National Cyclone Risk Mitigation Project-II (P144726)

Implementing Agencies: Department of Economic Affairs, Maharashtra; Department of Relief and Rehabilitation, West Bengal; Department of Disaster Management, Gujarat; Gujarat State Disaster Management Authority, Kerala; Department of Revenue and Disaster Management, Karnataka; Department of Revenue and Disaster Management, Goa; Water Resources Department, National Disaster Management Agency

Key Dates

<table>
<thead>
<tr>
<th>Key Project Dates</th>
<th>Effectiveness Date: 09-Nov-2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bank Approval Date: 28-May-2015</td>
<td>Actual Mid-Term Review Date: 04-Jun-2018</td>
</tr>
<tr>
<td>Planned Mid Term Review Date: 17-Sep-2018</td>
<td>Revised Closing Date: 15-Mar-2021</td>
</tr>
<tr>
<td>Original Closing Date: 15-Mar-2021</td>
<td></td>
</tr>
</tbody>
</table>

Project Development Objectives

Project Development Objective (from Project Appraisal Document)

The Project Development Objective is to reduce vulnerability to cyclone and other hydro-meteorological hazards of coastal communities in project States, and increase the capacity of the State entities to effectively plan for and respond to disasters.

Has the Project Development Objective been changed since Board Approval of the Project Objective?

No

Components

<table>
<thead>
<tr>
<th>Name</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early Warning Dissemination Systems</td>
<td>$18.10 M</td>
</tr>
<tr>
<td>Cyclone Risk Mitigation Infrastructure</td>
<td>$314.80 M</td>
</tr>
<tr>
<td>Technical Assistance for Multi-Hazard Risk Management</td>
<td>$29.50 M</td>
</tr>
<tr>
<td>Project Management and Implementation Support</td>
<td>$24.60 M</td>
</tr>
</tbody>
</table>

Overall Ratings

<table>
<thead>
<tr>
<th>Name</th>
<th>Previous Rating</th>
<th>Current Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Progress towards achievement of PDO</td>
<td>Satisfactory</td>
<td>Moderately Satisfactory</td>
</tr>
<tr>
<td>Overall Implementation Progress (IP)</td>
<td>Moderately Unsatisfactory</td>
<td>Moderately Unsatisfactory</td>
</tr>
<tr>
<td>Overall Risk Rating</td>
<td>Moderate</td>
<td>Moderate</td>
</tr>
</tbody>
</table>
Implementation Status and Key Decisions

Substantial progress in Component B has been achieved in West Bengal (MPCS), Goa (MPCS), Karnataka (MPCS and Access Roads), Gujarat (MPCS, Access Roads). Kerala and Maharashtra need to fast track preparatory stage (technical and ESIA studies) and get on to implementation of Cyclone Risk Mitigation Infrastructure investments.

Component A: Early Warning Dissemination System (EWDS) and Coastal Communities Capacity Building - Maharashtra, Goa, Karnataka and Kerala are engaging TCIL as the knowledge partner for implementation of EWDS. Gujarat and West Bengal have engaged Consultants as knowledge partner.

Component B: Cyclone Risk Mitigation Infrastructure - Multi-Purpose Cyclone Shelter (MPCS): Work progress in West Bengal, Gujarat, Goa and Karnataka is satisfactory. Kerala and Maharashtra are in the final stage of preparing the bid document and tendering of first Phase (MPCS) is expected in the last week of June 2018.

Environmental Impact Assessment (EIA)/ Social Impact Assessment (SIA) study for Saline Embankments, Bridges and Underground Electrical Cabling: Goa, Karnataka and Maharashtra are undertaking EIA/SIA studies.

Component C: Technical Assistance for Multi-Hazard Risk Management: Multihazard Risk modelling and Assessment is in progress. ToR for carrying-out Hydro-Meteorological Resilience Action Plan is under preparation

Risks

Systematic Operations Risk-rating Tool

<table>
<thead>
<tr>
<th>Risk Category</th>
<th>Rating at Approval</th>
<th>Previous Rating</th>
<th>Current Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Political and Governance</td>
<td>● Moderate</td>
<td>● Moderate</td>
<td>● Moderate</td>
</tr>
<tr>
<td>Macroeconomic</td>
<td>● Moderate</td>
<td>● Moderate</td>
<td>● Moderate</td>
</tr>
<tr>
<td>Sector Strategies and Policies</td>
<td>● Moderate</td>
<td>● Moderate</td>
<td>● Moderate</td>
</tr>
<tr>
<td>Technical Design of Project or Program</td>
<td>● Moderate</td>
<td>● Moderate</td>
<td>● Moderate</td>
</tr>
<tr>
<td>Institutional Capacity for Implementation and Sustainability</td>
<td>● Substantial</td>
<td>● Substantial</td>
<td>● Substantial</td>
</tr>
<tr>
<td>Fiduciary</td>
<td>● Substantial</td>
<td>● Substantial</td>
<td>● Substantial</td>
</tr>
<tr>
<td>Environment and Social</td>
<td>● Moderate</td>
<td>● Moderate</td>
<td>● Moderate</td>
</tr>
<tr>
<td>Stakeholders</td>
<td>● Substantial</td>
<td>● Substantial</td>
<td>● Substantial</td>
</tr>
<tr>
<td>Other</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Overall</td>
<td>● Moderate</td>
<td>● Moderate</td>
<td>● Moderate</td>
</tr>
</tbody>
</table>

Results

Project Development Objective Indicators

- Results of the comprehensive multi-hazard risk financing strategy for policy making (Yes/No, Custom)
**Baseline** | **Actual (Previous)** | **Actual (Current)** | **End Target**
---|---|---|---
Value | N | N | Y

**Comments**
The multi-hazard risk assessment will finance a systematic assessment of current and future disasters and climate risks. The study ToR is under discussion with PMU-NDMA and is likely to be taken up in first quarter of 2019.

**Proportion of the targeted coastal population covered by the EWDS (Percentage, Custom)**

<table>
<thead>
<tr>
<th>Baseline</th>
<th>Actual (Previous)</th>
<th>Actual (Current)</th>
<th>End Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>0.00</td>
<td>0.00</td>
<td>75.00</td>
</tr>
</tbody>
</table>

**Comments**
States are undertaking study of technology options and selection of technologies for communication network. Site surveys and formal consultations with stakeholders to arrive at a site location for installation of Siren towers is under progress. Final Technical Design report for all states is expected to be complete by Sept 2018 and Procurement phase to be completed latest by Dec 2018. The installation, system testing and last mile-connectivity is expected to be complete by mid of 2020.

**Proportion of vulnerable coastal population with access to emergency shelters (Percentage, Custom)**

<table>
<thead>
<tr>
<th>Baseline</th>
<th>Actual (Previous)</th>
<th>Actual (Current)</th>
<th>End Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>0.00</td>
<td>0.00</td>
<td>30.00</td>
</tr>
</tbody>
</table>

**Comments**
Construction of MPCS and Access Roads to Shelters is underway (except in Kerala and Maharashtra). Formation of Cyclone Shelter Management Committee (CSMMC) and Shelter Management Guidelines is under process in participating States. On successful completion of the following activities:
1. Construction of MPCS and handing over to Departments / CSMMC
2. Training of CSMMC members
3. Training of Community and conduct of mock drills
the indicator value will be updated.

Results of the vulnerability assessment presented to officials of NDMA for investment planning (Yes/No, Custom)

<table>
<thead>
<tr>
<th>Value</th>
<th>Baseline</th>
<th>Actual (Previous)</th>
<th>Actual (Current)</th>
<th>End Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td></td>
<td>--</td>
<td>N</td>
<td>Y</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Date</th>
<th>Baseline</th>
<th>Actual (Previous)</th>
<th>Actual (Current)</th>
<th>End Target</th>
</tr>
</thead>
</table>

Multi-hazard risk modeling and assessment (cyclone wind and storm surge) on a dynamic mode (for real time events) is under implementation for all coastal states and UTs. The study and platform development is expected to complete by first quarter of 2019 and will be commissioned for Testing/Experimental Phase (one cyclone season) and later shifted to Operational Phase.

Overall Comments
The project is making significant progress in West Bengal, Gujarat, Karnataka and Goa. Maharashtra and Kerala will roll out tendering process for first package of MPCS by end of June 2018/July 2018. The ESIA reports for UGC works and Saline Embankments and design rationalization of Saline Embankment for select packages in Gujarat, Goa and Maharashtra has advanced and bid documents are in the process of being finalized. Given the progress in Component A EWDS and Component B CRMI, and further reallocation within component/ across component the project is on the path to achieve the set targets/milestones and meet the PDO.

Intermediate Results Indicators

Number of R-PACS installed (Number, Custom)

<table>
<thead>
<tr>
<th>Value</th>
<th>Baseline</th>
<th>Actual (Previous)</th>
<th>Actual (Current)</th>
<th>End Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.00</td>
<td></td>
<td>0.00</td>
<td>0.00</td>
<td>750.00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Date</th>
<th>Baseline</th>
<th>Actual (Previous)</th>
<th>Actual (Current)</th>
<th>End Target</th>
</tr>
</thead>
</table>

System design requirement studies are underway and it is expected to finalize the site locations by end of Sept 2018. The outreach plan and communication network choice (last mile connectivity) will give a fixed number of installations for the project. The indicators will be updated once the installation is complete.
### Number of multi-purpose cyclone and flood shelters completed (Number, Custom)

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
<th>Actual (Previous)</th>
<th>Actual (Current)</th>
<th>End Target</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Value</strong></td>
<td>0.00</td>
<td>18.00</td>
<td>18.00</td>
<td>340.00</td>
</tr>
</tbody>
</table>

**Comments**

MPCS construction is undergoing in all programme states (except in Maharashtra and Kerala). Maharashtra and Kerala plan to invite the bids by end of June 2018. States are also encouraged to form the Cyclone Shelter Management Committee and draft State specific Guidelines for Operations and Maintenance of MPCS. On successful handover of the MPCS to CSMMC and establishment of community linkages, the indicators will be updated.

### Number of people with access to multi-purpose cyclone and flood shelters built or rehabilitated under the Project (Number, Custom Supplement)

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
<th>Actual (Previous)</th>
<th>Actual (Current)</th>
<th>End Target</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Value</strong></td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>500,000.00</td>
</tr>
</tbody>
</table>


### Roads rehabilitated, Rural (Kilometers, Custom)

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
<th>Actual (Previous)</th>
<th>Actual (Current)</th>
<th>End Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>0.00</td>
<td>--</td>
<td>120.00</td>
<td>310.00</td>
</tr>
</tbody>
</table>

Comments
Access roads are targeted in Gujarat and Karnataka. All road works under the project are expected to be complete by Dec 2018. Goa has reallocated the financial outlay of roads to other Risk Mitigation Infrastructure works.

### Number of bridges completed under the project (Number, Custom)

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
<th>Actual (Previous)</th>
<th>Actual (Current)</th>
<th>End Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>0.00</td>
<td>--</td>
<td>0.00</td>
<td>13.00</td>
</tr>
</tbody>
</table>

Comments
Karnataka has proposed to construct two bridges under the project. The ESIA studies are under way and model DPR is expected to be ready by Aug 2018.

### Kilometers of embankments rehabilitated under the Project (Kilometers, Custom)

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
<th>Actual (Previous)</th>
<th>Actual (Current)</th>
<th>End Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>0.00</td>
<td>--</td>
<td>0.00</td>
<td>90.00</td>
</tr>
</tbody>
</table>

Comments
Saline Embankments are taken up in Karnataka, Maharashtra and Goa. ESIA studies are underway and design rationalization has been advised to Goa and Maharashtra taking into consideration the land availability and residual risk considerations. Model DPR for Goa is under evaluation.
### Square kilometers protected by embankments rehabilitated by the Project (Square kilometer\(\text{km}^2\), Custom Supplement)

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
<th>Actual (Previous)</th>
<th>Actual (Current)</th>
<th>End Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
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<td>0.00</td>
<td>0.00</td>
<td>1,600.00</td>
</tr>
</tbody>
</table>

### Kilometers of HT and LT lines moved underground (Kilometers, Custom)

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
<th>Actual (Previous)</th>
<th>Actual (Current)</th>
<th>End Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>0.00</td>
<td>--</td>
<td>0.00</td>
<td>280.00</td>
</tr>
</tbody>
</table>

Comments
UGC works is proposed in Maharashtra, West Bengal and Gujarat. Contract is awarded in West Bengal and Bid Documents are under preparation in Maharashtra and Goa.

### Probabilistic risk model for selected areas completed (Yes/No, Custom)

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
<th>Actual (Previous)</th>
<th>Actual (Current)</th>
<th>End Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>N</td>
<td>--</td>
<td>N</td>
<td>Y</td>
</tr>
</tbody>
</table>

Comments
The Multi-hazard risk modelling and assessment for all coastal states and UT is under progress. The key components of the risk modelling effort is to bring in a real time surge modeling for the cyclone event. The first phase of development is likely to complete by Mar 2019 and the experimental phase will be spread over one/two cyclone seasons, followed by Operational Phase.
### Number of training modules on disaster damage assessment implemented (Number, Custom)

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
<th>Actual (Previous)</th>
<th>Actual (Current)</th>
<th>End Target</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Value</strong></td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>8.00</td>
</tr>
</tbody>
</table>

**Comments**

States have developed training plan in consultation with PMU-NDMA. States have also identified potential training institutions at the state level for delivering of the training modules. National Institute of Disaster Management (NIDM) is identified as the nodal agency for implementation and the faculty members are in the process of developing a training calendar and submit to PMU-NDMA for approval. Modules/Resource materials developed under NCRMP Phase I will be used for delivering the Training programme.

### Multi-hazard risk assessment for selected areas completed (Yes/No, Custom)

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
<th>Actual (Previous)</th>
<th>Actual (Current)</th>
<th>End Target</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Value</strong></td>
<td>N</td>
<td>--</td>
<td>N</td>
<td>Y</td>
</tr>
</tbody>
</table>

**Comments**

ToR for Multi-Hazard Risk Assessment (Risk Financing Strategy and Policy) is under preparation and it is expected to roll out the EoI in the month of Aug-Sept 2018.

### Physical structural assessment of lifeline infrastructure completed (Yes/No, Custom)

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
<th>Actual (Previous)</th>
<th>Actual (Current)</th>
<th>End Target</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Value</strong></td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>Y</td>
</tr>
</tbody>
</table>

**Comments**

This sub-component will get absorbed into the Design of the National Seismic Risk Mitigation Program (Sub Component C5).
### Hydro-meteorological Resilience Action Plans completed (Yes/No, Custom)

<table>
<thead>
<tr>
<th>Value</th>
<th>Baseline</th>
<th>Actual (Previous)</th>
<th>Actual (Current)</th>
<th>End Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>--</td>
<td>N</td>
<td>Y</td>
<td></td>
</tr>
</tbody>
</table>

**Date**

- Baseline: 15-Dec-2014
- Actual (Previous): --
- Actual (Current): 15-Jun-2018
- End Target: 15-Mar-2021

**Comments**

ToR is at the approval stage at PMU and it is expected to roll out the EoI in the month of July 2018.

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### Overall Comments

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### Data on Financial Performance

#### Disbursements (by loan)

<table>
<thead>
<tr>
<th>Project</th>
<th>Loan/Credit/TF</th>
<th>Status</th>
<th>Currency</th>
<th>Original</th>
<th>Revised</th>
<th>Cancelled</th>
<th>Disbursed</th>
<th>Undisbursed</th>
<th>Disbursed Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>P144726</td>
<td>IDA-56930</td>
<td>Effective</td>
<td>USD</td>
<td>308.40</td>
<td>308.40</td>
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<td>68.75</td>
<td>239.65</td>
<td>22%</td>
</tr>
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</table>

#### Key Dates (by loan)

<table>
<thead>
<tr>
<th>Project</th>
<th>Loan/Credit/TF</th>
<th>Status</th>
<th>Approval Date</th>
<th>Signing Date</th>
<th>Effectiveness Date</th>
<th>Orig. Closing Date</th>
<th>Rev. Closing Date</th>
</tr>
</thead>
</table>

#### Cumulative Disbursements
Restructuring History

There has been no restructuring to date.

Related Project(s)

There are no related projects.