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PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED CREDIT

IN THE AMOUNT OF SDR99.40 MILLION  
(US\$153 MILLION EQUIVALENT)

TO THE

REPUBLIC OF INDIA

FOR A

ODISHA DISASTER RECOVERY PROJECT

February 6, 2014

Sustainable Development Unit  
India Country Management Unit  
Disaster Management and Climate Change Unit  
South Asia Region

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CURRENCY EQUIVALENTS  
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Currency Unit = Indian Rupees (INR)  
Rs 61.82 = US\$1  
US\$1.54000 = SDR 1

FISCAL YEAR  
April 01 – March 31

ABBREVIATIONS AND ACRONYMS

ADB	Asian Development Bank	ESMF	Environmental and Social Management Framework
ASCI	Administrative Staff College of India	ETRP	Emergency Tsunami Reconstruction Project
BCR	Benefit Cost Ratio	FLGRC	Field Level Grievance Redress Committee
BeMC	Berhampur Municipal Corporation	GESI	Gender Equity and Social Inclusion
BKFRP	Bihar Kosi Floods Reconstruction Project	GIS	Geographical Information System
BP	Bank Policy	GM	General Manager
CAA&A	Controller Aid, Accounts and Audit	GoI	Government of India
CAG	Comptroller and Auditor General	GoO	Government of Odisha
CBA	Cost Benefit Analysis	GRC	Grievance Redress Committee
CBO	Community Based Organization	GRM	Grievance Redress Mechanism
COI	Cost of Illnesses	H&UD	Department of Housing and Urban Development
CPS	Country Partnership Strategy	HTL	High Tide Line
CQS	Consultant's Qualification	IA	Implementing Agency
CRZ	Coastal Regulation Zone	IBRD	International Bank for Reconstruction and Development
CSMMC	Cyclone Shelter Management and Maintenance Committee	ICB	International Competitive Bidding
CSO	Civil Society Organization	ICZM	Integrated Coastal Zone Management
DA	Designated Account	IDA	International Development Association
DGS&D	Directorate General of Supplies & Disposals	IFR	Interim Financial Reports
DC	Direct Contracting	ISP	Implementation Support Plan
DEA	Department of Economic Affairs	ISRO	Indian Space Research Organization
DGM	Deputy General Manager	LARRA	Land Acquisition, Resettlement and Rehabilitation Act
DIU	District Implementation Unit	M&E	Monitoring & Evaluation
DPR	Detailed Project Report	MD	Managing Director
DRM	Disaster Risk Management	MIS	Management Information System
DSS	Decision Support System	NCB	National Competitive Bidding
EA	Environmental Assessment	NCRMP	National Cyclone Risk Mitigation Project

NDMA	National Disaster Management Authority	QCBS	Quality and Cost Based Selection
NGO	Non-Governmental Organization	RAY	<i>Rajiv Awas Yojana</i> (Government Housing Scheme)
NIFM	National Institute of Financial Management	RBI	Reserve Bank of India
NRSC	National Remote Sensing Centre	RDNA	Rapid Damage and Needs Assessment
ODCH	Owner Driven Construction of Houses	SC	Steering Committee
ODRP	Odisha Disaster Recovery Project	SDMA	State Disaster Management Authority
OP	Operational Policy	SDR	Special Drawing Rights
ORAF	Operational Risk Assessment Framework	SEPA	Procurement Plan Management System
ORSAC	Odisha Space Applications Center	SIL	Specific Investment Loan
OSDMA	Odisha State Disaster Management Authority	SLGRC	Senior Level Grievance Redress Committee
PAD	Project Appraisal Document	SRM	Supervision, Reporting & Monitoring
PDO	Project Development Objective	TOR	Terms of Reference
PIU	Project Implementation Unit	TPQA	Third Party Quality Audit
		UN	United Nations
PMU	Project Management Unit	VSCS	Very Severe Cyclonic Storm
PPP	Purchasing Power Parity	VSL	Value of Statistical Life
PRAMS	Procurement Risk Assessment System	W&S	Water & Sanitation
PPR	Periodic Performance Review		

Regional Vice President:	Philippe H. Le Houerou
Country Director:	Onno Ruhl
Sector Director:	John Henry Stein
Sector Manager:	Bernice K. Van Bronkhorst
Task Team Leader:	Deepak Singh

**INDIA**  
**ODISHA DISASTER RECOVERY PROJECT**

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## PAD DATA SHEET

*India*

*Odisha Disaster Recovery Project (P148868)*

### PROJECT APPRAISAL DOCUMENT

*SOUTH ASIA*

*SASDC*

Report No.: PAD890

<b>Basic Information</b>			
Project ID P148868	EA Category B - Partial Assessment	Team Leader Deepak Singh	
Lending Instrument Investment Project Financing	Fragile and/or Capacity Constraints [ X ] - Natural or man-made disaster		
	Financial Intermediaries [ ]		
	Series of Projects [ ]		
Project Implementation Start Date 20-Feb-2014	Project Implementation End Date 31-Mar-2019		
Expected Effectiveness Date 15-July-2014	Expected Closing Date 31-Mar-2019		
Joint IFC No			
Sector Manager Bernice K. Van Bronkhorst	Sector Director John Henry Stein	Country Director Onno Ruhl	Regional Vice President Philippe H. Le Houerou
Borrower: Department of Economic Affairs, Government of India			
Responsible Agency: Odisha State Disaster Management Authority (OSDMA)			
Contact: Dr. Taradatt	Title: Managing Director		
Telephone No: 0674-2395398	Email: mdosdma@osdma.org		
<b>Safeguards Deferral (from Decision Review Decision Note)</b>			
Will the review of Safeguards be deferred? [ ] Yes [ X ] No			

<b>Project Financing Data(in US\$ Million)</b>									
<input type="checkbox"/>	Loan	<input type="checkbox"/>	Grant	<input type="checkbox"/>	Guarantee				
<input checked="" type="checkbox"/>	Credit	<input type="checkbox"/>	IDA Grant	<input type="checkbox"/>	Other				
Total Project Cost:		218.60			Total Bank Financing:		153.00		
Financing Gap:		0.00							
<b>Financing Source</b>					<b>Amount</b>				
BORROWER/RECIPIENT					65.60				
IDA reallocated as a credit					153.00				
Total					218.60				
<b>Expected Disbursements (in US\$ Million)</b>									
Fiscal Year	2014	2015	2016	2017	2018	2019			
Annual	0.00	17.00	24.00	28.00	44.00	40.00			
Cumulative	0.00	17.00	41.00	69.00	113.00	153.00			
<b>Proposed Development Objective(s)</b>									
To restore and improve housing and public services in targeted communities of Odisha, and increase the capacity of the State entities to respond promptly and effectively to an eligible crisis or emergency.									
<b>Components</b>									
<b>Component Name</b>						<b>Cost (US\$ Millions)</b>			
Resilient Housing Reconstruction and Community Infrastructure						167.30			
Urban Infrastructure in Berhampur						28.70			
Capacity Building for Disaster Risk Management						8.00			
Implementation Support						14.70			
Contingent Emergency Response						0.00			
<b>Institutional Data</b>									
<b>Sector Board</b>									
Urban Development									
<b>Sectors / Climate Change</b>									
Sector (Maximum 5 and total% must equal 100)									
Major Sector			Sector		%	Adaptation Co-benefits%		Mitigation Co-benefits%	

Industry and trade	Housing construction	70	90	
Water, sanitation and flood protection	General water, sanitation and flood protection sector	30	30	
Total		100		
<input type="checkbox"/> I certify that there is no Adaptation and Mitigation Climate Change Co-benefits information applicable to this project.				
<b>Themes</b>				
Theme (Maximum 5 and total% must equal 100)				
Major theme	Theme	%		
Social protection and risk management	Natural disaster management	30		
Rural Development	Rural Services and Infrastructure	50		
Urban Services and Housing for the Poor	Urban Development	10		
Social Protection and Risk Management	Social Risk Mitigation	10		
Total		100		
<b>Compliance</b>				
<b>Policy</b>				
Does the project depart from the CPS in content or in other significant respects?			Yes [ ]	No [ X ]
Does the project require any waivers of Bank policies?			Yes [ ]	No [ X ]
Have these been approved by Bank management?			Yes [ ]	No [ ]
Is approval for any policy waiver sought from the Board?			Yes [ ]	No [ ]
Does the project meet the Regional criteria for readiness for implementation?			Yes [ X ]	No [ ]
Safeguard Policies Triggered by the Project			Yes	No
Environmental Assessment OP/BP 4.01			X	
Natural Habitats OP/BP 4.04			X	
Forests OP/BP 4.36				X
Pest Management OP 4.09				X
Physical Cultural Resources OP/BP 4.11			X	
Indigenous Peoples OP/BP 4.10				X
Involuntary Resettlement OP/BP 4.12			X	
Safety of Dams OP/BP 4.37				X

Projects on International Waterways OP/BP 7.50			X
Projects in Disputed Areas OP/BP 7.60			X
<b>Legal Covenants</b>			
<b>Name:</b>	<b>Recurrent</b>	<b>Due Date</b>	<b>Frequency</b>
Implementation Units - I	Yes	N/A	Project duration
<b>Description of Covenant</b>			
Odisha to vest the implementation responsibilities for: (i) Components 1, 3 and Sub-Component 4.1 of the Project, on the R&DM Department, acting through OSDMA; and (ii) Component 2 and Sub-Component 4.2 of the Project, on the H&UD Department, acting through BeMC.			
<b>Name:</b>	<b>Recurrent</b>	<b>Due Date</b>	<b>Frequency</b>
Implementation Units - II	Yes	N/A	Project duration
<b>Description of Covenant</b>			
Odisha to maintain a state level Project steering committee for policy guidance and general oversight.			
<b>Name:</b>	<b>Recurrent</b>	<b>Due Date</b>	<b>Frequency</b>
Implementation Units - III	Yes	March 31, 2014	Project duration
<b>Description of Covenant</b>			
Odisha to establish, and thereafter maintain: (i) a project management unit, a central project implementation unit and four district-level implementation units within OSDMA for the day to day implementation of Components 1, 3 and Sub-Component 4.1 of the Project; (ii) a project management units within H&UD Department and a Project implementation unit within BeMC for the day to day implementation of Component 2 and Sub-Component 4.2 of the Project.			
<b>Name:</b>	<b>Recurrent</b>	<b>Due Date</b>	<b>Frequency</b>
Social Mobilization Agency(ies) and Quality Audit Consultant	Yes	3 months as of effectiveness	Project duration
<b>Description of Covenant</b>			
Odisha (through OSDMA) to select and hire the services of: (i) a social and technical support agency(ies) for the surveying of beneficiaries about housing preferences, as well as their coordination and training for housing construction and the development of village development plans; and (ii) a quality audit consulting firm to certify construction milestones, compliance with safeguards requirements, and quality construction guidelines and standards.			
<b>Name:</b>	<b>Recurrent</b>	<b>Due Date</b>	<b>Frequency</b>
Implementation Consultant	Yes	3 months as of effectiveness	Project duration
<b>Description of Covenant</b>			
BeMC to select and hire the services of a Project implementation consulting firm to assist BeMC PIU to carry out the day-to-day implementation of Component 2 and Sub-component 4.1 of the Project .			
<b>Name:</b>	<b>Recurrent</b>	<b>Due Date</b>	<b>Frequency</b>
BeMC Quality Consultant	Yes	6 months as of effectiveness	Project duration

<b>Description of Covenant</b>			
BeMC to select and hire a quality consulting audit firm to certify timing and quality standards of infrastructure improvement works, as well as contractors performance and compliance with regulatory and safeguards requirements.			
<b>Name:</b>	<b>Recurrent</b>	<b>Due Date</b>	<b>Frequency</b>
Ineligible Expenditures	Yes	N/A	Project duration
<b>Description of Covenant</b>			
Odisha to pay any land purchase/acquisition, and resettlement compensation payments out of its own resources.			
<b>Name:</b>	<b>Recurrent</b>	<b>Due Date</b>	<b>Frequency</b>
Project Documents	Yes	N/A	Project duration
<b>Description of Covenant</b>			
Odisha to implement the Project in accordance with the Project Operations Manuals, the Safeguard Documents and the Housing Reconstruction Guidelines, and refrain from amending, suspending, waiving and/or voiding any of those documents without the prior concurrence of the Association.			
<b>Name:</b>	<b>Recurrent</b>	<b>Due Date</b>	<b>Frequency</b>
Resilient Housing – Selection of Beneficiaries	Yes	N/A	Project duration
<b>Description of Covenant</b>			
Odisha to select beneficiaries for housing reconstruction activities pursuant to the guidelines and selection criteria set forth in the Project Operations Manual.			
<b>Name:</b>	<b>Recurrent</b>	<b>Due Date</b>	<b>Frequency</b>
Resilient Housing – Sub-grant Agreements	Yes	N/A	Project duration
<b>Description of Covenant</b>			
Odisha to enter into sub-grant agreements under terms and conditions acceptable to IDA with those selected beneficiaries that opt to build their own houses, which agreement will require their compliance with Safeguard Documents, architectural standards and specifications, tranche releases of funds upon verification of construction milestones, and acceptance of random visits.			
<b>Name:</b>	<b>Recurrent</b>	<b>Due Date</b>	<b>Frequency</b>
Resilient Housing – Eligibility of Housing Sub-Grants	Yes	End of Project	N/A
<b>Description of Covenant</b>			
Odisha to reimburse IDA the amounts disbursed under housing sub-grants agreements (Housing Sub-grants and Construction Incentives) for any unfinished housing or, a housing which does not meet the required quality standards.			
<b>Name:</b>	<b>Recurrent</b>	<b>Due Date</b>	<b>Frequency</b>
Screening of Activities – Government Permits/Clearances and Social & Environmental Documents	Yes	Before bidding for any civil work	Project duration

<b>Description of Covenant</b>			
OSDMA and BeMC to refrain from inviting any bids, selecting any contractors, undertaking any preparatory works, or issuing any Housing Sub-grant until/unless: (i) the respective activities have been screened as per the ESMF and, whenever required the necessary EMP or RAP have been prepared; and (ii) the safeguard documents have been disclosed at least 15 days prior to the respective bidding invitations, grant issuance or initiation of contractor selection.			
<b>Name:</b>	<b>Recurrent</b>	<b>Due Date</b>	<b>Frequency</b>
Safeguard Instruments - Reporting	Yes	45 days after the end of every calendar quarter	Every calendar quarter
<b>Description of Covenant</b>			
OSDMA and BeMC shall submit to IDA a compilation of the safeguards screening reports prepared for Project activities			
<b>Name:</b>	<b>Recurrent</b>	<b>Due Date</b>	<b>Frequency</b>
Governmental Permits – Compensation/Relocation Assistance	Yes	N/A	Project duration
<b>Description of Covenant</b>			
Odisha to ensure that prior to commencing any civil works: (i) all governmental permits and clearances have been obtained, and pre-construction conditions imposed have been met; and (ii) all resettlement compensation and relocation assistance has been paid/provided.			
<b>Name:</b>	<b>Recurrent</b>	<b>Due Date</b>	<b>Frequency</b>
Safeguard Reporting & Monitoring	Yes	N/A	Every quarter
<b>Description of Covenant</b>			
OSDMA and BeMC shall: (i) maintain monitoring and evaluation protocols and record keeping procedures to supervise and assess compliance with Safeguard Documents; and (ii) to report on quarterly basis on compliance with Safeguard Documents.			
<b>Name:</b>	<b>Recurrent</b>	<b>Due Date</b>	<b>Frequency</b>
Contractors' Safeguards Obligations	Yes	N/A	Project duration
<b>Description of Covenant</b>			
Odisha shall include compliance with the Safeguard Documents as part of the contractors' obligations pursuant to the bidding documents.			
<b>Name:</b>	<b>Recurrent</b>	<b>Due Date</b>	<b>Frequency</b>
Internal Auditors	Yes	6 months as of Effective Date	Project duration
<b>Description of Covenant</b>			
OSDMA to select and hire the services of (a) firm(s) of chartered accountant in order to carry out internal audits of the operations of OSDMA's, H&UD Department's and BeMC's implementation units.			
<b>Name:</b>	<b>Recurrent</b>	<b>Due Date</b>	<b>Frequency</b>
Suggestion & Complaint Mechanism	Yes	March 31, 2014	Project duration

<b>Description of Covenant</b>			
Odisha to establish and maintain/operate a grievance redress mechanism.			
<b>Name:</b>	<b>Recurrent</b>	<b>Due Date</b>	<b>Frequency</b>
Procurement Disclosure	Yes	6 months as of the Effective Date	Project duration
<b>Description of Covenant</b>			
Odisha shall establish and maintain a freely and publicly accessible procurement database and record keeping system showing updated procurement information (i.e. notices, bidding invitations, request for proposals, awards, etc.).			
<b>Name:</b>	<b>Recurrent</b>	<b>Due Date</b>	<b>Frequency</b>
Procurement Complaints Mechanism	Yes	3 months as of the Effective Date	Project duration
<b>Description of Covenant</b>			
Odisha shall establish a mechanism for handling procurement complaints with a second tier appeal system and complaint database providing free and public access for the submission of electronic claims			
<b>Conditions</b>			
<b>Name</b>			<b>Type</b>
Emergency Contingency Component			Disbursement
Description of Condition			
To access funds under this component, the Recipient and the Project Implementing Entity must have determined/declared that an eligible crisis or emergency has occurred, identified response activities and expenditures, prepared and disclosed any required safeguard documents, identified and/or staffed a coordination authority responsible for implementation, and prepared an operations manual.			
<b>Team Composition</b>			
<b>Bank Staff</b>			
<b>Name</b>	<b>Title</b>	<b>Specialization</b>	<b>Unit</b>
Deepak Singh	Senior Disaster Risk Management Specialist	Task Team Leader	SASDC
Saurabh Suresh Dani	Senior Disaster Risk Management Specialist	Co-Task Team Leader	SASDC
Martin Serrano	Senior Counsel	Legal	LEGES
Juan Carlos Alvarez	Senior Counsel	Legal	LEGES
Sita Ramakrishna Addepalli	Senior Environmental Specialist	Senior Environmental Specialist	SASDI
Vinayak N Ghatate	Senior Rural Development Specialist	Senior Rural Development Specialist	SASDL

Neha Pravash Kumar Mishra	Senior Environmental Specialist	Senior Environmental Specialist	SASDI
Ignacio M. Urrutia	Operations Specialist	Disaster Risk Management	SASDC
Satya N. Mishra	Social Development Specialist	Social Development Specialist	SASDS
Barjor E. Mehta	Lead Urban Specialist	Urban Specialist	SASDU
Vasudha Thawakar	Urban Specialist	Urban Specialist	SASDU
Hemang D. Karelia	Operations Officer	Operations Officer	GFDRR
Navid Rahimi	Infrastructure Specialist	Disaster Risk Management	SASDC
Tripti Chopra	Financial Management Specialist	Financial Management Specialist	SARFM
Alok Narayan Pattanaik	Operations Specialist	Disaster Risk Management	SASDC
Khabilongtshup Khumujam	Environment Specialist	Environment	SASDI
Dechen Tshering	Disaster Risk Management Specialist	Disaster Risk Management Specialist	SASDC
Raja Rehan Arshad	Lead Disaster Risk Management Specialist	Peer Reviewer	GFDRR
Abebaw Alemayehu	Senior Urban Development Specialist	Peer Reviewer	AFTU1
Elif Ayhan	Senior Urban Specialist	Peer Reviewer	ECSUW
Jurminla Jurminla	Procurement Specialist	Procurement Specialist	SARPS
Vidya Mahesh	Program Assistant	Program Assistant	SASDO
Lilian MacArthur	Program Assistant	Program Assistant	SASDO
<b>Non Bank Staff</b>			
<b>Name</b>	<b>Title</b>	<b>Office Phone</b>	<b>City</b>
Peeyush Ramawtar Sekhsaria	Consultant-Operations Support		New Delhi, India
Malini Nambiar	Consultant-Disaster Risk Management		New Delhi, India
Satyanarayana Pallagani	Consultant		Hyderabad, India
Bokepalli Kanaka Durga Raja	Consultant, Safeguard Management		Hyderabad, India
Vidyadhar K Phatak	Consultant		Mumbai, India

<b>Locations</b>					
<b>Country</b>	<b>First Administrative Division</b>	<b>Location</b>	<b>Planned</b>	<b>Actual</b>	<b>Comments</b>
India	Odisha	Districts of Ganjam, Khordha and Puri		Actual	

## **I. STRATEGIC CONTEXT**

### **A. Country Context**

1. India is highly vulnerable to a range of natural hazards, particularly earthquakes, flood, drought, cyclone and landslides. Close to 60% of India's land mass is prone to earthquakes<sup>1</sup> of varying magnitude; over 60% of the area is drought prone; and 12% is susceptible to floods and landslides. With a coastline of 7,516km, of which 5,700km is prone to cyclones of various degrees of intensity, approximately 40% of the total population living within 100km of the coastline can be potentially affected. As climate change, storm surges and the resultant sea level rise become more pronounced, hazard events are set to grow in frequency and intensity.

2. The Government of India (GoI) has made great strides in moving from a reactive emergency response to being proactive and implementing disaster preparedness and risk reduction initiatives. India enacted the Disaster Management Act in 2005 and established the National Disaster Management Authority (NDMA) and State Disaster Management Authorities (SDMAs). NDMA has proactively formulated guidelines and procedures for dealing with specific natural disasters and is mandated to frame policies, plans and guidelines for Disaster Management.

3. For more than a decade, the Bank has been assisting GoI in effectively responding to disasters. This partnership between GoI and the Bank and their joint learning experience of disaster recovery and reconstruction are leading to an increased focus towards future oriented risk mitigation programs and strategies that will ultimately benefit millions of people vulnerable to natural disaster risks at the national, state and district - including village - level in India.

### **B. Situations in Urgent Need of Assistance**

4. On October 12, 2013 Cyclone Phailin hit the state of Odisha with wind gusts up to 220 kilometers 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*<sup>2</sup> housing.

5. 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

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<sup>1</sup> IS 1893 -Part 1: 2002, Map of Seismic Zones of India

<sup>2</sup> Semi-permanent houses of wattle and daub construction with thatched roofs or asbestos sheets.

stocked over 500 cyclone shelters 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.

6. 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. On January 8, 2014 a request for assistance emerged from the GoI 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**

7. The World Bank and the Asian Development Bank (ADB), upon receiving a request from the Department of Economic Affairs (DEA), GoI, carried out a Rapid Damage and Needs Assessment (RDNA) Mission that visited the State from November 26 to December 3, 2013. In collaboration with the Government of Odisha (GoO), the RDNA 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.

8. 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 the cyclone occurred), Puri, and Khordha. The report estimated the cost of damage reconstruction to be about US\$1.45 billion, of which the housing sector was the most severely hit with reconstruction needs estimated to be around US\$480 million. The RDNA also assessed losses of livelihood, including micro, small and medium enterprises. Based on the findings of the RDNA, the DEA, GoO, ADB and the World Bank agreed on a framework for assistance in the disaster recovery and future risk reduction.

9. 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. The GoO will support affected population in livelihood restoration and replacement of productive assets. The Odisha Disaster Recovery Project, addressing housing reconstruction and slum improvements, is processed simultaneously with the Additional Financing to the NCRMP-I, covering expansion of risk mitigation infrastructure, given that both projects came as a single request from the DEA to respond to cyclone Phailin and are to be implemented at the state level with complementary implementing agencies.

### **C. Sector and Institutional Context**

10. 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. The state is also vulnerable to flash floods.

11. The Odisha State Management Authority (OSDMA) was formed after 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**

12. The World 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 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. Additionally, the Bank is well positioned to incorporate its global and regional experience in post-disaster projects, particularly in the design and implementation of owner-driven housing reconstruction in varying country and socio-economic contexts.

13. This Project is part of a broader package to support the GoO's reconstruction and recovery efforts and to strengthen their capacity 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.

#### **D. Higher Level Objectives to which the Project contributes**

14. The proposed Project is aligned to the Bank's Country Partnership Strategy (CPS FY13-17, Report No. 76176-IN) to enhance disaster risk management systems. The Project is solidly anchored within the "Strategic Engagement Area 3: Inclusion" of the India CPS, which states that the World Bank's investments in this area will: "(i) help build institutional capacity to prepare for and manage the impact of natural disasters, and (ii) help people protect themselves from natural disasters and recover quickly from them."

## II. PROJECT DEVELOPMENT OBJECTIVE

15. The Project Development Objective (PDO) is to restore and improve housing and public services in targeted communities of Odisha, and increase the capacity of the State entities to respond promptly and effectively to an eligible crisis or emergency.

### **Project Beneficiaries**

16. Direct beneficiaries include population of the coastal areas of Ganjam, Puri and Khordha districts affected by the cyclone that will be part of the housing reconstruction program (about 150,000, of which 50% are female), and about 30,000 inhabitants of selected slums in Berhampur, of which 50% are female. In addition, the total population of Berhampur, around 350,000, will benefit either directly or indirectly from the improvements expected to result from the master plans, as well as the totality of the 42 million inhabitants of the State as a result of increased capacity to manage and respond to disasters.

### **PDO Level Results Indicators**

17. The achievement of the PDO will be monitored by the following indicators:

- Percentage of households with fully/severely damaged houses in project area provided with resilient housing reconstructed under the project.
- Number of people with access to improved public services in Berhampur.
- State departments making use of information generated by OSDMA.

## III. PROJECT DESCRIPTION

### **A. Project Components**

#### **Component 1: Resilient Housing Reconstruction and Community Infrastructure US\$167.3 million**

18. *Sub-component 1.1: Housing reconstruction – US\$164.3 million.* For the reconstruction of about 30,000 houses in the designated rural areas in the coastal belt 5 km from the High Tide Line (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.

19. The project will broadly adopt two approaches based on beneficiary preferences, ground conditions as based on the GoO's Housing Reconstruction Policy Guidelines. The two primary approaches will include: (i) Owner Driven Construction of Houses (ODCH) and (ii) Contractor Built. The preferred option for in-situ construction will be ODCH, while that at relocation sites will be contractor built.

20. *Sub-component 1.2: Selected community infrastructure - US\$3.0 million* For 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.

21. In relocated housing sites, with contractor-driven arrangements, these investments would be integrated in the design of layouts and will be built together with housing, as stated in

Subcomponent 1.1. For villages with in-situ housing reconstruction a Village Development Plan will be prepared to support communities in the selection of investments within a fixed amount allocated to the village, based on population.

### **Component 2: Urban Infrastructure in Berhampur – US\$28.7 million**

22. Berhampur, the largest city in Ganjam district, was most severely hit by Cyclone Phailin. This component will finance investments to improve public services in Berhampur while at the same time reducing the vulnerability of its population. Improved public infrastructure will reduce vulnerability through improved drainage to reduce floods, and increasing the resilience of public service infrastructure. The Berhampur Municipal Corporation (BeMC), under the aegis of Department of Housing & Urban Development (H&UD), will be responsible for implementation.

23. *Sub-component 2.1: Upgrading of slums - US\$13.7 million.* For infrastructure to improve the living conditions of households in slums in the city of Berhampur. These improvements include 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, size of the settlements, and the available resources. The project will be undertaken in about 80 settlements covering a population of about 30,000.

24. *Sub-component 2.2: Public service infrastructure - US\$11.7 million.* For 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.

25. *Sub-component 2.3: Community participation - US\$1.7 million.* For facilitating community participation, ensuring a participatory approach in the planning of settlement level infrastructure.

26. *Sub-component 2.4: Technical Assistance - US\$1.7 million.* For providing support to the BeMC towards preparation of improved city-wide sectoral master plans and priority Detailed Project Reports (DPRs). These will include drainage, sewerage, street lighting and other relevant areas identified.

### **Component 3: Capacity Building in Disaster Risk Management - US\$8 million**

27. The objective of this component is to support OSDMA in strengthening their overall capacity towards better risk mitigation, preparedness, and disaster response, in line with global best practices. The component will also work towards enhancing OSDMA's role in coordinating DRM related activities with other line departments and integrate DRM into overall development of the state. It will finance the following activities: i) Establishing an integrated complex comprising of OSDMA, GIS cell equipped with a decision support center, Emergency Operation Center and a training center, 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; and iii) Enabling the affected marginalized communities to cope with survival risks posed by natural calamities through community-based initiatives.

**Component 4: Implementation Support - US\$14.7 million**

28. This component will finance the incremental operating costs of the Project Management Units (PMUs) in OSDMA and the H&UD, and the PIUs in OSDMA and the BeMC. In addition, the component will include consultancies required for the preparation and supervision of specific activities, trainings, exposure visits and knowledge exchange programs. It is divided into two subcomponents: (i) *Sub-component 4.1: Implementation Support for PMU-OSDMA - US\$10.9 million*; (ii) *Sub-component 4.2: Implementation Support for PMU-H&UD - US\$3.8 million*.

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

29. 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 GoO 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.

**B. Project Financing**

*Lending Instrument:*

30. 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.

*Project Cost and Financing*

31. A summary of the financing per component, IDA financing, and percentage is presented in the table below:

**Table 1: Finances per Project Component**

Project Components	Total Cost (US\$ M)	IDA financing (US\$M)	Financing
Component 1: Resilient Housing Reconstruction and Community Infrastructure	167.3	117.1	70%
<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	28.7	20.1	
<i>Subcomponent 2.1: Upgrading of slums</i>	13.7	9.6	
<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 for Disaster Risk Management	8.0	5.6	
Component 4: Implementation Support	14.7	10.3	
<i>Subcomponent 4.1: Implementation support for OSDMA</i>	10.9	7.6	
<i>Subcomponent 4.2: Implementation support for H&amp;UD and BeMC</i>	3.8	2.7	

<b>Project Components</b>	<b>Total Cost (US\$ M)</b>	<b>IDA financing (US\$M)</b>	<b>Financing</b>
Component 5: Contingency Emergency Response	0	0	100%
Total	218.6	153.0	
<i>Total Project Costs</i>		218.6	
<i>Total Financing Required</i>		153.0	

Note: Total may not match due to rounding off.

### **C. Lessons Learned and Reflected in the Project Design**

32. The proposed project incorporates lessons learned from the completed Emergency Tsunami Reconstruction Project (ETRP), and the on-going NCRMP-I and Bihar Kosi Floods Reconstruction Project (BKFRP) financed by the Bank.

33. 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.

34. 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 rebuild 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.

35. 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

36. 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.

37. 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 proposed project.

## **IV. IMPLEMENTATION**

### **A. Institutional and Implementation Arrangements**

38. The Project will have two Project Management Units (PMUs). For Component 1 the PMU will be the OSDMA, and the Managing Director of the OSDMA will be the Project Director, and will be supported by a Project Implementation Unit (PIU) within the same institution. Additionally, three District Implementation Units (DIUs) headed by District Collectors will be set up in the target districts (one each in Ganjam, Puri and Khordha). For implementation of Owner Driven Construction of Houses (ODCH) an agency with appropriate social and technical expertise will be contracted to support implementation in the field. For Component 2 the PMU will be Odisha's H&UD, with a PIU in the BeMC. Further details can be found in Annex 3.

### **B. Results Monitoring and Evaluation**

39. 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. Further details on data collection, reporting, and responsibilities are included in Annex 1.

### **C. Sustainability**

40. The sustainability of the proposed Project is assured through: i) selection of investments based on a detailed assessment of real demand, ii) institutionalizing the capacity for the necessary maintenance within the GoO's government structure, independently of the Project and iii) promoting community participation at the stage of planning and implementation

41. The GoO has demonstrated commitment in improving the state's capacity to manage risks throughout the implementation of other Projects such as the NCRMP-I, their response to the recent cyclone, and their continuous investments to increase resiliency.

42. Additional specific mechanisms under the project to support sustainability are: i) a communications strategy and grievance redress mechanism, ii) multi-hazard insurance of houses built, iii) improved design standards for infrastructure, iv) the adaptation of investments for the minimum disruption of livelihood activities, and their enhancement when feasible for the vulnerable and marginalized groups in the project area.

## V. KEY RISKS AND MITIGATION MEASURES

### A. Risk Ratings Summary

**Table 2: Operational Risk Rating**

Risk Category	Rating
Stakeholder Risk	S
Implementing Agency Risk	
- Capacity	M
- Governance	L
Project Risk	
- Design	M
- Social and Environmental	S
- Program and Donor	L
- Delivery Monitoring and Sustainability	S
Overall Implementation Risk	S

Note: H= High; S= Substantial; M= Moderate and L=Low

### B. Overall Risk Rating Explanation

43. The overall risk is rated as substantial (as indicated in ORAF in Annex 4), primarily on account of large number of direct beneficiaries, many of those would also be involved in construction. Management of social and environmental process is also a challenge due to nature of project location and involvement of implementing agencies with varied capacities to deal with various stakeholders and local communities.

44. Mitigation measures will be incorporated to provide additional resources and training to the implementing agency staff including providing external resources specifically to manage and address: (i) social and environmental safeguard issues; (ii) ensure community participation in design and implementation; (iii) capacity augmentation of beneficiaries towards managing their constructions; (iv) procurement and financial management, etc.

## VI. APPRAISAL SUMMARY

### A. Economic Analysis

45. The project is expected to generate significant economic benefit measured by benefit cost ratio (BCR). For one dollar invested in risk management and resilience capacity building, the return is US\$8 at 5% discount rate, US\$2.4 in resilient housing and US\$2.0 in water and sanitation community infrastructure. The estimated BCR is comparable with that for other countries. The BCR of investment of resilient housing range from 4-11 in the UK, 5 in the US, and 1-3 in Australia.

46. Given the increased frequency and severity of natural disasters projected in this region, the economic return of this project will be even higher under the scenario of larger probability of natural disaster occurrence. The cost benefit analysis (CBA) shows a return of US\$32 for US\$1 investment in capacity building natural disaster management resilience in Odisha for a disaster

event with a return period of 10 years. The methodology used as well as detailed results are presented in Annex 7.

## **B. Technical**

47. The Resilient Housing Reconstruction and Community Infrastructure (Component 1) includes housing and public infrastructure for the affected communities in the target districts. Houses are designed based on relevant Indian standards and guidelines for multi-hazard resilience taking into account local average annual flood level. Community Infrastructure will be based on a Participatory planning exercise. Urban Infrastructure in Berhampur (Component 2) focuses on improved infrastructure in slums in the city of Berhampur, which include streets, water and sanitation, drainage, septic management, street lights, and others. Technical assistance will be provided to the implementing agency to prepare city-wide master plans

48. Support will be provided to further augment the GoO's disaster preparedness and response capabilities in Capacity Building in Disaster Risk Management (Component 3). This will include expanding GIS capabilities and establishing a Decision Support Center, and building expert technical capacity of the OSDMA in the areas of disaster risk management. Component 4 will provide support to project implementation and Component 5 will ensure that in case of an eventual disaster event the project is in a position to respond rapidly, efficiently and adequately.

## **C. Financial Management**

49. The guiding principles for the design of the financial management arrangements for this project are twofold: (i) build upon the successful implementation of the NCRMP I project with the same implementing agency (OSDMA) and (ii) use the country fiduciary systems, to the extent feasible and considered satisfactory for meeting the essential fiduciary requirements.

50. There are two implementing entities for the project namely i) OSDMA under the Revenue and Disaster Management Department of GoO and ii) BeMC under the H&UD of GoO. OSDMA (handling 82% of the project cost) is assessed to have adequate financial management system for reporting project funds and expenditure and providing fiduciary assurance over the use of project funds. BeMC (handling 15% of the project cost) will be implementing the externally funded project for the first time and therefore, constant support in terms of training, and handholding support will be required at the initial stage.

51. Considering that most of the funds under the project are managed by OSDMA which is successfully implementing World Bank financed NCRMP I, the overall financial management risk rating of the project is 'Moderate'. Within this broad framework, the parameters of the financial management arrangements are as described below.

52. Funds Flow Arrangements: For the housing component and the associated project implementation support cost, the funds for the project will flow from the State's treasury through the Revenue and Disaster Management Department to OSDMA's separate bank account. Funds from OSDMA will also be transferred to dedicated DIUs created under the project for execution. For the slum improvement component and the associated project implementation support cost,

the funds for the project will flow separately from the State's treasury through the H&UD to BeMC's separate Bank account.

53. Budgeting: There will be a separate budget code under GoO Revenue and Disaster Management Department for OSDMA to receive fund releases from the State treasury. Based on the estimated expenditure for financial year 2014-15 expenditure provision also needs to be created under this new budget code. H&UD will have a separate budget code and expenditure provision for BeMC.

54. Staffing: The existing staffing of OSDMA needs to be augmented and a new dedicated PIU structure will be created at OSDMA. The finance function under the PIU will require sanctioning and hiring of at least a Deputy General Manager (DGM) (1) assisted by an accounts officer (1) and a computer assistant (1). The DGM can be a senior gazette officer from Odisha State Finance services or a chartered accountant with at least 8 years of experience. At BeMC the post of a dedicated finance manager, who will be responsible for maintaining clear and complete accounts thereof, needs to be sanctioned and hired/deputed.

55. Accounting and Financial Reporting: Accounting for project expenditures will be maintained on cash basis of accounting and separate books of accounts will be maintained for the project. Presently, OSDMA is using 'TALLY' accounting software which being financial accounting software is considered adequate for recording financial transactions and for generating reports for financial disclosure requirements. OSDMA & BeMC will submit separate quarterly IFR (format to be discussed) providing the financial progress against the project components, within 45 days from the end of each calendar quarter. IFRs will be prepared on the basis of actual expenditure information received from the field divisions and actual expenditure incurred at the PIU and reconciled with the bank accounts. The form and content of the IFRs are under preparation and will be agreed with GoO during negotiations.

56. Internal audit and internal control: Since funds will be transferred to separate Bank accounts; reconciliation of the bank book with the bank statement will be an essential control mechanism in the project. For payments made under the housing component, the internal controls as laid out in the housing policy for the project needs to be adhered and the compliance of the same will be monitored through internal audit. The internal audit of the Bank project will be done quarterly by a firm of Chartered Accountant to be agreed with the Bank and under TOR to be agreed with the Bank that could later be changed to semi-annual basis, in agreement with the Bank.

57. External Audit: The external audit report of NCRMP I implemented by OSDMA, for financial year 2012-13 was submitted on December 30, 2013 and is currently under review. The annual external audit of the project financial statements for the credit (OSDMA & BeMC) will be carried out by a firm of Chartered Accountant appointed based on selection criteria acceptable to the Bank and their TOR will also be agreed with the Bank. The above audit report will be due within 6 months of close of the financial year.

58. Disbursement Arrangements: GoO will pre-finance all the project expenditure through its own funds (through the budget line). The expenditures will be subsequently reimbursed from the

credit based on the actual expenditure reported in the quarterly IFRs, subject to audit certification at the end of each financial year. Expenditure categories eligible for financing under the credit agreement and as per the disbursement percentage will be financed out of the proceeds of the credit. Since actual expenditure will be reimbursed to the project and no advances will be provided there will be no Designated Account. The project will submit withdrawal application (IFR) to CAA&A in DEA for onward submission to the World Bank for reimbursement.

#### **D. Procurement**

59. Procurement for the Project shall be carried out in accordance with the World Bank's "Guidelines: Procurement of Goods, Works and Non-Consulting Services under IBRD Loans and IDA Credits & Grants by the World Bank Borrower" dated January 2011 (Procurement Guidelines); and "Guidelines: Selection and Employment of Consultants under IBRD Loans and IDA Credits & Grants by the World Bank Borrowers" dated January 2011 (Consultants Guidelines) and the provision stipulated in the Financing Agreement.

60. The Project has been triggered by emergency situation (OP 10.00) and therefore, paragraph 20 of OP 11.00 procurement under emergency situation using simplified procurement procedures shall apply. Further details are provided in Annex 3.

#### **E. Social (including Safeguards)**

61. The key social issues identified during the RDNA include: (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, and (v) minimizing and mitigating any adverse social impacts arising out of the project activities.

62. *Safeguards Policies:* The Bank Operational Policy on Involuntary Resettlement (OP 4.12) has been triggered in view of the fact that the two infrastructure components in some cases may have involuntary resettlement impacts. These include: (a) provision of housing and common infrastructure in affected villages within 0-5 km of the coastline in Ganjam, Puri, and Khordha districts, and (b) slum improvement activities in Berhampur with the provision of common infrastructure and services. The housing component will be implemented in accordance with the Housing Policy Guidelines issued by the GoO. In cases where relocation is required the Government will identify appropriate government lands, or will purchase private lands 'free of encumbrances' from willing sellers for housing along with common infrastructure such as access roads, water supply, sanitation, etc. 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. In case of slum improvement, common infrastructure and services such as access and street roads, street lights, drainage, water supply and sanitation will be provided within available carriageway or through land purchase or voluntary land donation agreements with the beneficiaries where

feasible without resorting to land acquisition. Any residual adverse impacts arising out of the housing or slum improvement subcomponent will be assessed and mitigated by preparing and implementing resettlement action plans (RAP) in line with the ESMF complying with the OP 4.12.

63. *Social Management Framework*: An Environment and Social Management Framework (ESMF) has been prepared in compliance with Bank safeguards policy OP 4.12. The ESMF provides a) entitlement matrix for mitigating any adverse impacts caused; and b) a Gender Equity and Social Inclusion (GESI) framework to address the special needs of the women, vulnerable families and marginalized communities. The ESMF provides guidelines for free, prior, and informed consultation with the communities, ensuring community capacity building and participation, grievance redress, information disclosure and monitoring and evaluation. The ESMF also provides clear guidelines for carrying out and documenting voluntary land donation transparently with prior disclosure of norms and community resolutions. Social screening will be carried out as per ESMF guidelines at village levels for housing and at cluster levels for slum improvement works. Based on screening, short or full RAPs will be prepared and implemented prior to start of the civil works.

64. *Gender and Social Inclusion*: The ESMF provides a framework on Gender Equity and Social Inclusion. These 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 involving CBOs, NGOs, as required, (iii) promoting owner driven and group based housing schemes with technical and social assistance, (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 through group based initiatives.

65. *Consultation, Disclosure, and Grievance Redress*: OSDMA has conducted a state-level stakeholder consultation at Bhubaneswar on December 2, 2013 to discuss the Project objectives and key concerns of the stakeholders. OSDMA has finalized the beneficiary list and obtained written community consent for the housing construction program. Community consultation process will also be carried out in the slum clusters of Berhampur to discuss and roll out the upgrading activities. The ESMF has been prepared with free, prior and informed consultations. More such community/stakeholder consultations will be carried out during design and implementation stage. The ESMF has been disclosed and relevant project documents will be disclosed on OSDMA website and at the field office/ community level in compliance with the Right to Information Act, 2005. The borrower will establish a two-stage grievance redress mechanism (GRM) with clear guidelines for grievance uptake, registration, acknowledgement, follow up and resolution and feedback. The details of the GRM are discussed in Annex 3.

## **F. Environment (including Safeguards)**

66. 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. 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.

67. 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 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. 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.

68. In view of the potential impacts on the environment, Bank's OP 4.01 on Environmental Assessment, OP 4.04 on Natural Habitats and OP 4.11 on Physical Cultural Resources have been triggered, and the project is designated as Category B. On the whole, with proper planning and implementation of management measures, the project interventions are not likely to cause large scale, significant or irreversible damage to natural and/or physical environment.

69. *Environment Management Approach.* 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 ESMF has been prepared.

70. 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. For management of issues related to the housing reconstruction, the following key activities would be carried out: (i) identification of reconstruction site/s 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; (ii) environmental screening based on which prioritization and phasing of the civil work program would be worked out and; (iii) public consultation, continued through the various stages of the project – from planning to post implementation.

71. Likewise for addressing environmental issues related to the urban infrastructure restoration/ improvement in Berhampur, the management approach will include: (a) environment and social screening exercise, based on which selection of sub-projects and their phasing will be decided; (b) preparation of settlement profile, including baseline information on environment/social aspects; (c) 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); (d) consultation with concerned community and other stakeholders; (e) seeking regulatory permissions/clearances, if required for specific sub-projects and; (f) preparation of Bidding Document/s and integration of environment, health and safety requirements as part of it. More details are in Annex 3.

72. *Disclosure:* The ESMF and all other relevant project documents (including screening reports) will be disclosed on OSDMA’s website (<http://www.osdma.org>) and at the field office, including the website of BeMc (<http://berhampur.gov.in>) in line with the requirements of the GoI/GoO (Right to Information Act, 2005) and Bank’s Operational Policies. The ESMF was disclosed in the Bank’s Infoshop on January 22, 2014 and in the Project Authority’s website on January 07, 2014. The executive summary of the document will be translated in vernacular (Oriya) and will also be made public at the local level.

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

### **Safeguard risks:**

73. Some safeguards risks posed by the project are as follows: (i) obtaining land in a few cases where suitable government land may not be available; (ii) challenges of mobilizing adequate community mobilization professionals to ensure participatory planning and implementation of the housing and slum improvement activities; (iii) addressing capacity building issues at the level of central and field level implementing mechanisms; and (iv) having to apply the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act (LARRA) 2013, which has come into force on January 1, 2014 for taking private land for project activities. To address these, the Project will focus exclusively on land donation and purchase to avoid any private land acquisition. The ESMF adopts an adaptive legal framework and provides for a participative approach, offers guidelines to ensure gender equality and social inclusion, and sets out robust implementation arrangements to deal with the above risks.

## **Annex 1: Results Framework and Monitoring INDIA: Odisha Disaster Recovery Project**

### **Strategies for Results Planning and Monitoring**

1. 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:

**I) 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.

**II) 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.

**III) 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, Khordha 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 social and technical support agency will provide quality supervision and support in certification.

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

2. *Major Outcomes Expected from Project.* The major outcomes expected from this Project include: (a) Targeted affected households with multi-hazard resilient housing; (b) increased community resilience and preparedness in coastal areas, and (c) increased institutional capacity for risk mitigation and response at the state level. Targeted Corresponding quantifiable indicators for the measurement of these outcomes are included in the Results Framework as described below:

**Table 3: Results Framework**

Project Development Objective (PDO): To restore and improve housing and public services in targeted communities of Odisha, and increase the capacity of the State entities to respond promptly and effectively to an eligible crisis or emergency												
PDO Level Results Indicators	Core	Unit of Measure	Base-line	Cumulative Target Values					Frequency	Data Source/ Methodology	Responsibility for Data Collection	Notes
				YR 1	YR 2	YR3	YR 4	YR5				
Percentage of households with fully / severely damaged houses in project areas provided with resilient housing reconstructed under the project		Percentage	0	3%	15%	40%	60%	75%	Quarterly	ME Reports	PIU-OSDMA	Fully / severely damaged houses in 3 districts taken from RDNA (20,111). Data will be reported when household takes possession of the house.
Number of people with access to improved public services in Berhampur		Number	0	0	5,000	10,000	15,000	30,000	Quarterly	Field Reports/ Progress Reports	PIU-BeMC	'Improved public services' includes improved water and sanitation, and all-season roads

State departments making use of OSDMA generated information		Number	0	0	0	2	5	5	At project completion	Progress Reports and external evaluation	PMU-OSDMA	Irrigation Rural Development Housing and Urban Dev. Works Forest and Environment
<b>INTERMEDIATE RESULTS</b>												
<b>Component 1 Level Result – Resilient Housing Reconstruction and Community Infrastructure</b>												
Intermediate Result Indicators	Core	Unit of Measure	Base-line	Cumulative Target Values					Frequency	Data Source/ Methodology	Responsibility for Data Collection	Notes
Number of resilient houses reconstructed		Number	0	1,200	6,000	16,000	24,000	30,000	Quarterly	Progress reports	PIU-OSDMA	
Number of Village Development Plans completed		Number	0	0	50	100	150	200	Quarterly	Progress reports	PIU-OSDMA	Completion will be counted as plans approved by the Gram Sabha
<b>Component 2 Level Result – Urban Infrastructure in Berhampur</b>												
Intermediate Result Indicator	Core	Unit of Measure	Base-line	Cumulative Target Values					Frequency	Data Source/ Methodology	Responsibility for Data Collection	Notes
People in urban areas provided with access to "improved sanitation facilities" under the project	X	Number	0	0	5,000	10,000	15,000	25,000	Quarterly	Construction works/Progress Reports	PIUs /BeMC	The number of beneficiaries is indicative. Final target numbers will be updated once

												settlements are selected
People in urban areas provided with access to "improved water sources" under the project	X	Number	0	0	5,000	10,000	15,000	25,000	Quarterly	Construction works/Progress Reports	PIUs /BeMC	The number of beneficiaries is indicative. Final target numbers will be updated once settlements are selected
People in urban areas provided with access to all-season roads within a 500 meter range under the project	X	Number	0	0	5,000	10,000	15,000	25,000	Quarterly	Construction works/Progress Reports	PIUs /BeMC	The number of beneficiaries is indicative. Final target numbers will be updated once settlements are selected
City-wide drainage and sewerage master plans completed		Number	0	0	0	0	0	2	At project completion	Final reports	PIUs /BeMC	Completion determined by final deliverables accepted by BeMC
Component 3 Level Result – Capacity Building for Disaster Risk Management												
Intermediate Result Indicator	Core	Unit of Measure	Base-line	Cumulative Target Values					Frequency	Data Source/ Methodology	Responsibility for Data Collection	Notes
Expert staff employed at OSDMA		Number	0	0	3	3	3	3	Quarterly	Progress Reports	PMU-OSDMA	Completion determined by formal appointment of staff

Integrated complex comprising of OSDMA, GIS cell, Emergency Operation Center and a training established		Number	0	0	0	0	0	1	At project completion	Progress report	PMU-OSDMA	Establishment determined by infrastructure in place, and staff making full use of it
Decision Support System established in OSDMA		Number	0	0	0	0	1	1	At project completion	Progress Reports	PMU-OSDMA	Establishment determined by DSS effectively producing reports, including GIS data
Component 5 Level Result – Contingent Emergency Response												
Intermediate Result Indicator	Core	Unit of Measure	Baseline	Cumulative Target Values				Frequency	Data Source/ Methodology	Responsibility for Data Collection	Notes	
Funds immediately available to respond to a major disaster		INR	N/A	N/A				Annual	Progress Reports	PMU	The indicator will be activated if the component is triggered	

## Annex 2: Detailed Project Description

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

*Sub-component 1.1: Housing reconstruction – US\$167.3 million (US\$117.1 million Bank financing)*

1. A significant percentage of the population in the affected districts of Ganjam, Puri and Khordha lived in mud thatched and other forms of *kutchha*<sup>3</sup> houses, all of which were more severely hit by the cyclone and subsequent floods. As per the RDNA carried out 2,301 pucca<sup>4</sup> houses and 17,823 kutchha houses were fully or severely damaged and 139,674 houses were partially damaged in these three districts.

**Table 4: Details of house damage in three districts of Ganjam, Khordha and Puri<sup>5</sup>**

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

2. 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. The reconstruction will also include construction of houses to be relocated from vulnerable/untenable areas.

#### *Housing Reconstruction Strategy*

3. 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 Guidelines, always in consultation and agreement with beneficiaries. The modalities will be: (i) Owner Driven Construction of Houses (ODCH) and (ii) Contractor Built.

<sup>3</sup> Semi-permanent houses of wattle and daub construction with thatched roofs or asbestos sheets.

<sup>4</sup> Houses made with Reinforced Cement Concrete (RCC) structure with RCC roofs or with brick/laterite masonry with RCC roofs.

<sup>5</sup> As per RDNA.

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\$1,000 (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 of 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. Any incomplete houses will however not be financed by the Project.

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.

4. *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.

5. *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, or '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.

6. 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 relocation. 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.

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

8. *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 who will be undertaking in-situ construction 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. A one-time 'Relocation Payment' of INR12,000 (US\$200) will be provided for relocation to households that will move to relocation sites in houses built by contractors.

9. *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.

10. *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.

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

12. *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.

13. 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 - US\$3 million (US\$2.1 million Bank financing)*

14. 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.

15. 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, and/or multilateral aid agencies. As part of the World Bank assisted project 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.

16. 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.

17. 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. Annex 3 includes further details about implementation arrangements.

**Component 2: Urban Infrastructure in Berhampur – US\$28.7 million (US\$20.1 million Bank financing)**

18. 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. Improved public infrastructure will reduce vulnerability through improved drainage to reduce floods, and increasing the resilience of public service infrastructure. The Berhampur Municipal Corporation (BeMC), under the aegis of Department of Housing & Urban Development (H&UD), will be responsible for implementation.

19. 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\$13.7 million (US\$9.6 million Bank financing)*

20. 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)*

21. 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.

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

22. 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)*

23. To support the BeMC 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\$8 million (US\$5.6 million Bank financing)**

24. Odisha is recognized within India and globally 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 support OSDMA in strengthening their overall capacity towards better risk mitigation, preparedness, and disaster response, in line with global best practices. The component will also work towards enhancing OSDMA's role in coordinating DRM related activities with other line departments and integrate DRM into overall development of the state. This component will finance the following activities:

*i) Establishing an integrated complex comprising of OSDMA, GIS cell, Emergency Operation Center and a training*

25. This subcomponent will support establishing an integrated complex that would house OSDMA, a GIS cell with a decision support center, a training centre and emergency operation. 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. In addition the complex will also house the office of OSDMA that is in urgent need of expansion together with integrating the emergency operation centre which as of now is separate from OSDMA. Given the inherent capacities in OSDMA that would be further augmented a national level training center on DRM will also be established.

*ii) Capacity augmentation of the OSDMA*

26. 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, and others to provide timely support to various project activities including providing tools for training and awareness creation.

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

27. This sub-component will support recovery and risk reduction needs of the socially vulnerable and marginalized groups 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\$14.7 million (US\$10.3 million Bank financing)**

28. 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 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\$10.9 million (US\$7.6 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**

29. 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.

30. 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.

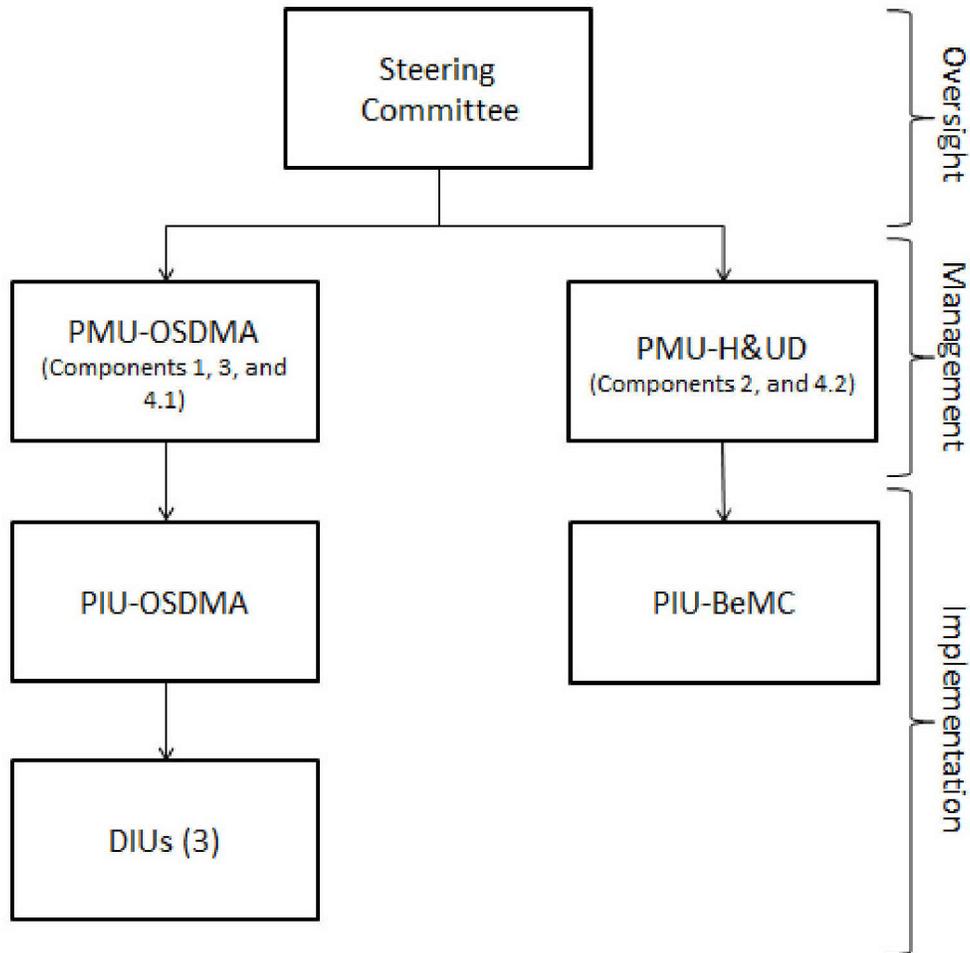
### Annex 3: Implementation Arrangements

#### I. Project Institutional and Implementation Arrangements

1. The apex decision making body for the Project will be the Steering Committee (SC). The SC will be comprised by the members of the NCRMP - I Steering Committee including Collectors of the participating districts and heads of the implementing agencies.

2. 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 three District Management Units (DIUs) on the field (one each in Ganjam, 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.

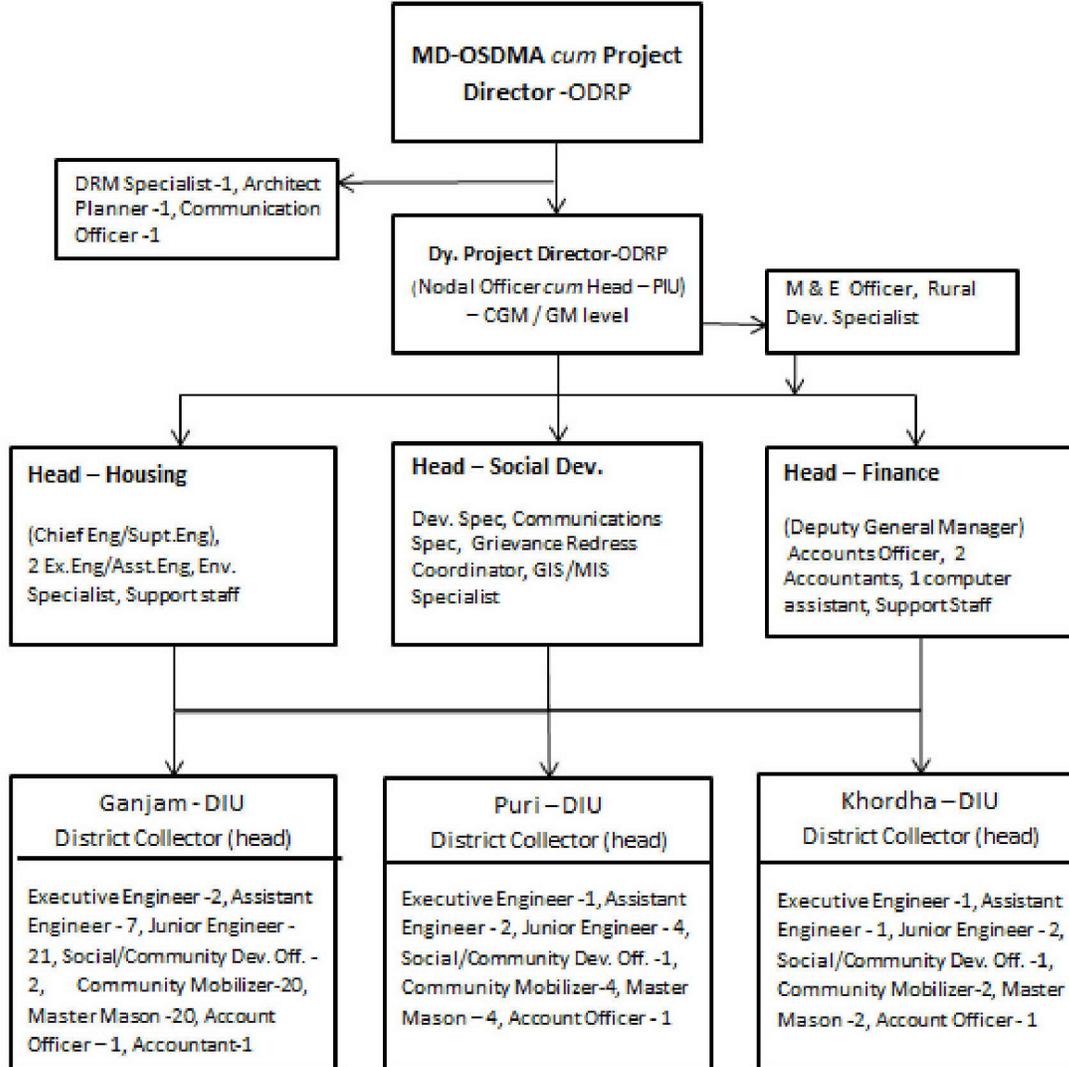
Figure 1: State Level Implementation Arrangements



## II. Project Administration Mechanisms

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

**Figure 2: Implementation Arrangements for PMU-OSDMA**

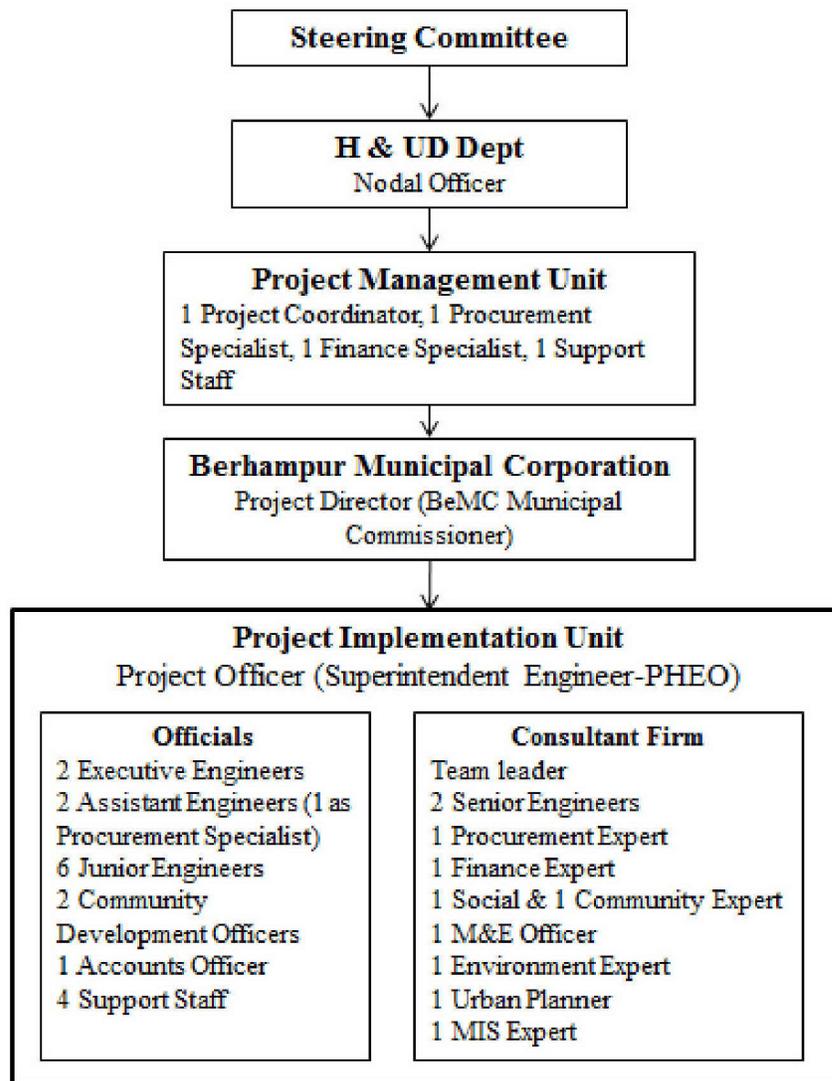


4. Overall implementation of the component will be managed by a dedicated Dy. Project Director, under the aegis of OSDMA's Managing Director (MD) *cum* Project Director. Reporting to the MD there will be three Deputies which will be in charge of implementation for Subcomponents 1.1 and 1.2, and Financial Management respectively. Component 3 will be under the direct management of the Dy. Project Director. At the field level there will be three District Implementing Units (DIUs), one each for Ganjam, Puri and Khordha districts, comprised of engineering, social, and support staff. The District Collectors will head the DIUs and facilitate identification of beneficiaries, monitor the implementation, and coordinate with other government programs including facilitating the identification and purchase/acquisition of land, obtaining statutory clearances, etc.

5. Additional Implementation and Monitoring Support: For implementation of Owner Driven Construction of Houses (ODCH), 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.

6. The structure of the PIU for implementation of Component 2 is as below:

**Figure 3: Implementation Arrangements for PMU-H&UD and PIU-BeMC**



7. Component 2 will be under the Housing & Urban Department (H&UD) which will be the nodal agency. A Nodal Officer from H&UD will assume the principal responsibility for providing policy-level direction, coordination, and monitoring of the project. A Project Management Unit (PMU) will be established under the project to support H&UD headed by the

Nodal Officer, H&UD. It will monitor and coordinate activities for the component. The PMU will also be responsible for all reporting requirements, including those to the Bank.

8. The Berhampur Municipal Corporation (BeMC) will be the implementing agency for the 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:

- PIU Officials: H&UD will provide a dedicated team of government officials towards the project. It shall comprise of a Project Officer who will be a Superintendent Engineer deputed from Public Health Engineering Organization, in addition the PIU will have 2 Executive Engineers, 2 Assistant Engineers and 6 Junior Engineers, 2 Community Development Officers, 1 Accounts Officer and necessary support staff. The PIU will be responsible for day to day implementation and coordination of the project activities, including for quality control.
- 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 a 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.

9. 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.

### **III. Financial Management, Disbursements and Procurement**

10. Implementing Entity: The main implementing agencies for the project are: Orissa State Disaster Management Authority (OSDMA) under the Revenue and Disaster Management Department of GoO and BeMC under the Housing and Urban Development Department (H&UD) of GoO. Each implementing agency will have a PIU at the head office (nodal office) which will manage the FM requirements and coordinate with all divisions working under it for ensuring proper accounting and reporting for the Project. The summary of the overall FM arrangements is provided below.

11. Funds Flow Arrangements: For the housing component and the associated project implementation support cost, the funds for the project will flow from the State's treasury through the Revenue and Disaster Management Department to OSDMA's separate bank account. Funds from OSDMA will also be transferred to dedicated district implementation units (DIU) created under the project for execution. For the slum improvement component and the associated project

implementation support cost, the funds for the project will flow separately from the State's treasury through H&UD to BeMC's separate bank account.

12. Budgeting: There will be a separate budget code under GoO Revenue and Disaster Management Department for OSDMA to receive fund releases from the State treasury. Based on the estimated expenditure for financial year 2014-15 expenditure provision also needs to be created under this new budget code. H&UD will have a separate budget code and expenditure provision for BeMC.

13. Banking arrangements: OSDMA will open a project bank account (master account) and avail money through R&DM department from the treasury as per the work plan requirements. There will be three dedicated district implementation units (DIUs) created under OSDMA for execution of this project. These DIUs will open a link bank account (child account) to the master account so that only limits can be prescribed and used for payments instead of transferring the amounts. BeMC will also open a separate bank account to receive funds from H&UD as per the work plan requirements. *These arrangements will be completed within three months of effectiveness.*

14. Staffing: The existing staffing of OSDMA needs to be augmented and a new dedicated PIU structure will be created at OSDMA. The finance function under the PIU will require sanctioning and hiring of at least a Deputy General Manager (DGM) (1) assisted by an accounts officer (1) and a computer assistant (1). The DGM can be a senior gazette officer from Odisha State Finance services or a chartered accountant with at least 8 years of experience. At each of the four district offices created under this project, an accounts officer will also be required who will be responsible for maintenance of all books of accounts and vouchers thereof. The District accounts officer can be a divisional accounts officer on deputation or retired personnel from AG services or a commerce graduate with accounting and internal control experience of 5 years. At BeMC the post of a dedicated finance manager, who will be responsible for maintaining clear and complete accounts thereof, needs to be sanctioned and hired/deputed. *These staff will be hired within three months of effectiveness.*

15. Accounting: Accounting for project expenditures will be maintained on cash basis of accounting. However, any advances paid will be classified as advances and will be charged to expenditure only upon receipt of actual expenditure details. Presently, OSDMA is using 'TALLY' accounting software which being financial accounting software is considered adequate for recording financial transactions and for generating reports for financial disclosure requirements. A separate company in TALLY and the related chart of accounts needs to be opened to enable the financial activities of this credit to be tracked and reported separately. In case of field offices if they are amenable to TALLY accounting, TALLY would be implemented. Otherwise, these offices would maintain a separate cash book to record project expenditure which would be reported to finance section at OSDMA-PIU for consolidation. Similarly, BeMC also needs to maintain separate books of accounts for this project.

16. Payments for Housing Component: The Housing component will adopt two approaches of construction of houses i.e. a) Owner Driven Construction of Houses (ODCH) and b) Contractor Built. In case of contracts, payments would be made as per the contractual terms. In

case of ODCH, a fixed cost of US\$ 4,670 (INR 280,000) 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 the DIU before the release of the following tranches. As tranche releases to beneficiaries are based on milestones, such actual transfers to the beneficiaries will be considered as project expenditure.

17. A rental allowance of INR1,500 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 payment of INR12,000 will be provided for relocation to HH that will move to new sites. The rental allowance would be treated as project expenditure on actual transfer of the amount to the beneficiaries by the government.

18. It will be essential to a) identify the beneficiaries early and open bank accounts for them; b) have a campaign to create awareness about entitlements and; c) have robust monitoring by OSDMA PIU. The control framework for the housing component will also include: (i) a public disclosure policy at local level and also on the Project website; and (ii) supported by appropriate grievance redress mechanism (at the block, sub-division and district levels).

19. Financial Reporting: OSDMA & BeMC will submit separate IFR providing the financial progress against the project components, within 45 days from the end of each calendar quarter and, with agreement from the Bank, can later be moved to semi-annual basis. IFRs will be prepared on the basis of actual expenditure information received from the field divisions and actual expenditure incurred at the PIU and reconciled with the bank accounts. IFRs would provide contract wise payments and project progress in physical and financial terms. The form and content of the IFRs were agreed with GoO.

20. Internal Controls and Internal Audit: Since funds will be transferred to separate Bank accounts; reconciliation of bank book with the bank statement will be an essential control mechanism in the project. For payments made under the housing component, the internal controls as laid out in the housing policy for the project needs to be adhered and the compliance of the same will be monitored through internal audit.

21. The Bank project will be audited quarterly by a firm of Chartered Accountant appointed based on selection criteria agreed with the Bank. The auditors will be responsible for completing the audit at the PIU (OSDMA & BeMC) and at the divisions under Terms of Reference (TOR) agreed with the Bank. The audit reports along with the compliance would be shared with the Bank. PIU would review all the audit reports and present the report for discussion in the steering committee meeting and follow up on the action taken. *The auditor would be appointed within six months of project effectiveness.*

22. External Audit: The annual external audit of the project financial statements for the credit (OSDMA & BeMC) will be carried out by a firm of Chartered Accountant appointed based on selection criteria acceptable to the Bank and their TOR will also be agreed with the Bank. There will be a single auditor, hired by OSDMA, who will cover the audit of project financial statement for OSDMA & BeMC and provide two separate audit reports for OSDMA & BeMC. The audit reports will be submitted to the Bank within six months of the close of the financial year i.e. by September 30. The following audit reports will be monitored in ARCS.

**Table 5: Audit arrangements**

<b>Implementing Agency</b>	<b>Audit</b>	<b>Auditors</b>
OSDMA (PIU), Govt. of Odisha	Project Financial Statement	Private auditors
BeMC(PIU), Govt. of Odisha	Project Financial Statement	Private auditors

23. Supervision plan: The Bank will follow a risk based approach in supervising the FM activities of the credit. In the first year supervision would be done on a quarterly basis to support the setting up of the accounting and reporting systems. Once the system is established, then more desk reviews with half-yearly missions should be sufficient. In the first year, three to four weeks of FM involvement is expected. The number of site visits will be aligned with the overall supervision plan of the project.

24. Disbursement Arrangements: GoO will pre-finance all the project expenditure through its own funds (through the budget line). The expenditures will be subsequently reimbursed from the credit based on the actual expenditure reported in the quarterly IFRs, subject to audit certification at the end of each financial year. Expenditure categories eligible for financing under the credit agreement and as per the disbursement percentage will be financed out of the proceeds of the credit. Since actual expenditure will be reimbursed to the project and no advances will be provided there will be no Designated Account. The project will submit withdrawal application (IFR) to CAA&A in DEA for onward submission to the World Bank for reimbursement. There would be two disbursement categories for the Project:

**Table 6: Disbursement Categories**

<b>Category</b>	<b>Amount of the Financing Allocated (expressed in SDR)</b>	<b>Percentage of Expenditures to be Financed (inclusive of Taxes)</b>
(1) Goods, works, non-consulting services, consultants' services, Insurance Premium, Training and Workshops, and Incremental Operating Costs for Component 1 to 5 of the Project	99,400,000	70%
(2) Emergency Expenditures for the CER Component	0	100%
<b>TOTAL AMOUNT</b>	99,400,000	

25. Retroactive Financing: Retroactive financing up to a limit not exceeding 40% of the credit amount will be available to the project to cover eligible project expenditures as agreed

with the Bank, provided the payment is made not exceeding one year before the loan signing date. The Project would provide the list of such expenses for scrutiny of the Bank before these payments are agreed and paid. Further, the activities financed are included in the Project description and the payments are for items procured in accordance with applicable Bank procurement procedures. Retroactive financing of all expenditure, would be based on a separate, stand-alone IFR. The IFR will be audited by the auditor as per the agreed TORs and the audit report will certify the actual expenditure incurred and the eligible expenditure reimbursed under the project.

26. Public Disclosure: In line with the Bank's Access to Information policy the annual audit report and project financial statements issued by the auditors will be disclosed in the project's website.

#### **IV. Procurement**

27. Procurement of goods, works and services under the proposed project will be carried out in accordance with the World Bank's "Guidelines: Procurement of Goods, Works and Non-Consulting Services under IBRD Loans and IDA Credits & Grants by the World Bank Borrower" dated January 2011 (Procurement Guidelines); and "Guidelines: Selection and Employment of Consultants under IBRD Loans and IDA Credits & Grants by the World Bank Borrowers" dated January 2011 (Consultants Guidelines) and the provision stipulated in the Financing Agreement.

28. The proposed project has been triggered by emergency situation (OP 10.00) and therefore, paragraph 20 of OP 11.00 procurement under emergency situation using simplified procurement procedure shall apply. The general description of various procurement methods under different expenditure categories is described below.

##### *Selection of Consultants*

29. Most of the consultancy services are required to be hired immediately for rehabilitation and reconstruction. Single-Source Selection of consulting firms and individuals may be used only if it presents a clear advantage over competition for the required consulting services in accordance to paragraph 3.8.

30. Selection of Consulting Firms through Consultants' Qualification (CQS) may be appropriate for assignments estimated to cost US\$300,000 equivalent in accordance with paragraph 3.7 of the Consulting Guidelines. Advertisement for expression of interest may be forgone or limited to State level for assignments estimated to cost less than US\$200,000. For assignments that are estimated to cost less than US\$100,000, advertisement is not mandatory as long as a shortlist of at least three qualified firms is established. In certain cases other methods of consultant's selection methods may be adopted depending on the nature of the activities. For Quality and Cost Based Selection (QCBS) method, shortlist of consultants for services estimated to cost less and US\$800,000 equivalent per contract may be composed entirely of national consultants (paragraph 3.7).

## *Procurement of Works and Goods*

31. Direct Contracting: Direct contracting for the procurement of civil works and goods (paragraph 3.7 of the procurement Guidelines) may be used to extend an existing contract or award a new contract. For such contracting to be justified, the Bank should be satisfied that the price is reasonable and that no advantage could be obtained by further competition. The direct contracting may be from the private sector, UN agencies/programs (for goods), or contractors or NGO that are already mobilized and working in the emergency areas.

32. Shopping: Shopping in accordance with paragraph 3.5 of the Procurement Guidelines may be appropriate method for procuring readily available off-the-shelf goods of value less than US\$500,000, or simple civil works of value less than US\$1,000,000. The procurement plan should determine the cost estimate of each contract, and the aggregate total amount. The borrower should solicit at least three price quotations for the purchase of goods, materials, small works, or services (non-consulting), to formulate a cost comparison report.

33. National Competitive Bidding (NCB): Any contract exceeding shopping threshold will be subject to NCB. The model bidding documents for NCB as agreed with the GoI Task Force (and as amended from time to time), shall be used for bidding. The following NCB provisions shall apply:

- i. Only the model bidding documents for NCB as agreed with the GoI Task Force (and as amended from time to time), shall be used for bidding.
- ii. Invitation to bid shall be advertised in at least one widely circulated national daily newspaper (or on a widely used website or electronic portal with free national and international access along with an abridged version of the said advertisement published in a widely circulated national daily inter-alia giving the website/electronic portal details from which the details of the invitation to bid can be downloaded), at least 21 days prior to the deadline for the submission of bids. For smaller packages (lesser than US\$1 million for Works and US\$500,000 for Goods), advertisement in state newspapers will be accepted with at least 15 days given for submission of bids;
- iii. No special preference will be accorded to any bidder either for price or for other terms and conditions when competing with foreign bidders, state-owned enterprises, small-scale enterprises or enterprise from any given State;
- iv. Except with the prior concurrence of the Bank, there shall be no negotiation of price with the bidders, even with the lowest evaluated bidder;
- v. For prior review contracts, extension of bid validity shall not be allowed with reference to Contracts subject to Bank prior review without the prior concurrence of the Bank (i) for the first request for extension if it is longer than four weeks; and (ii) for all subsequent requests for extension irrespective of the period (such concurrence will be considered by Bank only in cases of Force Majeure and circumstance beyond the control of the Purchaser/Employer);
- vi. For prior review contracts, re-bidding shall not be carried out with reference to Contracts subject to Bank prior review without the prior concurrence of the Bank;
- vii. The system of rejecting bids outside a pre-determined margin or “bracket” of prices shall not be used in the project;

- viii. Rates contract entered into by Directorate General of Supplies and Disposal (DGS & D) will not be acceptable as a substitute for NCB procedures unless agreed with the Bank on case to case basis. Such contracts will be acceptable however for any procurement under the Shopping procedure;
  - ix. Two or three envelop system will not be used (except when using e-procurement system assessed and agreed by the Bank).
34. International Competitive Bidding (ICB): No ICB contracts for the proposed project.
35. Force Account: When contractors/suppliers are unlikely to bid at reasonable prices because of the location and risk associated with the project or a certain government agency has a sole right in certain type of works/supply, borrowers may use their own government departments' personnel and equipment or government owned construction unit may be the only practical method, provided that the borrower has sufficient managerial capacity and possesses the required technical and financial controls to report to the Bank on expenditure as per paragraph 3.9 of the Procurement Guidelines.
36. Framework Agreements: DGS&D rate contracts will be acceptable as framework agreement for procurement of Goods. State level rate contracts will be examined by the Bank and if agreed, may also be used as framework agreements. Implementing agencies also have option to set-up new framework agreements as per paragraph 3.6 of Guidelines.
37. Use of government Institutions and Enterprise: Government owned enterprise or institutions in India may be hired for its unique and exceptional nature if their participation is considered critical to the project implementation. In such cases, the conditions given in clauses 1.13 of Consultant Guidelines shall be satisfied and each case will be subject to prior review by the Bank.
38. Operational Cost: Any operational expenses which would be financed by the project would be procured using the implementing agency's administrative procedures which are reviewed and found acceptable to the Bank.
39. Other Conditions: Bank will also consider further simplification of procedures if so requested by the implementing agencies and are within overall framework of Bank Guidelines

#### *Implementation Arrangements and Capacity Assessment of the Implementing Agencies*

40. The procurement under the Odisha Disaster Recovery Project will involve reconstruction of resilient housing and improvement of public service infrastructure that includes roads, water supply, solid waste management, power grid extension and community infrastructure such as health centers, playground etc. The procurement for reconstruction of resilient housing shall broadly involve 2 approaches: (i) Owner Driven Construction of Houses (ODCH) and (ii) Contractor Built.
41. Two implementing agencies were identified for implementation of ODRP and they will establish 2 separate PMUs. Under the PMU of Odisha State Disaster Management Authority

(OSDMA), a separate PIU will be established supported by three District Implementation Unit (DIUs) in target districts (one each in Ganjam, Puri and Khordha). The second PMU will be Department of Housing and Urban Development (H&UD) and Berhampur Municipal Corporation (BeMC) will be the PIU.

42. Procurement of reconstruction of resilient houses will be carried out by DIUs under the aegis of OSDMA for the contractor driven approach. For implementation of ODCH, an agency with appropriate social and technical expertise will be contracted to support implementation at the ground level. District Administrators will play a crucial role for identification of beneficiaries and supervision of reconstruction activities.

43. BeMC under H&UD will implement the second component of this project which will involve construction of community infrastructures and shall broadly include street lighting, access to improved water connections and sanitation, septic management, drainage, and others.

44. As a part of project preparation process, Capacity assessment of OSDMA and BeMC was carried out using Procurement Risk Assessment System (PRAMS). The assessment reviewed the current staffing and resources of OSDMA and BeMC for implementing the project and measures needed to bridge the gap. Process of assessment involved interaction between the projects staff responsible for procurement and relevant officials. The assessment also referred to current ISR and PPR report of NCRM project. The latest ISR report of NCRMP-I is rated as moderately satisfactory (MS).

45. It is assessed that PIU established for NCRMP I is fairly carrying out Bank funded procurement activities up to the satisfaction of Bank requirements. Although, the proposed project will be implemented by the line departments in the districts, the office of the OSDMA with the leadership of its Managing Director, NDMA will still provide guidance and support to the DIUs. Therefore, risk for the OSDMA has been rated as moderate.

46. BeMC will be implementing the externally funded project for the first time. In addition, it is noted that they have not handled high value procurement in the near past. All procurement activities implemented by BeMC are either State or Centrally funded project following their own procurement system. Therefore, switching over state government procedures to World Bank procurement procedures would be a challenge. Therefore, constant support in terms of training, and handholding support will be required at the initial stage. Further, both OSDMA and BeMC will be using simplified procurement procedures as per OP 11.00 for this project. Therefore, there is an increased risk of fraud and corruption, in particular with regards to the abuse of simplified procurement procedures because contractual terms and conditions may not be observed or applied. Therefore, risk for BeMC is rated as High.

47. Since there are two different risk ratings for the project, the following mitigation measures has been proposed: (i) training on World Bank procurement procedures for BeMC staff before the start of the project; (ii) attending procurement training at ASCI, NIFM at a later stage by key personnel handling procurement; (iii) strengthening of complaint handling mechanism; (iv) use of e-procurement system to increase efficiency, effectiveness and transparency of

procurement system; and (vi) post review by the Bank as per the risk rating. After completing some of the mitigation measures, the residual risk is rated as Substantial.

**Table 7: Procurement Risk and Mitigation measures**

Risk Factor	Initial Risk	Mitigation Measure	Residual Risk
Record keeping and documentation	Moderate	<ul style="list-style-type: none"> <li>All IA will maintain all procurement records duly catalogued and indexed that will facilitate easy access to information</li> </ul>	Low
Fiduciary Risk relating to main principles of the Bank Procurement Guidelines	High	<ul style="list-style-type: none"> <li>Experienced procurement staff/consultant shall be positioned to guide IA</li> <li>Attend training in ASCI and NIFM on Bank procurement procedures</li> <li>Conduct training on Bank procurement procedures</li> <li>Regular supervision support and monitoring</li> </ul>	Substantial
Inefficiencies and delays in procurement process	High	<ul style="list-style-type: none"> <li>Regular monitoring through procurement plan. Use of SEPA is recommended</li> <li>Use of e-procurement platform</li> </ul>	Substantial
Insufficient competition in procurement	High	<ul style="list-style-type: none"> <li>Use of e-procurement platform</li> <li>Aggregation of smaller contract packages wherever feasible</li> </ul>	Substantial
Contract Management	High	<ul style="list-style-type: none"> <li>Disclosure of all contract awards in IA website as well as central portal website</li> <li>Training on Contract management</li> <li>Establish grievance mechanism</li> </ul>	Substantial
Probability of staff handling procurements being transferred	High	<ul style="list-style-type: none"> <li>Continue dialogue with IA to retain trained staff</li> </ul>	Substantial
Fraud and corruption risks [including collusion and outside interference] in contracting process	High	<ul style="list-style-type: none"> <li>Disclosure of procurement plan</li> <li>Disclosure of contract awards</li> <li>Creating awareness on effects of fraud and corruption</li> <li>Regular reviews such as PPR, internal Audit, external audit etc.</li> <li>Promoting transparency through use of MIS</li> </ul>	Substantial
Weak complaint redress system	High	<ul style="list-style-type: none"> <li>Disclosure of complaint redress procedure in project website</li> <li>Bi-annual report of all complaints received and action taken and publication of outcome in the project website</li> </ul>	Substantial
Overall Risk	High		Substantial

### *Procurement Plan*

48. The Procurement Plan for the project shall be prepared detailing the activities to be carried out reflecting the actual project implementation needs. For each contract to be financed under the project, different procurement methods, the estimated cost, prior review requirements and time frame will be agreed between the Borrower and the Bank. The Procurement Plan once finalized will be made available in the projects database and in the Bank's external website. The Procurement Plan shall be subsequently updated annually and will reflect the changes in prior review thresholds, if any.

### *Frequency of Procurement Supervision and Review by the Bank*

49. Frequency of Supervision. The Bank normally carries out the implementation support mission on semi-annual basis. The frequency of the mission may be increased or decreased based on the procurement performance of the project.

50. Review by the Bank. The Bank will prior review the following contracts:

- Works: All contracts more than US\$ 10.0 million equivalent;
- Goods: All contracts more than US\$ 1.0 million equivalent;
- Non-Consulting Services: All contracts more than US\$ 1.0 million equivalent;
- Consultancy Services: All contracts more than US\$ 500,000 equivalent for firm; and
- Consultancy Services: All contracts more US\$ 200,000 equivalent for individuals.

51. First contract issued by each implementing agency will be prior reviewed by the Bank irrespective of value. In addition, the justifications for all contracts to be issued on LIB, single-source (>US\$ 30,000) or direct contracting (>US\$ 30,000) basis will be subject to prior review. These thresholds are for the initial 18 months period and are based on the procurement performance of the project, these thresholds will be modified. In addition, the Bank will carry out an annual ex post procurement review of the procurement falling below the prior review threshold mentioned above.

52. Post Review. All contracts below the specified prior review threshold value shall be subject to Post Review.

### *E-procurement and use of SEPA:*

53. Currently many undertakings of the government of Odisha including OSDMA and BeMC are following e-procurement system for State and Centrally funded projects through portal system <https://tenders.ori.nic.in/nicgep/app>. The central portal system has been reviewed by the Bank and has been cleared to be used for Bank financed project. Therefore, e-procurement shall be adopted for this project. Further, use of procurement plan monitoring tool SEPA has also been discussed and agreed to be used for this project.

### *Procurement Methods:*

54. The table below provides highlights of various procurement methods to be used for this project. These methods along with agreed threshold should be reflected in the procurement plan.

**Table 8: Procurement Methods**

<i>Category</i>	<i>Method of Procurement</i>	<i>Threshold (US\$ Equivalent)</i>
<i>Goods and Non-consulting services(excluding TI contracts)</i>	<i>ICB</i>	<i>&gt; 3,000,000</i>
	<i>LIB</i>	<i>wherever agreed by Bank</i>
	<i>NCB</i>	<i>Up to 3,000,000 (with NCB conditions)</i>
	<i>Shopping</i>	<i>Up to 500,000</i>
	<i>DC</i>	<i>As per para 3.7 of Guidelines</i>
	<i>Force Account</i>	<i>As per para 3.9 of Guidelines</i>
	<i>Framework Agreements</i>	<i>As per para 3.6 of Guidelines</i>
<i>Works</i>	<i>ICB</i>	<i>&gt; 40,000,000</i>
	<i>NCB</i>	<i>Up to 40,000,000 (with NCB conditions)</i>
	<i>Shopping</i>	<i>Up to 1,000,000</i>
	<i>DC</i>	<i>As per para 3.7 of Guidelines</i>
	<i>Force Account</i>	<i>As per para 3.9 of Guidelines</i>
<i>Consultants' Services</i>	<i>CQS/LCS</i>	<i>Up to 300,000</i>
	<i>SSS</i>	<i>As per para 3.9-3.11 of Guidelines</i>
	<i>Individuals</i>	<i>As per Section V of Guidelines</i>
	<i>QCBS/QBS/FBS</i>	<i>for all other cases</i>
	<i>(i) International shortlist (ii) Shortlist may comprise national consultants only</i>	<i>&gt; 800,000 Up to 800,000</i>

## **V. Environment and Social (including safeguards)**

### ***Social Including Safeguards***

55. *Socially Vulnerable Sections-Cyclone Impacts and Needs:* A large part of the cyclone affected population is socially and economically vulnerable, which includes fishing folk, scheduled caste families and urban poor living in slums. Though deaths were minimized due to timely evacuation of people, the losses borne by the poor and marginalized families as a result of the cyclone are significant. The loss of shelter and incomes disproportionately affected women in vulnerable categories. Factors such as poor living conditions, loss of homes, low skill levels and lack of employment opportunities, access to credit and markets, physical isolation and social exclusion explain higher levels of deprivation among the poor. The migrants living in slums in the city of Berhampur have partly lost their houses and continue to live in vulnerable physical environments. The social capital available in the villages and slums offers an opportunity for engineering a collaborative reconstruction, risk-reduction process.

56. *Safeguards Policies:* The Bank Operational Policy on Involuntary Resettlement (OP 4.12) has been triggered in view of the fact that the two infrastructure components in some cases may have involuntary resettlement impacts. These include: (a) provision of housing and common infrastructure in affected villages within 0-5 km of the coastline in Ganjam, Puri, and Khordha districts, (b) slum improvement activities in Berhampur with the provision of common infrastructure and services. The Bank Operational Policy on Indigenous People (OP 4.10) has not been triggered as there are no tribal habitations with unique socio-cultural identity vis-à-vis the mainstream population in the cyclone and associated flood impacted areas covered by the Project within 5 km from the seacoast.

57. *Land Requirements:* The actual estimate of land required for housing and slum improvement is not known in view of its emergency nature. The government is preparing details of government lands available and identifying potential sellers to purchase private lands where government land is not available. As per the Housing Policy Guidelines issued by the GoO, houses will be constructed in situ and or at alternative nearby locations with voluntary relocation of the beneficiaries. In cases where relocation is required the Government will identify appropriate government lands, or purchase private lands ‘free of encumbrances’ from willing sellers for housing with common infrastructure, 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.

58. The land requirements for slum improvements will be assessed once ‘activities and locations’ have been finalized. 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. 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. 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 a free alternative house to the donor/affected family irrespective of their tenure. Any residual adverse impacts arising out of housing or slum improvement works will be assessed and mitigated with preparing and implementing resettlement action plans (RAP) in line with the ESMF complying with the OP 4.12.

59. An Environment and Social Management Framework (ESMF) has been prepared providing: (a) an entitlements matrix for mitigating any adverse impacts complying with the Bank OP 4.12; and (b) a gender equality and social inclusion (GESI) framework to address the recovery needs of the disproportionately affected vulnerable/ marginalized groups, specifically those living in scheduled caste habitations without the benefit of agricultural land, secure housing and incomes. The ESMF provides guidelines for free, prior, and informed consultation with the communities, ensuring community capacity building and participation, grievance redress, information disclosure, independent monitoring and evaluation. Requirements of land for project activities will be met through provision of government land or purchase or voluntary donation of private land without resorting to land acquisition.

60. *Voluntary Land Donation Guidelines:* The ESMF provides clear guidelines for carrying out and documenting “voluntary land donation” transparently with prior disclosure of norms and community resolutions. These guidelines are provided to ensure that: land is not acquired from poor and vulnerable land owners who are in the small or marginal category farmers, no pressure is exerted, no adverse impact if generated on the owner’s incomes, shelter, business due to such donation, donated land is free of encumbrances and no land with structures is accepted, land is jointly measured and the government bears all costs towards mutation, and that grievance redress mechanism is established to address concerns of the donor.

61. *Resettlement Instruments*: Social screening will be carried out as per ESMF guidelines at village levels for housing and at cluster levels for slum improvement works. Based on screening, due diligence reports (DDR) will be prepared in case of no IR impacts are recorded. Short or full RAPs will be prepared and implemented for housing and slum improvement works as per ESMF agreeable to the Bank, prior to commencement of civil works.

62. 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 including 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; and
- (ix) Reviewing the framework for relief and recovery aids provided to vulnerable sections such as share croppers, agricultural laborers, and businesses.

63. Stakeholder Consultation: OSDMA conducted a state-level stakeholder consultation at Bhubaneswar on December 2, 2013 to discuss the Project objectives 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 issues discussed were: planning 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; technical assistance for owner driven housing, collaboration with NGO and CBOs, and basic services in new settlements, and water and sanitations as key elements in the reconstruction process. The state level consultation was followed up with community level consultations to discuss the project, form community recovery committees, finalize the beneficiary list and obtain written community consent for the housing construction program. This community consultation process will also be carried out in the slum clusters of Berhampur to discuss and roll out the upgrading activities. The ESMF has been prepared with free, prior and informed consultation.

64. Disclosure: The ESMF has been disclosed and all relevant project documents will be disclosed on OSDMA website and at the field office/ community level in compliance with the

Right to Information Act, 2005 and Bank's safeguards requirements. Community level disclosure will cover public disclosure of beneficiary lists, action plans, key instructions, and contact addresses. The project sites will have a display board indicating the project logo, year of construction initiation and completion, name of the funding agency, and the beneficiary list.

65. Implementation Arrangements: To effectively plan and implement reconstruction process, OSDMA 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 implementation arrangements for executing the social management plan will include:

- Having 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;
- Resettlement officer for the housing activities will be the Social Housing Head at OSDMA;
- A separate social management team will be established at BeMC to manage the slum improvement program. The Commissioner of BeMC or his authorized representative (such as Slum Improvement Officer) will be the Resettlement Officer for common infrastructure activities, who will oversee social screening, and preparation and implementation of resettlement action plans; and
- Social screening will be carried out and RAPs will be prepared and implemented with hiring consultants and NGOs as required.

66. Grievance Redress Mechanism (GRM): A 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 be established 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.

67. **Monitoring and Evaluation and Budget:** The Project will establish a robust institutional set up incorporating Monitoring and Evaluation systems overseeing and M&E if the social management framework/plans. Annual safeguards audits will be carried out to record achievements, lessons learnt, and update the ESMF if required to meet emerging issues and risks. The ESMF will provide a budget for implementing the specific social management plans.

### ***Environment Including Safeguards***

68. 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 in Berhampur, the largest city in Ganjam district, which was most severely hit by Cyclone Phailin.

69. **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 HTL influence or in low lying area/s.

70. 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.

71. In view of the potential impacts on the environment, Bank’s OP 4.01 on Environmental Assessment, OP 4.04 on Natural Habitats and OP 4.11 on Physical Cultural Resources have been triggered, and the project is designated as Category B. On the whole, with proper planning and

implementation of management measures, the project interventions are not likely to cause large scale, significant or irreversible damage to natural and/or physical environment.

72. *Overall Environment Management Approach.* 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 and Social Management Framework (ESMF) 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.

73. *Housing Reconstruction.* 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.
- 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.
- 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.
- 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, designs (including supporting infrastructure) 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.

74. *Urban Infrastructure Restoration/Improvement in Berhampur.* 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 Overall/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.

75. *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.

76. 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.

77. The OSDMA and the BeMC (for Component 2) will 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.

78. *Implementation Arrangements.* 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 OSDMA will pose a new challenge. Therefore, at least one Environmental Specialist to the current set-up of OSDMA 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.

79. The second component will be implemented by BeMC. 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.

80. *Monitoring and Evaluation:* 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.

81. *Disclosure:* The Environment and Social Management Framework (ESMF) and all other relevant project documents (including screening reports) will be disclosed on OSDMA website (<http://www.osdma.org>) and at the field office, including the website of BeMC (<http://berhampur.gov.in>) in line with the requirements of the GoI/GoO (Right to Information Act, 2005) and Bank's Operational Policies. The ESMF has already been disclosed in the Bank's Infoshop on January 22, 2014 and in Project Authority's website. The executive summary of the document will be translated in vernacular (Oriya) and will also be made public at the local level.

**Annex 4: Operational Risk Assessment Framework (ORAF)  
INDIA: Odisha Disaster Recovery Project (P148868)**

**Risks**

**Project Stakeholder Risks**

<b>Stakeholder Risk</b>	Rating	Substantial				
<p><b>Risk Description:</b></p> <ul style="list-style-type: none"> <li>The expectations and perceptions on the design and implementation of reconstruction interventions at various stakeholder levels could pose potential threats in achieving the expected outputs.</li> <li>Risk arising of natural disasters as the Odisha coast is highly prone to cyclone and flood and experience disasters frequently.</li> <li>Project stakeholders include – communities living in the coastal zone, local officials, NGOs, fisherman, agriculture workers.</li> </ul>	<p><b>Risk Management:</b></p> <ul style="list-style-type: none"> <li>The project will carry out proactive measures to organize consultations with all relevant stakeholders (beneficiaries, community, civil society, field officials) during design and implementation of the project to ensure participation and maximize the impact of interventions.</li> <li>The Environment and Social Management Framework (ESMF) will be disseminated and stakeholder consultations will be conducted.</li> <li>Project will establish a robust grievance redress mechanism to address claims and grievances.</li> <li>The project will engage additional staff / consultants to support existing implementation staff to efficiently implement the project through engaging the stakeholders.</li> <li>The project will prepare a communications strategy as integral part of the design to ensure proper dissemination of information to relevant stakeholders and align messages.</li> <li>All the stakeholders have a strong interest and intention in reducing the natural disaster risks in coastal areas and are expected to synergize efforts to maximize the impact of investment.</li> </ul>					
	Resp: Client	Status: In Progress	Stage: : Both	Recurrent: <input checked="" type="checkbox"/>	Due Date:	Frequency: Quarterly

**Implementing Agency (IA) Risks (including Fiduciary Risks)**

<b>Capacity</b>	Rating	Moderate				
<p><b>Risk Description:</b></p> <ul style="list-style-type: none"> <li>There will be multiple agencies involved in the project implementation – OSDMA, H&amp;UD, and the BeMC (Berhampur Municipal Corporation).</li> <li>Implementation of housing reconstruction will be a new challenge for</li> </ul>	<p><b>Risk Management:</b></p> <ul style="list-style-type: none"> <li>OSDMA, H&amp;UD and the BeMC will develop a dedicated project structure to implement the project. Additional human resources will be deployed and systems will be established to enhance the capacity of the implementing agencies to efficiently manage the project.</li> <li>Regular training, monitoring, review and evaluation will be carried out to identify the capacity gaps and take appropriate corrective measures.</li> </ul>					

<p>OSDMA considering the complexity and nature of work. So far majority of disaster management works that OSDMA has handled were on coordination and capacity development but limited direct implementation.</p> <ul style="list-style-type: none"> <li>• BeMC has been recently upgraded to Municipal Corporation level and has limited experience of implementing large externally funded projects.</li> </ul>	Resp: Client	Status: In Progress	Stage: Both	Recurrent: <input checked="" type="checkbox"/>	Due Date:	Frequency: Quarterly
<b>Governance</b>	Rating		Low			
<p>Risk Description:</p> <ul style="list-style-type: none"> <li>• While the Government of Odisha has established governance structures, there could still be challenges due to complex bureaucratic processes, delayed decision making and lack of oversight and on account of capacity constraints.</li> <li>• Multiplicity of agencies involved in delivery of basic urban services leading to delayed decision making due to lack of coordination.</li> </ul>	<p><b>Risk Management:</b></p> <ul style="list-style-type: none"> <li>• The process of decision making would be assisted through continuous discussions and engagements with PMU on activities on overall program.</li> <li>• In addition, the state level Steering Committee will oversee the Project, higher level decision making, coordination among various departments and provide policy guidance.</li> <li>• H&amp;UD/OSDMA to coordinate implementation, policy decisions, if any and approvals between various urban agencies. Project Level Steering Committee.</li> </ul>					
	Resp: Both	Status: In Progress	Stage: Both	Recurrent: <input checked="" type="checkbox"/>	Due Date:	Frequency: Quarterly
<b>Project Risks</b>						
<b>Design</b>	Rating		Moderate			
<p>Risk Description:</p> <ul style="list-style-type: none"> <li>• The project is complex by nature with coverage of beneficiaries with varied social background and needs.</li> <li>• The individual and community involvement in designing the habitation with housing and basic amenities.</li> </ul>	<p><b>Risk Management:</b></p> <ul style="list-style-type: none"> <li>• The project will make provision for appropriate selection of beneficiaries; understand their needs by involving the beneficiaries and community in different stages of design and implementation.</li> </ul>					
	Resp: Client	Status: In Progress	Stage: Both	Recurrent: <input checked="" type="checkbox"/>	Due Date:	Frequency: Quarterly

<b>Social and Environmental</b>	Rating	Substantial					
<p>Risk Description:</p> <ul style="list-style-type: none"> <li>The project would trigger the following safeguards: i) Environmental Assessment OP/BP 4.01; ii) natural Habitats OP/BP 4.04; iii) Physical Cultural Resources OP/BP 4.11; and iv) Involuntary Resettlement OP/BP 4.12. Potential safeguard risks include: (i) lack of co-ordination between the key implementing agencies may leading to delays in the preparation of required documentation; (ii) insufficient attention/delays in effective implementation of Environmental Management Plans (EMPs), Resettlement Action Plans (RAPs) and Social Management Plans (SMPs); (iii) delays in obtaining statutory clearance; (vi) improper monitoring and irregular reporting of compliance by line departments and (v) potential non-compliance with Bank environment safeguard policies/guidelines due to lack of capacity.</li> <li>Resettlement/relocation would require a detailed investigation on safe locations and willingness of communities to relocate. Such plans would also require inputs from town/ country planning professional, statutory clearances, land acquisitions etc. These activities could be highly time consuming and may result in delays.</li> </ul>	<p><b>Risk Management:</b></p> <ul style="list-style-type: none"> <li>Measures such as screening, consultations, preparation and implementation of Environment Management Plans (EMPs) and Resettlement Action Plans (RAPs) and extension of entitlements are included in project design to ensure early evaluation of the impacts of land purchases and the integration of suitable mitigation measures into subproject planning, design, implementation, operations and maintenance.</li> <li>An Environment and Social Management Framework (ESMF) has been prepared to mitigate adverse impacts and improve benefits to the affected population. The ESMF includes Environment and Social Assessment (ESA) as a tool for decision making to promote environmental sustainability and equity which are the envisaged project outcomes.</li> <li>The Environmental and Social Assessment will be designed in a user-friendly manner, providing clarity on key issues.</li> <li>Social and environmental monitoring will be undertaken periodically which will comprise the following – i) monitoring compliance with environmental regulations, social safeguards and environment and social assessment provision, and ii) continuous social impact monitoring at the community levels and oversight at the state/project level.</li> </ul>						
		Resp: Client	Status: In Progress	Stage: Both	Recurrent: <input checked="" type="checkbox"/>	Due Date:	Frequency: Quarterly
<b>Program and Donor</b>	Rating	Low					
Risk Description:	<b>Risk Management:</b>						
<ul style="list-style-type: none"> <li>While the engagement and commitment of donors as well as NGOs and CBOs is not considered a risk, there may be overlaps in</li> </ul>	<ul style="list-style-type: none"> <li>There is extensive donor engagement in State of Odisha. The ongoing and proposed donor projects are well-aligned in terms of project objectives and overall goals. During preparation and implementation, the project will continue to ensure synergies with ongoing projects, activities and</li> </ul>						

program implementation.	programs run by NGOs and CBOs. The team will contribute to information sharing and collaboration through the established mechanism for donor coordination.					
	Resp: Client	Status: In Progress	Stage: Both	Recurrent: <input checked="" type="checkbox"/>	Due Date:	Frequency: Quarterly
<b>Delivery Monitoring and Sustainability</b>	Rating	Substantial				
<p>Risk Description:</p> <ul style="list-style-type: none"> <li>Implementing agencies are involved in coordination and small scale execution and have capacity issues and that of moving to large scale reconstruction</li> <li>Untimely conduct of Project Activities</li> <li>Lack of adequate maintenance of project created infrastructure.</li> </ul>	<p><b>Risk Management:</b></p> <ul style="list-style-type: none"> <li>A critical element of improved service delivery is by strengthening M&amp;E which would be supported under the project through several initiatives:(i) up- gradating of the integrated MIS system developed; (ii) third-party monitoring (surveys &amp; validation of MIS data); (iii) assessment of project innovations; (iv) participatory social audits; and (v) regular project reviews.</li> <li>Project staff will be provided adequate training and capacity building as part of preparation and as an integral component of the project during implementation to ensure effective delivery of programs.</li> <li>PIU with responsibilities for monitoring and tracking activities to be active through the project. Third party quality supervision to assist BeMC.</li> <li>Project TA activities will prepare operation &amp; maintenance plan for infrastructure provided.</li> </ul>					
	Resp: Both	Status: In Progress	Stage: Both	Recurrent: <input checked="" type="checkbox"/>	Due Date:	Frequency: Quarterly
<b>Overall Risk</b>						
<b>Overall Implementation Risk:</b>						
<b>Substantial</b>			Despite strong measures and interest shown by the State Government, the implementation risk are substantial in view of the complexity of the project activities and relative inexperience of implementing agencies in dealing large number of beneficiaries.			

## **Annex 5: Implementation Support Plan INDIA: Odisha Disaster Recovery Project**

### *Strategy and Approach for Implementation Support*

1. The Implementation Support Plan (ISP) for Odisha Disaster Recovery Project has been developed based on the specific nature of the components, the planned implementation schedule, lessons learned from similar projects in the sector, and specific needs as identified by the ORAF. The plan will be regularly reviewed and revised as required.
2. The ISP includes frequent review of implementation performance and progress, and a multi-sectoral team. The Bank's team will monitor implementation through: (i) reporting of key performance indicators as defined in the Results Framework; (ii) State, district, and block level project implementation plans; (iii) independent verification of project activities through field visits and documentation review; (iv) proper fiduciary management of all activities carried out by the PMUs, PIUs and DIUs; (v) reconciliation of payments with contracts; (vi) supervision of large numbers of District-level procurement activities; and (vii) regular communication with PMU Managers.
3. Information from various sources will be used to assess and monitor implementation progress. In addition to the data generated through the Project's MIS and M&E systems (detailed in Annexes 1 and 3), the Bank will also review the findings and results of third party assessments and environmental and social audits. In addition, and as required, targeted support including short missions by subject matter experts will be carried out.
4. The Bank's procurement, financial management, and environmental and social safeguards specialists will also provide timely and effective support to the GoO. In addition to carrying out an annual ex-post review of procurement that falls below the prior review thresholds, the procurement specialist will lead procurement focused missions depending on the needs and as agreed to by the GoO. The financial management specialist will review all financial management reports and audits and take necessary follow-up actions as per the Bank procedures. These team members will also help identify capacity building needs to strengthen procurement and financial management capacity. Semiannual inputs from the environmental and social specialists will be required throughout the Project, and formal supervision missions and field visits will monitor the implementation of the ESMF in accordance with the Bank safeguard policies, and suggest any corrective measures as necessary.
5. The following Implementation Support Plan reflects the preliminary estimates of the skill, timing, and resource requirements over the implementation period of the Project. Keeping in mind the need to maintain flexibility over project activities from year to year, the ISP will be reviewed from time to time to ensure that it continues to meet the implementation support needs of the Project.
6. In addition, the team will work in taking advantage of opportunities for cross-learning, combining external expertise, and carrying out joint missions with the ongoing NCRMP I, as well as with the other DRM projects being implemented in India.

## Implementation Support Plan

7. The table below indicates the estimated level of inputs that will be needed from the Bank to provide implementation support for the proposed Project. Based on the average cost of missions in similar projects, an amount of US\$45,000 is presented. Whenever possible, missions will be combined.

**Table 9: Implementation Support Plan**

Time Year	Focus	Primary Skills Needed	Number of Trips	Resource Estimate (US\$)	Partner Role	Comments
1	<ul style="list-style-type: none"> <li>• Project launch</li> <li>• FM systems functioning effectively</li> <li>• Procurement practices following Bank norms</li> <li>• ESMF is in place</li> </ul>	<ul style="list-style-type: none"> <li>• Team lead</li> <li>• FM, Procurement</li> <li>• Safeguards Specialist</li> <li>• Disaster Management Specialist</li> <li>• Communication Specialist</li> <li>• Urban Specialist</li> </ul>	<ul style="list-style-type: none"> <li>• Apr 2014</li> <li>• Aug 2014</li> <li>• Nov 2014</li> </ul>	<ul style="list-style-type: none"> <li>• 45,000</li> <li>• 45,000</li> <li>• 45,000</li> </ul>	<ul style="list-style-type: none"> <li>• Staff up PMUs/ PIUs/DIUs</li> <li>• Contract ODCH support firm</li> </ul>	<ul style="list-style-type: none"> <li>• Project will likely become effective in April 2014.</li> <li>• Task team to support smooth start-up following effectiveness</li> </ul>
2	<ul style="list-style-type: none"> <li>• Monitor implementation of project activities</li> <li>• FM, Procurement, Safeguards</li> </ul>	<ul style="list-style-type: none"> <li>• Team lead</li> <li>• FM, Procurement</li> <li>• Safeguards Specialist</li> <li>• Disaster Management Specialist</li> <li>• Urban Specialist</li> </ul>	<ul style="list-style-type: none"> <li>• Feb. 2015</li> <li>• Aug 2015</li> </ul>	<ul style="list-style-type: none"> <li>• 45,000</li> <li>• 45,000</li> </ul>	<ul style="list-style-type: none"> <li>• Prepare comprehensive project progress report in advance of each mission</li> <li>• Prepare implementation and procurement plans for following year</li> <li>• Organize field visits</li> </ul>	<ul style="list-style-type: none"> <li>• Review implementation, commitment and disbursement status</li> <li>• Ensure safeguards arrangements are built into implementation plans</li> </ul>
3	<ul style="list-style-type: none"> <li>• Monitor implementation of project activities</li> <li>• Mid-Term Review</li> <li>• FM, Procurement, Safeguards</li> </ul>	<ul style="list-style-type: none"> <li>• Team lead</li> <li>• FM, Procurement</li> <li>• Safeguards Specialist</li> <li>• Disaster Management Specialist</li> <li>• Urban Specialist</li> <li>• M&amp;E</li> </ul>	<ul style="list-style-type: none"> <li>• Feb. 2016</li> <li>• Aug 2016</li> </ul>	<ul style="list-style-type: none"> <li>• 45,000</li> <li>• 45,000</li> </ul>	<ul style="list-style-type: none"> <li>• Prepare comprehensive project progress report in advance of each mission</li> <li>• Prepare implementation and procurement</li> </ul>	<ul style="list-style-type: none"> <li>• Support to monitor progress of activities, in-depth technical review of implementation, make adjustments to implementation</li> </ul>

<b>Time Year</b>	<b>Focus</b>	<b>Primary Skills Needed</b>	<b>Number of Trips</b>	<b>Resource Estimate (US\$)</b>	<b>Partner Role</b>	<b>Comments</b>
		Specialist			plans for following year <ul style="list-style-type: none"> <li>• Organize field visits</li> <li>• Mid-term review</li> </ul>	n plan if needed.
4	<ul style="list-style-type: none"> <li>• Project withdrawal and closure</li> <li>• Scaling up of successful models with GoO</li> </ul>	<ul style="list-style-type: none"> <li>• Team lead</li> <li>• FM, Procurement</li> <li>• Safeguards Specialist</li> <li>• Disaster Management Specialist</li> <li>• Urban Specialist</li> </ul>	<ul style="list-style-type: none"> <li>• Feb. 2017</li> <li>• Aug 2017</li> </ul>	<ul style="list-style-type: none"> <li>• 45,000</li> <li>• 45,000</li> </ul>	<ul style="list-style-type: none"> <li>• Prepare comprehensive project progress report in advance of each mission</li> <li>• Prepare implementation and procurement plans for following year</li> <li>• Organize field visits</li> </ul>	<ul style="list-style-type: none"> <li>• Support to monitor progress of activities, review implementation schedule to ensure timely completion of project activities.</li> </ul>
5	<ul style="list-style-type: none"> <li>• Project withdrawal and closure</li> <li>• Scaling up of successful models with GoO</li> </ul>	<ul style="list-style-type: none"> <li>• Team lead</li> <li>• FM, Procurement</li> <li>• Safeguards Specialist</li> <li>• Disaster Management Specialist</li> <li>• Communication Specialist</li> <li>• Urban Specialist</li> </ul>	<ul style="list-style-type: none"> <li>• Feb. 2018</li> <li>• Aug 2018</li> </ul>	<ul style="list-style-type: none"> <li>• 45,000</li> <li>• 45,000</li> </ul>	<ul style="list-style-type: none"> <li>• Prepare comprehensive project progress report in advance of each mission</li> <li>• Prepare project closing, evaluation, and monitoring arrangements</li> <li>• Organize field visits</li> </ul>	<ul style="list-style-type: none"> <li>• Prepare closing arrangements</li> <li>• ICR Mission</li> </ul>

## **Annex 6: Governance Accountability and Action Plan INDIA: Odisha Disaster Recovery Project**

1. The Project has identified two main risks in the area of governance, accountability and institutional effectiveness and designed specific risk mitigation measures as part of the overall project implementation strategy:
  - i. Experience and capacity of the Steering committee in including local communities, managing and sustaining disaster risk mitigation measures is limited
  - ii. The Project is complex by nature and it is spread over an environmentally sensitive geography and has a large number of direct beneficiaries.
2. The State Government of Odisha has demonstrated institutional will and a proactive and dynamic attitude towards DRM. Post 1999 super-cyclone the GoO had formed the OSDMA to address the disaster needs in the State the government which has emerged as a model to critically monitor all disaster reconstruction projects. All the stake-holders of the proposed Project have a strong interest and intention in reducing the natural disaster risks in State of Odisha. To achieve this goal, the Project emphasizes the need for synergies among the state level sectors and the local stakeholders such as communities, NGOs etc. to maximize the impact of investments.
3. The program implementation is vulnerable to fraud and corruption, not only in procurement but also in the financial transactions. This risk is mitigated thanks to a strengthened and effective grievance redress mechanism and through public information disclosure (based on the effective utilization of India's Right to Information Act of 2005).
4. The main grievance anticipated is the selection of beneficiaries for the housing reconstruction program. The lists of beneficiaries will be established after due process. Grievances will be initially addressed at the Sub Divisional Magistrate level with an appellate mechanism: the District Magistrate's office, will ensure grievance redress in the process of re-verification of the list of beneficiaries at the local level. In case grievance is not addressed by the DM, the beneficiaries can approach the office of the OSDMA, whose decision will be final.
5. A separate module for tracking of grievance redress will be included as part of the MIS and an annual audit will be carried out to provide feedback to the OSDMA.
6. Public disclosure of documents, reports, procurement process and results and physical and financial progress will be carried out by integrating a public viewing portal on the MIS as well as on billboards in public places at the local (Panchayat) level. Disclosure of project activities to local communities/stakeholders including beneficiary lists will be made available in local languages at prominent locations at the respective project sites. As per the Right to Information Act of 2005, the PMU / PIU would disclose information proactively and on-demand in response to requests. Information disclosed will include procurement results, project preparation and implementation documents, financial audit reports, ESMF, PAD, technical reports, environmental and social assessments and action plans, physical and financial progress, etc. A designated office will be made responsible in each of these institutions.

7. The Project success will depend, in part, on effective coordination between different line departments, the state and district administrations, involving all stakeholders and importantly on a sustained and dynamic involvement of the community along with building capacity of both state and non-state actors in risk reduction, management and mitigation.

8. To mitigate this risk, the Government of Odisha (GoO) has constituted an Steering Committee. The PMU and the PIU will be primarily responsible for the preparation and implementation of the Project. The roles and responsibilities of each involved institution will be laid out in the Operations Manual.

9. The Project implementation will be strengthened through trainings and capacity building programs for the PMU/PIUs. A Project orientation workshop will be organized before the launch of the Project. In order to augment the Project implementation capacity of the PIUs, the GoO will hire technical experts as necessary. Orientation training and refresher courses will be organized for the staff involved in implementation.

10. The Project will partner with local Administration, citizen group and civil societies where specialized skills are needed, for example, increasing awareness on risk mitigation, village level planning exercise among local communities.

### **Monitoring and Evaluation Systems**

- Monitoring and evaluation – A web based MIS will be installed based on formats for review and monitoring that have already been agreed upon and developed. PMU & PIU will hire an experienced agency for development and customization of this system. Responsibility for the management and periodic updates of the system will lie with the PMU and PIU. The Project will also set up a base line for monitoring and evaluation of results through a Monitoring and Evaluation agency who will be appointed by the PMU & PIU.
- Third party quality audit – A third party quality audit firm will be hired based on a pre-agreed ToR that would monitor compliance to standards and specification as defined in the bidding documents. The audit party would also report on specific issues related to compliance on the ESMF and other social and environmental management actions. This would be done on a random and continual basis throughout the Project. The audit system will also be linked to the payment mechanism to ensure effective resolution of issues prior to payments to contractors.
- Financial and procurement audits – External procurement audits will be carried out for all the post review contracts. Statutory and internal audits will be conducted for the Project as detailed in Annex 3.
- Procurement processes – PMU / PIU will provide procurement support and standard Bank controls will apply.

**Table 10: Governance Accountability and Action Plan**

<b>Risks and Concerns</b>	<b>Risk Control and Mitigation</b>	<b>Responsibility</b>	<b>Target</b>
Weak Governance Structures	1. Appointment of additional Project Coordinators/Manager in the PMU / PIU	OSDMA / BeMC	February 28, 2014
	2. Establish nodal PIU in implementing departments.	OSDMA / BeMC	February 28, 2014
	3. Update and install a fully functional MIS	OSDMA / BeMC	July 2014
Weak Project Management capacity	Process 4. Preparation of Guidelines/manuals – operational, procurement, financial management and reporting. Environmental and social management framework, M&E framework	OSDMA / BeMC	March 2014
	Capacity building 5. Appointment of third party quality audit consultants and internal and external auditors	OSDMA / BeMC	September 2014
	6. Appointment of Project Management Consultants	BeMC	July 2014
	7. Orientation training and refreshers courses for staff involved in project implementation	OSDMA / BeMC	March 2014
Monitoring and evaluation capacity	M&E system 8. Functioning web-based GIS enabled MIS system to cover monitoring of: physical and financial progress; procurement, compliance and results as per project's Results Framework	OSDMA / BeMC	July 2014
	9. PIU with responsibilities for monitoring and tracking activities to be active through the project. Third party quality supervision to assist the respective PIUs	OSDMA / BeMC	September 2014
	10. Project TA activities will prepare operation & maintenance plan for infrastructure provided	PIU/BeMC	Ongoing
	11. PMU to generate monthly reports using the MIS database for project monitoring, collate quarterly progress reports and share with GoO and the Bank	OSDMA / BeMC	August 2014
Procurement: Low Transparency in bidding process, lack of competition in contracts, disclosure of procurement information,	Monitoring 12. Establishment of procurement monitoring database within the Project MIS. Reports compiled from the MIS to be uploaded on website for public viewing	OSDMA / BeMC	August 2014
	13. External procurement audits, including post-reviews by the Bank, to evaluate the transparency of bidding processes, range of competition, variations between estimated and bid prices, number of re-	World Bank	December 2014

<b>Risks and Concerns</b>	<b>Risk Control and Mitigation</b>	<b>Responsibility</b>	<b>Target</b>
corruption in procurement etc.)	bids, etc. 14. Capacity augmentation support through the Bank's local resources		Established and ongoing
	Disclosure, Transparency and Competitiveness 15. National Competitive and Transparent Bidding, including specific disclosure requirements such as web-based dissemination of bidding documents and results 16. First procurement performance report published	OSDMA / BeMC  OSDMA / BeMC	Initiated  March 2014
Financial Management	Process 17. Internal audit of financial transactions by internal auditors appointed by PMU 18. Annual audit of project's financial statements by external auditors	OSDMA / BeMC	September 2014  Annual, starting FY 2014
	Disclosure 19. Disclosure of financial information through the web that will include financial reports such as Interim Financial Reports and audited statements	OSDMA / BeMC	August 2014
Lack of community participation, oversight and grievance redress	Community Participation 20. Consultations with beneficiary communities during project preparation and implementation and involvement in Housing/ slum improvement 21. Sub-component to provide consultation with beneficiary communities 22. Establishing a simple, transparent and approachable grievance redress mechanism to be in place	OSDMA / BeMC	Initiated and Ongoing  Before Implementation
	Grievance Redress 23. Establishing a grievance redress mechanism as part of the web enabled MIS for complaints handling and resolution tracking, with a specific focus on beneficiary re-verification	OSDMA / BeMC	By effectiveness
	Disclosure 24. Disclosure of project activities to local communities/stakeholders in local languages at prominent locations at prominent locations at the local (Panchayat) level  25. Disclosure of beneficiary selection and verification list in public spaces and on	OSDMA / BeMC	Completed and Ongoing  Partially completed and

Risks and Concerns	Risk Control and Mitigation	Responsibility	Target
	project website		Ongoing
	26. As per the Right to Information Act of 2005, disclose information in response to requests. Information disclosed will include procurement results, project preparation and implementation documents, financial audit reports, ESMF, PAD, technical reports, environmental and social assessment and action plans, physical and financial progress etc.	OSDMA / BeMC	Ongoing
Fraud and corruption in distribution and payment of allowances	Preventive: 27. Transparency (disclosure of information to the public as per the Right to Information Act of 2005)	OSDMA / BeMC	Ongoing
Delay in startup and project implementation	Level of Preparation		
	28. Ongoing investments	OSDMA / BeMC	Ongoing
	29. Preparation of DPRs and other technical scoping study	OSDMA / BeMC	December 2013 and ongoing
	30. PMU/PIU/DIU established with core staff	OSDMA / BeMC	February 2014
	31. PMU/PIU/DIU fully staffed	OSDMA / BeMC	September 2014
	32. Identification of participating communities to be determined at the earliest	BeMC/World Bank	Before effectiveness and ongoing
Project Stakeholder Risk	33. Awareness campaigns explaining the environment benefits for city as a whole with participation of local elected representative 34. Community mobilization and participation since inception of project	BeMC / OSDMA	Since inception and at regular intervals
Implementing Agency Risk	35. Acceptance of the Berhampur component through BeMC resolution	BeMC	February 2014
Governance	36. H&UD/OSDMA to coordinate implementation, policy decisions, if any and approvals between various urban agencies. Project Level Steering Committee	H&UD/OSDMA	At inception
Design	37. To be coordinated by PMU at OSDMA and H&UD	H&UD / OSDMA	Ongoing
	38. List of Participating communities to be determined based on in-depth tenability analysis. Only tenable communities will be included in the project	BeMC	February 2014

## Annex 7: Economic Analysis

### Economic Analysis

1. One of the major challenges of promoting disaster mitigation and prevention is to demonstrate that its potential benefits in terms of avoided damage costs exceeds the costs of proposed projects. Cost estimation of disaster risk reduction is relatively straightforward, while the estimation of their benefits is complicated by their probabilistic nature, significant indirect effect of natural disasters, and valuation of mortality and injuries that involve ethical issues. In the end, the actual level of benefits will be realized depending on the degree of severity of the disaster event occurring over the life of the investment. Although the economic effects cannot be fully ascertained, there are indications of positive economic efficiency with respect to the Project's mitigation investments. Accordingly, specific analysis undertaken here includes the costs and benefits of measurable strengthening capacities as well as of mitigation investments. Given the data constraints, in many cases extrapolation is used from similar analysis done in India to arrive at the benefit estimates.

2. Given the disaster risks faced by Odisha, the proposed project is expected to yield both tangible and intangible benefits in long run. Overall, as detailed below, the project is economically feasible, yielding positive net present values with acceptable indicators and benefit-cost ratios exceeding 1. A key point to note, however, as demonstrated below is that not all interventions are likely to be equal with respect to their costs and benefits, particularly in relation to climate change, non-monetized and distributional considerations. Strategic assessment of costs, benefits and the assumptions underlying estimates is, as a result, essential. As discussed further below, distinctions between in the cost-benefit profiles of strategies may depend heavily on the degree which they rely on soft versus hard resilience strategies and, thus, the vulnerability of projected benefits to critical threshold values. Finally, while financial analysis is often difficult in these types of "public goods" investments, considering the disaster related indirect costs, this project has the potential to reduce the annual need of external financing for post-disaster reconstruction, and reduce risk to achieving broader economic development and poverty alleviation goals.

#### *Methodology and key results*

3. The investment activities covered in this recovery and reconstruction project can be grouped into two groups. The first one focuses on recovery and reconstruction through building disaster resilient housing in safer locations and investment in community basic infrastructure services and the second on strengthening the capacity of risk management and mitigation in the state of Odisha. The first component includes private housing, water and sanitation facilities and street lighting and expanding electricity access. The second risk mitigation component includes both resilient housing construction and the targeted investment (such as GIS centre and institutional capacity building) to strengthen the capacity of the disaster management unit of Odisha.

4. In the benefit cost analysis, the benefit estimation is carried out in two steps to avoid double counting. First, the economic benefit of more resilient housing and access to water and

sanitation is estimated focusing on the avoided illnesses of improved housing and access to water sanitation services, but excluding the benefit of avoided mortality/injuries and asset damages.

5. In the second step, the benefit of risk management and mitigation from all project components, including both resilient housing and capacity building in disaster risk management, is estimated based on the total avoided damage estimation. For example, the avoided assets (e.g. building) damages from the investment more resilient housing of higher safety standards will be combined with the avoided mortality/injuries from the investment in the early warning system and the capacity of risk management. In the case of 2013 Phailin cyclone, the reported death toll of 44 is significantly smaller than reported in 1999 cyclone of similar scale (about 11,000 deaths), which can largely be attributable to the early warning system and disaster management capacity developed over the past decades in India. In the following CBA, the reduction of mortality is used for the benefit estimation of risk management component of the project

6. A key issue in the application of CBA for project appraisal in the area of investing in natural disaster resilience lie in the probabilistic nature of natural disasters. The benefit of such investment should be the reduction in expected costs of natural disasters in a baseline case and the costs of natural disasters in a project case. The CBA is therefore weighing up the costs of investment in resilience compared to the reduction in the expected damage cost of natural disasters. In a more stylized sense, the overall process of a natural disaster resilience CBA is:



7. Disasters are infrequent events that can only be assessed in terms of probability of occurrence, but not forecasted. It is therefore, important to perform scenario analysis in CBA of risk management and mitigation project to incorporate the risk analysis component of CBA.

8. The key results of the economic analysis are presented in Table 11, and the scenario analysis in Table 12. The detailed the discussion of CBA for each project grouping is presented in the following sections.

**Table 11: Benefit Cost Analysis**

Project components	Time horizon (years)	Project cost (US\$mil)	Benefit estimate (US\$m)		Benefit cost ratio	
			discount rate	discount rate	discount rate	discount rate
Resilient Housing Reconstruction and Community Infrastructure	10	167.0	315.6	10%	2.4	1.9
Urban Infrastructure in Berhampur	10	30.0	5.5	10%	1.9	0.2
Risk mitigation and resilience	10	5.0	31.7	10%	8.0	6.4

Note. The avoided deaths and injuries is estimated using a VSL of US\$150,000 from Battahnak et al 2009 for India

The return period of major disaster is assumed to be 20 years which implies 0.05 annual probability of disaster over the project period.

**Table 12: Sensitive Analysis: under different event recurrence period**

Project components	Benefit cost ratio		
	return period		
	10 year	20 year	50 year
Resilience Housing Reconstruction and Community Infrastructure	1.9	0.9	0.4
Risk mitigation and management	31.8	15.9	6.4
Note: The discount rate is 10% for all cases.			

### *Summary*

9. This project is expected to generate significant economic benefit measured by benefit cost ratio. For one dollar invested in risk management and resilience capacity building, the return is US\$ 8 at 5% discount rate, \$2.4 in resilient housing and US\$ 2.0 in water and sanitation community infrastructure. The estimated benefit cost ratio (BCR) is comparable with that for other countries. The BCR of investment of resilient housing range from 4-11 in the UK, 5 in the US, and 1-3 in Australia.

10. Given the increased frequency and severity of natural disasters projected in this region, the economic return of this project will be even higher under the scenario of larger probability of natural disaster occurrence as reflected in Table 12. The CBA shows a return of US\$ 32 for one US\$ investment in capacity building natural disaster management resilience in Odisha for a disaster event with a return period of 10 years.

11. Two other important additional benefits must be highlighted in the CBA. First is the so called creative destruction effect (Skidmore and Tuya, 2002, Alabab-Bertrand, 1993). In the disaster hit area of Odisha where building and capital stock are often of low quality, the events of disasters such as floods/cyclones may generate positive economic effect through capital upgrading (e.g. new housing with improved safety standards) and speed up investment embodied with new technology, generating productivity effect.

12. The second benefit is the distributional impact of these projects. It is likely the benefit of projects reach the poor segment of the population in Odisha disproportionately as they were relocated to better and safe areas. The distributional impact, not analysed here due to data constraints, is likely of a first order importance given the poverty and development objective of public polices and investment of many World Bank financed projects. The differential impact cross socio-economic groups (age, gender and income) should be explicitly quantified wherever feasible to better inform policy-makers of the social impact of project.

### *Resilient housing Reconstruction and Community Infrastructure*

13. Multi-disaster resistant permanent houses are relevant for the beneficiary households, as they would not only minimize future infrastructural damage costs, but also improve vulnerable

households' ability to secure their belongings during future disasters. Evidence from other states in India suggests that there is a clear benefit to building concrete structures in disaster prone areas. One common way to assess benefits in this case would be compare the cost-benefit of building a permanent structure versus building a disaster prone "kutcha" structure at a lot cheaper rate.

14. The benefit of resilient housing and other buildings upgradation mainly comes from three sources. These include: (1) assets damage costs and indirect cost in the form of loss of income and economic activities (2) avoided mortality and injuries from more disaster resilient structures located in safer areas, and (3) economic benefits accruing to local communities through employment creation of housing construction project<sup>6</sup>.

15. Given the valuation of avoided building damage is likely much higher than the sum of (2) – (3) and data limitations, the benefit estimation focuses only on (1). The asset damage is based on the assessment made by the government in the aftermath of the cyclone Phailin, about US\$ 229.3 million. The indirect effect of major natural disasters is often difficult to estimate due to time constraints, the average estimated ratio based on other studies by Mechler (2010), 124%, is taken for the estimation of resilient housing component.

16. The expected annual avoided asset damage and indirect cost is US\$ 396 million, and US\$ 315 million, at 5% and 10% discount rate, respectively. The benefit cost ratio, is 2.4 and 1.9, for 5% and 10% discount rate.

#### *Urban Infrastructure in Berhampur*

17. There are two key beneficial components of restoring safe water and sanitation (W&S) services to local population. These include time saved from direct access to drinking water and health benefits of safe water and sanitation access. The source of information on the benefits of safe water and sanitation supplies can be estimated using the household average expenditure on water and sanitation from households in the state of Odisha district (this was not done due to time constraints).

18. The health benefit which is likely the largest component is the avoided illnesses and reduced risk of mortality from lack of water and sanitation access. Improved water and sanitation services result in a reduction in the number of infections of several major diseases, including typhoid, cholera, shigellosis, and rotavirus. The World Health Organization estimates that roughly a quarter of the deaths due to poor water and sanitation in developing countries are due to typhoid fever.

19. It is possible to obtain a better estimation for Odisha, using India household surveys. Bahl et al. (2005) estimated the ex-ante private and public cost of illnesses (COI) from typhoid for

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<sup>6</sup> The welfare benefit can be estimated using the rental incomes available before the disaster. For the assumed life span of 10 years of all houses built through this project, the total benefit is the annual rental income times the total households to be covered by this project. The employment benefit can be estimated using the local prevailing wages and total number of people employed in the housing construction project.

different age groups. For a household of five, the total monthly ex-ante COI was about US\$0.65 per month. Assuming costs of illness of other water-borne diseases would be similar in magnitude to typhoid, one might crudely increase these ex-ante COI of typhoid by a factor of four (US\$2.60 per household per month).

20. The most widely quoted estimate of health benefit of W&S is from the global study by Esrey (1996). He estimated a reduction in overall diarrheal incidence by 30-40% from improved W&S services which is average of all developing countries. Therefore, to obtain an estimate of the reduced COI avoided due to W&S, one would need to reduce this to reflect the fact that improved W&S services would reduce the incidence by 35% (midpoint between 30-40% of Esrey estimate), i.e.  $US\$2.68 \times 0.35 = US\$0.91$ , or about US\$1 per month per household. This calculation is obviously simplified and should be regarded as upper bound estimation due to the fact of the extremely high incidence of typhoid in the sample area Bahl (2005) study. When possible the disease incidence data for Odisha becomes available, it should be used to obtain a more accurate estimation.

21. The above estimated avoided cost of illnesses (US\$1 per household per month) from improved water and sanitation that is expected to cover about 30,000 population is used to estimate the total benefit of W&S service access as a result of this project component for Odisha. Assuming a 10-year project life span, the total benefit is about US\$6 million using a 5% discount rate and US\$5 million using a 10% discount rate. The benefit-cost ratio, using the cost data from project report is 0.22 and 0.18, respectively using the 5% and 10% discount rate.

#### *Capacity Building for Disaster Risk Management*

22. Early warning infrastructures play a major role in disaster risk reduction. The objective of this component is to strengthen early warning infrastructure in the state including hydro-meteorological services in order to enhance the capabilities of the government entities and others in risk mitigation and response. The benefits of early warning system, for example, come from the savings in natural disaster-related damages, and they could be either direct or indirect (see figure 1).

23. Usually 'visible' physical losses arising out of direct contact with extreme weather events are direct damages. For example, flood and wind damage to buildings, infrastructure, and crops. Indirect damages are the consequences of direct damages such the interruption and disruption of socioeconomic activities such as production losses resulting from flood damage of machinery. From an economic perspective, flood damages could be both tangible and intangible. Tangible impacts include the loss of things that have a monetary (replacement) value (for example, buildings, livestock, infrastructure) and can be assigned a dollar as they are traded in the market place (see Table 13). On contrary, intangible impacts include the loss of things that cannot be bought and sold (e.g., lives and injuries, environmental damage).

24. The benefits of disaster risk mitigation projects, such as the construction of better housing in less risk prone locations and upgradation of public buildings, are measured by both avoided assets damage and avoided number of deaths and injuries avoided as a result of the project. The expected number of deaths due to various types of major disasters in absence of a project is the

sum, over the relevant population, of the probability that the disaster occurs times the probability that an individual dies, conditional on the occurrence of the disaster. By reducing the conditional probability that an individual dies, the housing project will save a number of statistical lives. This will be the sum of reductions in risk of death over the relevant population.

25. The Value of a Statistical Life (VSL) is the sum of what individuals would pay for risk reductions that sum to one statistical life (Cropper et al, 2009). The estimation of mortality and injuries is based on existing estimates of a VSL from studies for India: US\$150,000 from (Bhattacharya et al., 2007) and US\$235,000 (Cropper et al. 2009)<sup>7</sup>.

26. The benefit cost ratio is calculated under three different risk scenarios. This include a 10-year, 20-year and 50-year return period of a major natural disaster assumed for this region. The total benefit measured the avoided mortality and injuries over the 10 years life span of the upgraded housing is calculated using the following formulae developed by Smyth et al (2004):

$$\text{Avoided mortality} = \sum (\text{VSL} * \text{Population} * \text{Prob (mortality| Prob of disaster)}) / (1+d)^t$$

27. The valuation of avoided injuries is estimated based on the conversion factors suggested by Cropper et al, (2009). Based on the ratio of total costs of injury (by MAIS groups) relative to the cost of a fatality, an MAIS 5 injury is equivalent to 0.71 lives lost and MAIS 4 to 0.22 lives lost. Given no information about injury during the October 2013 disaster in Odisha, this component is omitted in the estimation.

28. The total benefit in the form of avoided mortality from a disaster of similar scale of that 2013 over 10 years is between \$399 million using a discount rate of 5% or US\$317 million using 10%. The benefit cost ratio is 8.1 using 5% discount rate and 6.4 using 10% based on a value of US\$25,000 VSL (UN, 2009). This means for everyone one dollar the investment in resilient about 8 dollars is generated from avoided deaths and injuries using a 5% discount rate.

29. The estimated benefit cost ratio should be regarded as an underestimate of the project benefit. The welfare benefit of housing (equivalent of rental incomes) and employment generated from the housing project are not factored in. Also, the majority population who benefit from the housing projects are likely low income and vulnerable population, the poverty and distribution impact of this project provides additional benefit to this project.

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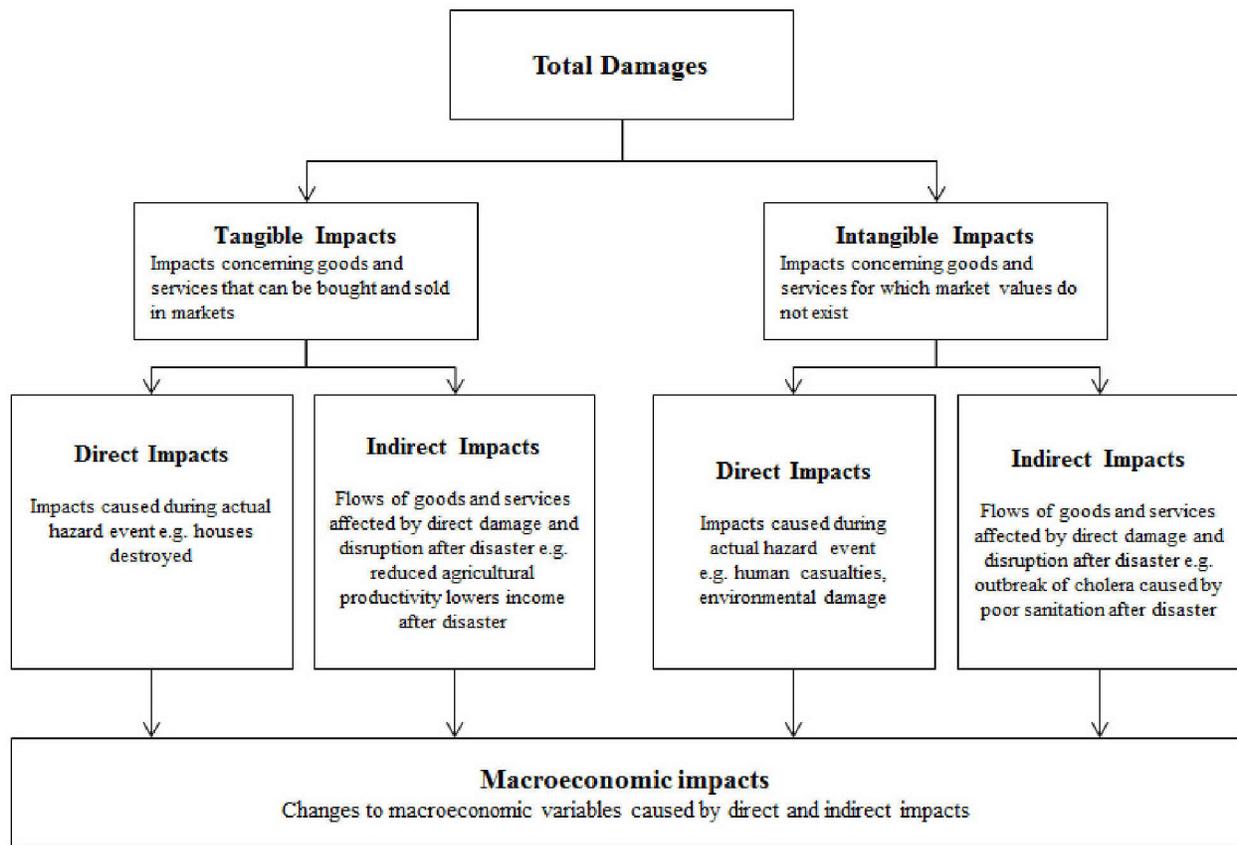
<sup>7</sup> Bhattacharya, Alberini and Cropper (2007) report a VSL for commuters in Delhi, India of US\$150,000; Using the transfer method by Cropper et al (2009), a VSL of US\$235,000 for India is estimated assuming an income elasticity of one (i.e., multiplying by the ratio of Indian to US per capita income in PPP terms).

**Table 13: Impacts of Disasters: Tangible vs. Intangible<sup>8</sup>**

Disaster Consequences	Losses		Measure
	Tangible	Intangible	
Deaths	Loss economically of active individuals	Social and psychological effects on remaining community	Number of People
Injuries	Medical treatment needs, temporary loss of economic activity by productive individuals	Social and psychological pain and recovery	Number and injury severity
Physical damage	Replacement and repair cost	Cultural losses	Inventory of damaged elements by number and damage level
Emergency operations	Mobilization cost, investment in preparedness capability	Stress and overwork in relief participants	Volume of manpower, man-days employed, equipment and resources expended to relief
Disruption to economy	Value of lost production	Opportunities, competitiveness, reputation	Number of working days lost, volume of production lost
Social disruption	Temporary housing, relief, economic production	Psychological, social contacts, cohesion, community morale	Number of displaced persons, homeless
Environmental impact	Clean-up costs, repair cost	Consequences of poorer environment, health risks, risk of future disaster	Scale and severity

<sup>8</sup> Adapted from United Nations Development Programme, 1994. "Vulnerability and Risk Assessment". 2<sup>nd</sup> Edition. Cambridge Architectural Research Limited. Cambridge. P.27.

**Figure 4: Direct and indirect tangible and intangible impacts of natural disasters<sup>9</sup>**



<sup>9</sup> AusAID (2005), Tool Two: A Toolkit for Assessing the Costs and Benefits of Disaster Risk Management Measures in the Pacific. Prepared by the University of the South Pacific (USP) and the South Pacific Applied Geoscience Commission (SOPAC) for the Australian Agency for International Development (AusAID).