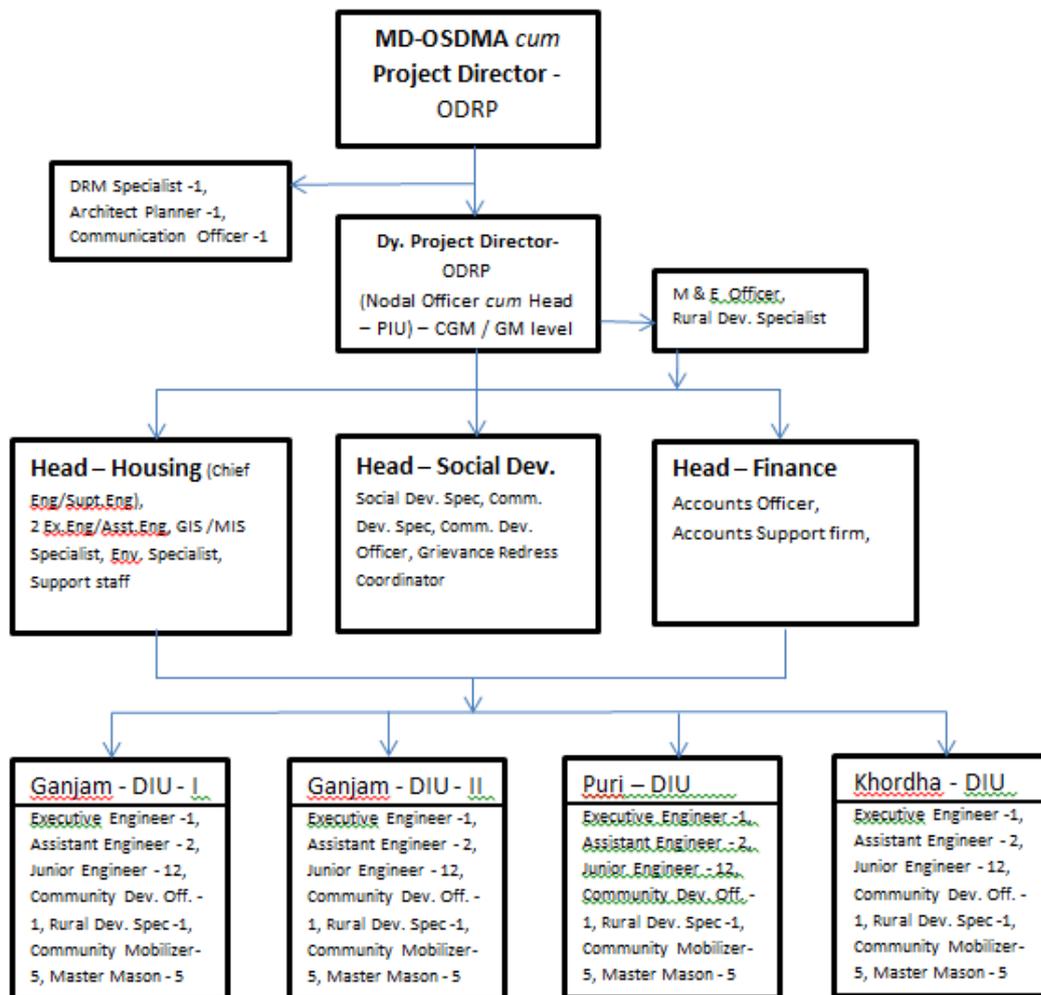
The apex decision making body for the Project will be the Empowered Committee (EC). The EC will be comprised by the members of the NCRMP - I Steering Committee including Collectors of the participating districts. The management responsibility for the Project will fall under two Project Management Units (PMUs), headed by full time project directors supported by coordinators for each of the components and advised by function and technical experts. For components 1 and 3 the PMU will be OSDMA supported a Project Implementation Unit (PIU) in the same institution, and four District Management Units (DIUs) on the field (2 in Ganjam and one each in Puri and Khordha districts). For component 2 the PMU will be Odisha's Department of Housing and Urban Development (H&UD), with a PIU within the Berhampur Municipal Corporation (BeMC). Implementation support will be funded by subcomponents 4.1 and 4.2 for OSDMA and H&UD respectively.

#### State Level Implementation Arrangements



The structure of the PIU for implementation of Components 1 and 3 is:

### Implementation Arrangements for PMU-OSDMA



Overall implementation of the component will be managed by a dedicated Dy. Project Director, under the aegis of OSDMA’s Managing Director (MD) cum Project Director. Reporting to the GM there will be three Deputies which will be in charge of implementation for Subcomponents 1.1 and 1.2, and Financial Management respectively. Component 3 will be under the direct management of the Dy. Project Director. At the field level there will be four District Implementing Units (DIUs), two for Ganjam and one for Puri and Khordha districts, comprised of engineering, environmental, social, and support staff. The District Administrators will coordinate with DIUs for the identification of beneficiaries, monitoring of activities, and liaising with other government programs.

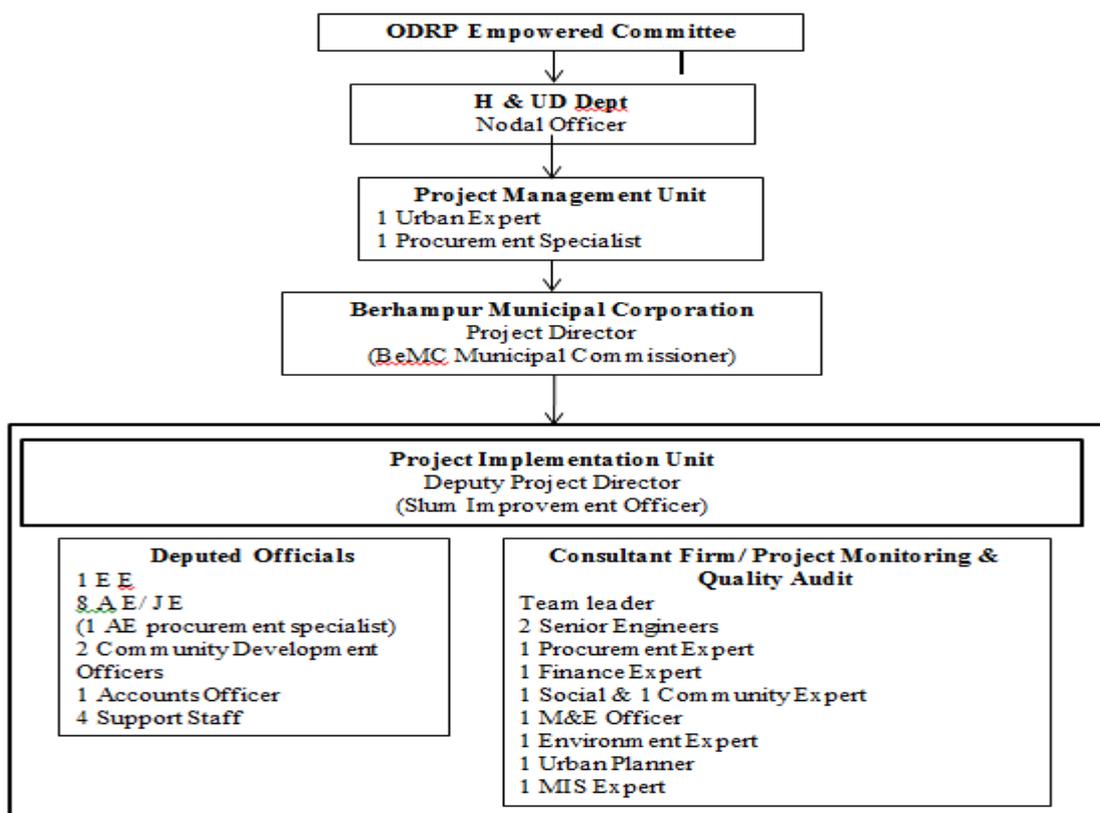
Additional Implementation and Monitoring Support: For implementation of Owner Driven Construction of Houses, development of Village Development Plans, and additional community engagement activities, the PMU-OSDMA will procure the services of a firm with appropriate social and technical expertise. For the supervision of construction works, the services a Third Party Quality Audit (TPQA) firm will be procured. The agreed TORs for these firms are included in the Operations Manual.

Overall implementation of the component will be managed by a dedicated General Manager (GM), under the aegis of OSDMA’s Managing Director (MD) cum Project Director. Reporting to the GM there will be three Deputies which will be in charge of implementation for Subcomponents 1.1 and 1.2, and Financial Management respectively. Component 3 will be under the direct management of the GM. At the field level there will be four District Implementing Units (DIUs), two for Ganjam and one for Puri and Khordha districts, comprised of engineering, environmental, social, and support staff. The District Administrators will coordinate with DIUs for the identification of beneficiaries, monitoring of activities, and liaising with other government programs. The Grievance Redress Mechanism put in place will address beneficiary grievance.

Additional Implementation and Monitoring Support: For implementation of Owner Driven Construction of Houses, development of Village Development Plans, and additional community engagement activities, the PMU-OSDMA will procure the services of a firm with appropriate social and technical expertise. For the supervision of construction works, the services a Third Party Quality Audit (TPQA) firm will be procured. The agreed TORs for these firms are included in the Operations Manual.

The structure of the PIU for implementation of Component 2 is:

**Implementation Arrangements for PMU-H&UD and PIU-BeMC**



The project sub-component will be under the Housing & Urban Department (H&UD) which will be the nodal agency. A Nodal Officer from H&UD (Joint Secretary level) will assume the principal responsibility for providing policy-level direction, coordination, and

monitoring of the project in cooperation with other departments especially the OSDMA and Finance. A Project Management Unit (PMU) will be established under the project to support H&UD headed by the Nodal Officer, H&UD. It will carry out the day to day monitoring and coordination activities for the sub-component. The PMU will also be responsible for all reporting requirements, including those to the Bank.

The Berhampur Municipal Corporation (BeMC) will be the implementing agency for the sub-component. BeMC will plan for urban infrastructure in identified communities including the sub-projects identification, preparation, implementation, financing, and repayment including the community development and technical assistance. Quality assurance will be assured through third party audits. The project will be implemented by a Project Implementation Unit (PIU) in the BeMC headed by the Commissioner. The PIU will consist of:

Consultant Firm and short term consultants: A PIU Consultant Firm will be appointed to support BeMC with all the day to day preparation and implementation activities. The Consultant Firm will be responsible for preparation/review of Detailed Project Reports including technical designs, surveys, investigations etc.; tendering, bid evaluation, contract management; financial management and safeguard compliance and progress and expense reporting to PMU. It will consist of 8 technical staff including team leader, 2 senior engineers, procurement expert, finance expert, social and community expert, environment specialist, urban planner and MIS specialist. It can also be supplemented by short term experts as required.

PIU Officials: H&UD will provide a dedicated team of government officials towards the project. It shall comprise of 1 Executive Engineer, 2 Assistant Engineers and 6 Junior Engineers. It shall also include 2 community development officers and 1 accounts officer and 4 support staff. They shall be responsible for day to day implementation and coordination. They shall also be responsible for quality control.

The H&UD shall be responsible to ensure that required personnel and officers are in place. Third Party Quality Supervision consultants reporting to BeMC Commissioner would be hired for all investments to help monitor and supervise the quality and progress of subprojects.

## **5.2 Implementing SMF**

- OSDMA to effectively plan and implement reconstruction process shall establish program implementation units (PIU) including social management staff at the state, district and block levels.
- It will hire a Social Development Specialist, community development officers and community mobilizers for the Project. The Resettlement Officer for the Housing will be the Head of the Housing Unit at OSDMA with counterparts at the DIUs reporting to him/her.
- The RAPs will be prepared and implemented by the Resettlement Officers with hiring consultants / NGOs as required.

- The Social screening will be carried out by the implementing agencies with the help of social mobilisers.
- The borrower will have in place a Third Party Agency to provide technical and social mobilization support to the housing program.
- The implementing agency shall comply with relevant environmental and social safeguards of the Bank and applicable statutory provisions.
- Ensuring community mobilization and participation in the planning, implementation and monitoring process with third party quality monitoring mechanisms established, in the form of an appointed Third Party Quality Audit (TPQA) agency to provide independent monitoring.
- An Advisory Committee comprising Civil Society Organisation (CSO) representatives and experts in the fields of social housing, engineering and environmental management will be established to provide technical advice to the OSDMA.
- Establishing district and block level social teams with Community Development Officers and Community Mobilizers to work with Community Recovery Committees formed at the village level to plan and implement activities. The project will hire about 30 community/social mobilisers for the housing component.
- A separate social management team will be established at Berhampur Municipal Corporation to manage the slum improvement program. This will be managed by the Slum Improvement officer and his community mobilization team and supporting NGO to assist him/her in preparing and implementing the RAP under the guidance of the Municipal Commissioner who will be the Chief Resettlement Officer .

**Budget:** The Project will earmark necessary amount out of the implementation management budget for implementing the SMF. The details will be worked out and agreed with the Bank.

**Annex-1**  
**(Village/ Slum Name)**

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**Social Screening for Slum Improvement Works**

**A. Sub-Project Description:**

1. Give a brief introduction to the sub-project and its components, their objectives and benefits
2. Details about existing conditions of the facilities and proposed civil works with scope
3. Available design maps earmarking site and proposed activities in order to explain work
4. Whether this is purely rehabilitation of existing facilities or will involve any new works
5. Is this sub-project closely linked to any other activity not funded under ODRP?
6. Will this sub-project involve any ancillary impact/ activity away from the work site?
7. Time line for completion

**B. Justification of Project Design and Alternative Analysis:**

1. Importance of the proposed activities and why it is taken up:
2. Scenario if the work is not taken up:
3. Scenario if the work is taken up with greater scope of work
4. What kind of natural disasters this corridor is vulnerable to?: (good if this can be answered)
5. How is the proposed work disaster resilient? (good to answer)

**C. Corridor of Impact:**

1. Where will the activity be taken up, what does it pass through: markets, residential areas, etc.
2. brief socio-economic profile of the work site and impact area, beneficiary/affected communities: businesses, livelihoods;
3. Who all will benefit, and welcome the work?: Who may oppose the proposed work?:

**D. Social Impact Screening Report:**

(Kindly take into consideration answers to A-5 and A-6 while provide information below)

<b>Probable Involuntary Resettlement Effects</b>	<b>Yes</b>	<b>No</b>	<b>Not Known</b>	<b>Details</b>
Will the sub-project include any physical construction work?				
Does the sub-project include upgrading or rehabilitation of existing physical facilities?				
Is the sub-project likely to cause any damage to or loss of housing, other assets, resource use?				
Is the site for chosen for this work free from encumbrances and is in possession of the government/Municipality?				
If the site is privately owned, will this be purchased or obtained through voluntary donation?				
If the land parcel has to be acquired, is the actual plot size and ownership status known?				
Is land for material mobilization or transport for the civil work available within the existing plot/ Right of Way?				
Are there any non-titled people who living/doing business on the proposed site for civil work?				
Will there be loss of /damage to agricultural lands, standing crops, trees?				
Will there be loss of incomes and livelihoods?				

Will people permanently or temporarily lose access to facilities, services, or natural resources?				
Does the Urban Local Body have its own procedures for land acquisition?				
Are any indigenous people affected?				
Whether the affected land/structure owners likely to lose less than 10% of their land/structure area.				
If so, are these land / structure owners willing to voluntarily donate the required land for this sub-project?				
Is any temporary impact likely?				

**Part B: Social Impacts Information**

**1. Land Requirement for the sub-project:**

<b>Details</b>	<b>Unit</b>	<b>Quantity</b>	<b>Classification/ Category</b>	<b>Present Usage and Users</b>
Government Land	Acres			
Private Land	Acres			
Title Holders	Number			
Non-Titleholders - Encroachers	Number			
Non-Titleholders - Squatters	Number			
Various users of Govt. Land under various tenures	Number			
People losing livelihoods/ access due to loss of Govt. Lands project	Number			

**2. Agricultural Land affected due to sub-project:**

<b>Details</b>	<b>Unit</b>	<b>Quantity</b>
Total Affected	Number	
Title Holders	Number	
Non-Titleholders – Encroachers	Number	
Non-Titleholders – Squatters	Number	
BPL Families losing Agricultural Land	Number	

**3. Dwellings affected due to sub-project:**

<b>Details</b>	<b>Unit</b>	<b>Quantity</b>
Total Affected	Number	
Title Holders	Number	
Non-Titleholders – Encroachers	Number	
Non-Titleholders – Squatters	Number	
BPL Families losing Dwellings	Number	

**4. Commercial properties affected due to sub-project:**

<b>Details</b>	<b>Unit</b>	<b>Quantity</b>
Total Affected	Number	
Title Holders	Number	
Non-Titleholders – Encroachers	Number	
Non-Titleholders – Squatters	Number	
BPL Families losing Commercial Properties	Number	

**5. Common Property Resources Affected: (Please give each type by number)**

Type	Unit	Quantity
	Number	

S No	Items	Results
1.	Total no of HH affected due to proposed project activity (Single or multiple impacts)	
2.	Total no of vulnerable HH affected due to proposed project activity (Single or multiple impacts)	
3.	Total number of Community Property Resources affected	

Part c : Result/ Outcome of Social Screening Exercise		
1.	No SA Required	
2.	SA Required	

**Annexure 2: Format for Voluntary Land Donation**

**Voluntary Donation of Land**

**On a Rs. 10/- Stamp Paper**

1. This deed of voluntary donation is made and executed on ..... day of ..... between Sri/Smt .....S/o W/ The project will hire about 30 community/social mobilisers for the housing component. o..... Age..... Occupation ..... Resident of ..... herein after called the "Title holder / Encroacher" on one part. This expression shall mean and include his legal representatives, successors – in-interest, heirs, assignees, nominees etc.

AND

Sri. .... S/o W/o ..... Aged..... Designation..... Herein after called the "Recipient" which term denotes to "for and on behalf of Project Management Unit, Odisha Disaster Recovery Project, Government of Odisha" on the other part and shall mean and include his successors –in-office, nominees and assignees etc.

2. Whereas, the details of the Location of the, land are given below:

<b>Location Details</b>	
Village	
Gram Panchayat	
Block	
District	
<b>Title Holder/ Encroacher Details</b>	
Name of Title Holder/Encroacher	
Father/ Husband's Name of Title Holder/Encroacher	
Status:	Title Holder/ Encroacher
Age: occupation:	
Residence:	
Gender:	
<b>Schedule –Land Details/Structure</b>	

Land in Question	
Area	
Location	
North Boundary	
East Boundary	
West Boundary	
South Boundary	

**Note:** Detailed Map to the scale is appended.

3. Where as the Title Holder is presently using/ holds the transferable right of the above mentioned piece of land in the village mentioned above. Whereas the Encroacher does not hold any transferable rights of the above mentioned piece of land in the village mentioned above but has been a long standing encroacher, dependent on its usufruct hereditarily.
  
4. Whereas the Title Holder/Encroacher testifies that the land is free of encumbrances and not subject to other claims/ claimants.
  
5. Whereas the Title Holder/Encroacher hereby voluntarily surrenders the land/structure without any type of pressure, influence or coercion what so ever directly or indirectly and hereby surrender all his/her subsisting rights in the said land with free will and intention.
  
6. Whereas the Recipient shall construct and develop infrastructure facilities under the project, Odisha Disaster Recovery Project, and take all possible precautions to avoid damage to adjacent land/structure/other assets.
  
7. Whereas both the parties agree that the infrastructure so constructed/developed shall be for the public purpose.
  
8. Whereas the provisions of this agreement will come into force from the date of signing of this agreement.

Signature of Title Holder/Encroacher		Signature of BDO	
Name of Title Holder/Encroacher		Name of BDO	
Date		Date	
Identified by			
1. Name:	Signature:		
2. Name:	Signature:		
<b>Witnesses</b>			
Signature of Gram Panchayat President/ ULB Chairperson			
Gram Panchayat President/ ULB Chairperson Name			
Signature of GP Secretary/ ULB Commissioner			
Name of GP Secretary/ ULB Commissioner			
Signature of DIU Representative			
Name of DIU Representative			
Designation of DIU Representative			

### Annex-3 A

#### Format for Short Resettlement Action Plan

#### Sample Outline of Abbreviated Resettlement Plan

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Topic	Contents
Project Description and Location	Basic explanation of the Project and its' location.
A Census Survey of Displaced Persons and Valuation of Assets	Potential displacement due to proposed sub-project, assets lost and people displaced from homes or livelihood, and valuation of assets.
Legal and Entitlements Framework	Describe key national acquisition, compensation policies and donor policies, entitlements. Explain how NIRP and WB safeguard policies will be achieved.
Consultation and Grievance Redress, Participation	Discuss the Consultation and Participation Process that will be followed in achieving NIRP and safeguard requirements.
Institutional Responsibility for Implementation	How grievance redress mechanism works in planning, implementation and monitoring framework.
Resettlement Budget and Financing	Identify land acquisition and resettlement costs and funding sources.
Implementing Schedule	Provide Time Schedule, showing how people affected will be provided with entitlements before demolition begins
Monitoring and Evaluation	Specify arrangements for M and E.

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## **Annexure 3 B: Format for Preparation of Resettlement Action Plan**

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### **1. Introduction**

1. Brief Introduction of the sub-project
2. Description of Component(s) that cause land acquisition/alienation and resettlement
3. Overall Estimates of Land Acquisition and R&R

### **2. Measures to Minimize Resettlement**

1. Description of Efforts Made for Minimizing Displacement
2. Description of the Results of these Efforts
3. Description of Mechanisms to Minimize Displacement and Loss of Livelihood/Income during Implementation

### **3. Census and Socio-Economic Surveys**

1. Provide the results of the census and socio-economic surveys
2. Identify all categories of impacts and the extent of impact on each affected

### **4. Consultation and involvement of PAPs**

1. Describe various Stakeholders
2. Summarize process of consultation on the results of socio-economic surveys
3. Describe the need and mechanisms to conduct updates to socio-economic surveys
4. Describe how this process of consultation would be continued through implementation and monitoring
5. Describe the plan for disseminating information to Project Affected Persons

### **5. Entitlement Framework**

1. Provide a definition of PAFs and PAPs together with their categorization based on impacts
2. Describe R&R entitlements for each category of impact
3. Describe method of valuation used for affected land, structures and other assets
4. Using Entitlement Matrix, present a table of all PAFs/PAPs and their losses/impacts and entitlements

### **6. Relocation (if applicable)**

1. Does the Project need community relocation sites? If yes, have they been inspected and accepted by PAPs?
2. Have the Project Affected Persons agreed to the strategy for housing replacement? Will new housing be constructed/ allocated? If PAPs are to construct

houses, explain if compensation entitlement for housing is sufficient to help them construct houses.

3. List of proposed sites along with number of affected families to be relocated
4. Describe respective mechanisms for (i) procuring/acquiring/alienating ; (ii) developing and (iii) allotting resettlement sites
5. Provide detailed description of arrangements for development of resettlement sites including provision of social infrastructure
6. Describe the feasibility studies conducted to determine the suitability of the development of sites.

## **7. Income Restoration**

1. Are the compensation entitlements sufficient to restore income streams for each category of impact? If not, what additional economic rehabilitation measures are necessary?
2. Briefly spell out the restoration strategies for each category of impacts, and describe institutional, financial and technical arrangements/aspects involved
3. Describe the process of consultation with PAPs to finalize strategies for income restoration
4. How do strategies for restoration vary with the area/locality of impact
5. If income restoration involves change in livelihoods or other economic activities allow substantial amount of time for capacity building, accessing institutional funds/credits/markets, preparation and implementation. Work out the rate of returns for each of the economic activities opted by the entitled person.
6. How are the risks of impoverishment proposed to be addressed?
7. Explain the main institutional and other risks for effective implementation of plans for restoration of livelihood
8. Describe the process for monitoring the effectiveness of income restoration activities

## **8. Institutional Arrangements**

1. Describe institution(s) responsible for: (a) delivery of each item/activity in the entitlement policy; (b) implementation of resettlement and rehabilitation programs and (c) coordination of all other activities as described in the Rehabilitation Action Plan
2. State how coordination issues will be addressed in cases where resettlement and rehabilitation are spread over a number of institutional/departmental jurisdictions
3. Indicate the agency that will coordinate all implementing agencies – do they have the necessary mandate and the resources

4. Describe the external (non-Project) institutions/departments involved in the process of resettlement and restoration of income such as land development, land allocation, credit, training for capacity building and the mechanisms in place to ensure adequate cooperation and performance of these institutions/departments
5. Describe the results of the institutional capacity assessment and give the institutional development plans including staffing schedule and training requirements
6. Discuss institutional capacity for, and commitment to, resettlement and rehabilitation

## **9. Monitoring and Evaluation**

1. Describe the internal monitoring process
2. Define key monitoring indicators for resettlement, rehabilitation and participation and provide a list of these indicators which would be used for internal monitoring
3. Describe institutional (including financial) arrangement
4. Describe frequency of reporting and contents of reports
5. Describe the process for integrating feedback from internal monitoring into implementation
6. Describe financial arrangements for external monitoring including process for awarding and maintenance of contracts for the entire duration of R&R
7. Describe the methodology for external monitoring
8. Describe frequency of external reporting and its contents

## **10. Redress of Grievances**

1. Describe the structure and process of grievances mechanisms at various levels including step-by-step process for registering and addressing grievances and provide specific details regarding registering complaints, discussing them with PAPs, response time, communication modes etc.
2. Describe the mechanism for appeal
3. Describe the provision, if any, to enable PAPs to approach civil courts in case these provisions fail.

## **11. Implementation Schedule**

1. List the chronological steps in implementation of R&R Action Plan including identification of agencies responsible for each activity along with a brief explanation of each activity
2. A month-wise implementation schedule (Gantt chart) of activities to be taken as part of R&R Action Plan
3. Description of the linkage between R&R implementation and initiation of civil works for each of the Project component

## **12. Costs and Budgets**

1. Clear statement of financial responsibility and authority
2. List the sources of funds for R&R and describe the flow of funds
3. Indicate if costs of R&R are included in the overall Project costs
4. Identify R&R costs, if any, to be funded by the WB
5. Provide a cost-wise, item-wise budget estimate for the entire R&R costs including administrative expenses, monitoring and evaluation and contingencies
6. Describe the specific mechanisms to adjust cost estimates by *inflation* factor
7. Describe provisions to account for different types of contingencies