

**INDIA**  
**National Cyclone Risk Mitigation Project, Phase II (NCRMP-II) P144726**  
**Implementation Support Mission (October 17 -21, 2016)**  
**Aide Memoire**

**I. Introduction**

1. A World Bank mission<sup>1</sup> visited the states of West Bengal, Kerala, Karnataka, Goa, Maharashtra and Gujarat between October 17-21, 2016 to carry out a Project Implementation Support Mission for the National Cyclone Risk Mitigation Project Phase II (NCRMP-II).. The mission would like to thank the NDMA and the participating States for their time and support extended during the mission. This aide memoire summarizes the mission’s observations, findings and key agreed steps.

**II.Key Project Data**

Project Data		Project Performance Ratings	
Board Approval	May 28, 2015	Achievement of PDO	Satisfactory
Effectiveness Date	Nov. 09, 2015	Implementation Progress	Moderately Satisfactory
Credit Closing Date	March 15, 2021	Problem Flags	None
Credit (original)	US\$308.40 million	Safeguards	Moderately Satisfactory
Project age	18 months	Fiduciary	Moderately Satisfactory
% Disbursed	5.85%		

**III. Project Development Objectives**

2. The Project Development Objective (PDO) of the NCRMP II is “*to reduce vulnerability to cyclones 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.*”

3. *Overall Project Status:* The progress towards the achievement of the PDO is satisfactory. Implementation progress is rated as **Moderately Satisfactory** with the pace of implementation varying between the six project states. The implementation in West Bengal and Gujarat has advanced with more than 40 per cent of works tendered out, while other states are still at various stages of preparing the Detailed Project Reports (DPRs) and will be tendering out works by March 2017.

**IV. Current Implementation Status and Issues**

**Component A: Early Warning System and Coastal Communities Capacity Building**

4. NDMA with the consulting firm, Telecommunications Consultancy India ltd. (TCIL),

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<sup>1</sup> The mission was led by Deepak Singh (Senior Disaster Management Specialist, and TTL), Anup Karanth (Senior Disaster Management Specialist), Jurminla Jurminla (Procurement Specialist), Neha Vyas (Senior Environmental Specialist), Deepak Malik (Operations Specialist, Consultant), Anindya Sarkar (Architect Consultant), Siddharth Kohli (Finance Management, Consultant), , Peeyush Sekhsaria (Architect Consultant), Venkata Rao Bayana (Social Safeguards Consultant), Prabir Joardar (Saline Embankment, Consultant) and Malini Nambiar (DRM Consultant).

have put together and shared the technology options for the component. NDMA have shared the standard Terms of Reference (ToR) for engagement of the consultant. The ToR maybe utilized with necessary state specific customization through open or single source methods of procurement. States are requested to share the final ToR with NDMA and World Bank for approval.

5. The current States progress are - The technical requirement of Kerala is yet to be customized as per State specific needs. Maharashtra is interacting with TCIL to engage them as Consultant and Goa has requested for a revised techno-commercial proposal from TCIL. These three States intend to engage M/s. TCIL as Consultant. NDMA will draft a standard ToR in order to facilitate the selection of vendors to procure, install and operate the web based system of Early Warning to the Last Mile. The proposal of Gujarat on EWDS with alternative technology option was reviewed by PMU- NDMA and TCIL and comments sent to GSDMA for further necessary action. PMU is currently reviewing the revised proposal on EWDS with ToR sent by Karnataka and will communicate its comments by December 30, 2016. Concurrence of PMU-NDMA has been provided on the ToR received from West Bengal for engagement of Consultant for EWDS.

## **Component B: Cyclone Risk Mitigation Infrastructure**

### **GOA**

6. ***Multi-Purpose Cyclone Shelters:*** The total number of Multi-Purpose Cyclone Shelters (MPCS) to be constructed in the state under the project are likely to be between 18-20. Out of the proposed 20 MPCS, 12 sites have been identified and handed over to the Water Resources Department (WRD). While another 3 MPCS sites are currently underway. Sites for the remaining shelters is yet to be identified/finalized. Approvals for these 15 MPCS sites are expected to be in place before December 31, 2016. For the remaining three to five sites, the same process will be completed once locations are identified/finalized. It is expected that 8 MPCSs will be built within or close to the premises of schools while another two will be located within the premises of Fire Stations.

7. The architectural drawing for Dando Siolim MPCS (this site includes a MPCS and a Fire Station) has been approved on October 15, 2016. The SPIU will send the structural designs for the same by December, 2016. As Dando Siolim site had demolition related issues, the PIU decided to take-up the MPCS at Dabolim as the model DPR. The architectural drawings and structural design (as of November 23, 2016) have been approved. Soil testing has been completed for the 12 MPCS sites. The mission advised to complete the environment and social screening exercise for Dabolim, based on which subsequent DPRs can be emulated. Detailed comments and guidance has been provided for the same by the Bank. The SPIU agreed that the model DPR will be completed by December 30, 2016 and all 12 MPCS will be ready for tendering by January 2017.

8. Considering that the multi-purpose function of the majority of MPCS will be by schools the mission advised the proper engagement with the Education Department, targeted communities and other stakeholders to ensure that proper utilization of the building. The mission encouraged SPIU to look at the approach towards management and maintenance of MPCS in Odisha, Andhra Pradesh and Tamil Nadu, which have proved to be successful. Shelter

management committee guidelines of Odisha are available and can be downloaded from the OSDMA website. (<http://www.osdma.org>)

9. **Saline Bunds:** The DPR for Diwar Island has progressed well, and the hydrological and hydraulic settings have been well established. However, mission noted some weakness in the design of the gabion retaining wall for the embankment, and provided advise to the design engineers on the same. Please refer to Annexure 6 for further details. The mission was informed that TERI will be on-board by December 2016 to undertake the Environment and Social Impact Assessment studies (EIA/SIA) for the two proposed works under this sub-component. Based on the assessment, a sub-project specific EMP and a RAP will be prepared. The SPIU has to ensure that the design/DPR factors-in findings from the assessments and that the EMP is integrated in the Bidding Document before the tenders can be invited. Tendering is likely to initiate in March 2017.

10. **Underground Electrical Cabling Works:** The mission was informed that the Electricity Department, is yet to finalize an agency to conduct the Environment and Social Impact Assessment studies (EIA/SIA) for the proposed underground electrical cabling works. The Bank has been emphasizing that one agency should be hired to conduct assessments for both saline embankments and underground electrical cabling works to reduce transaction time and rationalize the cost. Since an agency has been selected for the former, the Electricity department can reach out to the same organization for conducting the study. Based on the findings from the assessment, a sub-project specific EMP and a RAP will be prepared. The Electricity Department is also yet to finalize the method of doing consumer survey and fixing route alignment for the works. The preliminary outputs will be required for the environment and social assessments and therefore this consultancy needs to start earlier than the EA/SA studies.

## **GUJARAT**

11. **Multi-Purpose Cyclone Shelters:** Under this sub-component, the state has proposed to construct 128 MPCSSs. Of these, 21 MPCSSs are under construction, 9 MPCSS contracts have been awarded, and another 9 MPCSS are in the tendering stage and are likely to be awarded by end of December 2016. The mission was informed that DPRs are under preparation for 49 shelters while another 40 MPCSS sites have land issues – these are being looked into on a case by case basis and it is expected that most of the issues can be sorted out by January 31, 2017.

12. The mission visited one MPCSS site – Rahtalav in Dholera, Ahmedabad. Some of the observations are as follows and these apply to all design types (please see Annexure 3 for detailed comments related to the sites visit and suggestions made by the mission):

- i. **Architectural designs** – Improvements and changes are needed in the architectural designs in terms of the following: a) toilet position, b) kitchen, c) approach to toilets for the physically challenged and its detailing, d) location and details of generator room, e) additional fuel room, f) change design of windows opening onto the passage to ventilators, g) work out the detailing for bathrooms, which currently have not been addressed adequately, h) staircase mummy height to be optimized (currently 3.5m), and, i) provision of lofts that are currently missing.
- ii. **Structural design** – Each slab needs to be rechecked and column and beam, which are off center needs to be revisited. It was agreed that the structural design for both model MPCSS will be reviewed by the Bank after a round of revision by the PIU. In addition, High Flood Level (HFL) to be shared for each MPCSS site.

- iii. Construction Quality – a) Quality of masonry needs to be improved, b) Mortar joints were excessively thick, need to be restricted to about 1 cm, and c) Cement plastering was too thick and needs to be optimized. In addition, d) possibilities of greener bricks like fly ash bricks or autoclave aerated concrete blocks or hollow concrete blocks need to be explored and built into the BOQ, e) construction steel to be epoxy coated or given cement wash f) door, window detail specifications to be shared with the Bank.
- iv. Worker safety The mission found that the worker's register was not available on construction sites, safety gear and shoes were not provided and use was not enforced upon, worker's toilets had no light, LPG not provided for cooking and *Chulah's* were inside the living space. The mission expressed concern and sought immediate corrective action for improving labour facilities, which currently are of poor standard. The following needs attention and action: – proper beds, proper bathing and toilet spaces with lighting and water storage facility. It was agreed that a workshop for contractors covering environment, health and safety aspects and social safeguards and construction quality management will be organized before December 31, 2016.

13. The two agreed MPCS type design - 550-capacity shelters (totaling 56 MPCS in numbers) and 800-capacity - have been approved by the World Bank. However, after the field visit, the mission requested SPIU to resend the architectural drawings as further improvements / modified is needed and can be incorporated at this stage. The mission suggested the following: a) the current site size can be optimized keeping the same building footprint - the large site size could partly be the reason why the PIU is facing difficulty in identifying suitable sites; b) explore smaller size of site for both 550 and 800 capacity MPCS keeping the same building footprint, and c) develop a second design for capacity 800 MPCS, with part of the MPCS accommodated on the 2<sup>nd</sup> floor resulting in a building with a reduced footprint and share with World Bank by December 31, 2016.

14. The mission requested that the 40 MPCS sites that have land issues need to be resolved by the end of January 2017 to enable tendering of the same immediately thereafter. While out of 49 MPCS sites that have no land issues, 21 number of MPCS will be tendered by February 2017 and 28 MPCS sites are expected to be awarded by/before April 30, 2017.

15. **Access/Evacuation Roads and Bridges:** Under this component, 43 access roads totaling about 156.74 km are proposed to be constructed. To date, out of 20 roads falling outside the CRZ area, 19 roads are 100% completed and 1 road is 95% completed in terms of physical progress. For the 23 roads that fall in the CRZ area, the state has obtained the necessary CRZ clearance, and 10 roads works have been tendered out while the remaining will be tendered by end of December 2016.

16. The mission visited two sites – Mahadevpura approach road (work not started) and Aambali- Kamatalav Road (where works have been completed). It was observed that a) the communication boards needs to be standardized; b) The mission reviewed the designs for the road where work is yet to start and advised that WBM (Water Bound Macadam) should be changed to WMM (Wet Mix Macadam) to make the roads more durable; c) Similarly it advised that MSS 20 mm be changed to SGBC 25 mm; d) Due to inadequate compaction and lack of any turfing, rain cuts were observed in the shoulder and slopes - this is to be corrected in completed and ongoing sub-projects and provided/included in the forthcoming works; e) Details at culverts need to be improved; f) road junctions, specifically where feeder roads meet project

road or where project road meets another road need to be properly detailed out and integrated in the design, f) Traffic calming measures at road junctions, school and in settlement sections need to be provided for in the design; g) In the completed road works, the mission noticed few issues regarding road compaction. The mission advised that prior to handing over the works, a final inspection should be conducted and a completion report should be prepared. For further details of site visits please see Annexure 3.

17. ***Underground Electrical Cabling Works:*** The city of Gandhidham in the Western Coast of Gujarat has been selected for Underground Electrical Cabling. Paschim Gujarat Vij Company Limited, which is the executing agency for this sub-component, is currently preparing the DPR. The SPIU is in the process of hiring a consulting firm for undertaking the EIA/SIA study. The firm is likely to be on board by December 31, 2016. Based on the assessment and engineering proposition, a sub-project specific EMP and a RAP need to be prepared. GSDMA/SPIU and PGVCL have to ensure that the design/DPR factors-in findings from the assessments and that the EMP is integrated in the Bidding Document before the tenders are invited.

### **KARNATAKA**

18. ***Multi-Purpose Cyclone Shelters:*** The State has proposed to construct 11 MPCS. All the sites have been identified and the required CRZ clearances have been obtained. Approval for the DPR of Thekatte MPCS, as a model document, has been provided by the Bank. The remaining DPRs shall be prepared on similar lines and will further incorporate additional required design elements for GRIHA certification. The Bank will extend the knowledge support to streamline this process. The SPIU is planning to engage the services of Structural Engineer for design of the remaining 9 MPCS. The ToR for the same is yet to be shared with the Bank.

19. ***Management and Maintenance:*** The mission reiterated that SPIU-Karnataka should share the utilization plan of all MPCS in line with previous agreements and it was agreed that this shall be shared latest by December 31, 2016. The mission advised that this utilization plan would enable to finalize the design for all MPCS. SPIU Karnataka has also agreed to share the outline document for formation of Cyclone Shelter Management Committees by December 31, 2016.

20. ***Bridges:*** The State has proposed two bridges under the project. The structural design and Model DPR of Kodikaniyana Bridge is to be submitted by December 31, 2016. The SPIU has agreed to take services of Structural Engineer for design of the two bridges. Limited EA will have to be undertaken for Bridges and sub-project EMPs need to be prepared.

21. ***Roads:*** Under this component, 47.63 km of roads has been proposed for construction. The CRZ clearance have been obtained for all the sites. DPR for Harikudru Road has been approved by the World Bank on August 16, 2016. Limited EA, CRZ clearance for revised/changed scope of work and finalization of the Bid Document is needed to move forward on this sub-project. Generic EMP has been shared with the PIU and the same can be incorporated after making the required changes while submission of the Bidding Document. The SPIU will resubmit the package for this sub-project after incorporating all the residual requirements (as mentioned above) latest by end of December 31, 2016.

22. ***Saline Embankments/Bunds:*** The State has proposed to rehabilitate/construct 10.46 km of embankments under the project. The CRZ clearance has been obtained for all the sites. The

preliminary design for Saline Embankment for Manikatte (7 km) is to be resubmitted to the World Bank by December 31, 2016. The mission once again informed SPIU that an EIA and SIA study for all embankment works is required in line with the agreed ESMF for the project. As discussed in December 2015 mission and thereafter in the February 2016 mission, an environment agency/firm has to be hired for undertaking the ESIA. The ToR has been shared with the PIU and the hiring process for getting a consultant on board needs to be expedited.

### **KERALA**

23. ***Multi-Purpose Cyclone Shelters:*** The State has proposed the construction of 27 multi-purpose flood/ cyclone shelters of which five require CRZ approval. The District Nirmiti Kendra is the line agency entrusted with the task of preparing the DPRs and bid documents. However, during the mission, it was agreed that the Nirmiti Kendra lacks the capacity to undertake the work. The State will explore hiring a Design Consultant for finalization of design of the MPCs. The ToR and REOI will be shared with the Bank for approval. The mission advised SPIU to expedite the process of finalizing remaining 5 MPCs by December 30, 2016. Environment and Social Screening Report prepared in January 2016 needs to be consolidated and shared with NDMA and the Bank. The mission also requested for submission of utilization plan for all 27 MPCs. In addition, the mission requested SPIU to prepare the outline document for formation of Cyclone Shelter Management Committees and share with the Bank and NDMA.

24. ***Designs and timeline:*** The SPIU has submitted three architectural drawings – Muttathara (Thiruvananthapuram), Kumarapuram (Alappuzha) and Mararikulam North (Alappuzha) - out of which Muttathara design has been approved by the World Bank. The structural design of the MPCs is yet to be submitted to the Bank for clearance. Once approved the SPIU can submit the model DPR for concurrence. It is expected that the model DPR will be shared by December 31, 2016. The mission suggested that SPIU needs to commence bidding process for at least 20 MPCs by March 2017.

### **MAHARASHTRA**

25. ***Multi-Purpose Cyclone Shelters:*** The State has proposed to build 11 MPCs, and the SPIU shared a list of sites with the Bank during the mission. Saitwade MPCs architectural drawing was approved, however based on discussions especially regarding user needs, it was agreed that the internal layouts would be changed - these changes will not have any bearing on the building footprint or structural design. The World Bank has also provided detail suggestions on the structural designs of Saitwade, which the SPIU will need to incorporate and share the revised design by December 31, 2016. The mission was informed that the model DPR will be ready before January 10, 2017. Tendering will be done in phases. Four MPCs in Phase I and 7 MPCs in Phase II. Shriwardhan MPCs with Fire station design will be reviewed by the Bank. Appointment of agency for carrying out Total Station Survey and Soil Investigation is being undertaken by the SPIU. The mission encouraged SPIU to look at the approach towards management and maintenance of MPCs in Odisha and the Guidelines can be downloaded from the OSDMA website.

26. ***Saline Embankments:*** The State has committed to build 50 km of saline embankments and bunds. At present, model design and model DPR of Kachali Pitkari (Alibag Taluka, Raigad district) has been approved by the World Bank. The mission was informed the EQMS Consultancy has been hired to update the EIA/SIA. A two-day orientation cum review meeting

on Environment Management and Safeguards was conducted by the Bank in September 2016 to ensure that the process and quality issues are addressed appropriately within the project cycle. Tendering of the Saline Embankment works is expected to start around early February 2017.

27. ***Underground Electrical Cabling Works:*** The SPIU has appointed consultants for DPR (Consumer Survey) for U.G. cable works and it will be completed by end of December 2016. The mission was informed the EQMS will also undertake EIA/SIA for underground electrical cabling works. The districts of Alibag, Ratnagriri and Saatpati have been identified for underground electrical cabling works. Alibag town will be taken up for the preparation of the model DPR. The Alibag DPR was cleared earlier but with changes coming out the micro level consumer survey, the DPR requires revision and resubmission. The SPIU will update the document and resubmit it by December 31, 2016.

### **WEST BENGAL**

28. ***Multi-Purpose Cyclone Shelters:*** The State has committed to build 150 MPCS under the project and designs have been cleared and finalized during the preparation stage of the project. Out of the 150 MPCS to be constructed under the project, on 65 sites work is in progress. The mission was informed that construction work for another 11 MPCS sites will start shortly, while on 6 sites, there has made no progress due to land problems and other local issues.

29. The mission visited three MPCS site locations 1. MPCS at Shibkalinagar Ishan Memorial High School, Block-Kakdwip, Dist.-South 24 Paraganas; 2. MPCS at Rakhaskhali High School, Block-Patharpratima, Dist.-South 24 Paraganas; 3. MPCS at Sundarban Jalkalyan Sangha Vidyaniketan Block-Sagar, Dist.-South 24 Paraganas. It was observed that the MPCS at Sundarban Jalkalyan Sangha Vidyaniketan exhibited a large number of construction defects. The mission advised to stop the construction activity at the site and undertake full scale audit for structural integrity of the building and submit the report to the Bank by December 30, 2016. The mission also found it negligent on part of the TPQA for not pointing out the deficiencies in the construction and ensuring that timely ‘corrective actions’ are undertaken. The mission’s observations related to the sites visited and suggestions are provided in Annexure 3.

30. ***Monitoring progress of MPCS:*** SPIU appraised the mission about the application-based monitoring system installed for monitoring physical progress of work across all MPCS. The application captures images of work progress, texts, location, data etc., through hand-held smart phone device and stored in a central server for real time monitoring. The mission appreciated the endeavour of the SPIU to put in place a system for monitoring and reporting.

31. ***Management and Maintenance:*** The mission was briefed that most of the MPCS are within school premises. Hence, the shelter will be used by the school during ‘normal’ times. The mission encouraged SPIU to look at the approach towards management and maintenance of MPCS in Odisha, Andhra Pradesh and Tamil Nadu and finalize a mechanism for West Bengal too.

32. ***Underground Electrical Cabling Works:*** The State has committed to lay 60 km of underground electrical cabling under the project. Digha (a seaside tourist city in the state) has been selected for underground electrical cabling works. 33 KV OH Line will be converted to underground cable from the railway crossing to Digha sub-station covering approximately 30,000 households in the city. An EIA and SIA will be required for the proposed underground

electrical cabling works. Based on the assessment and engineering proposition, a sub-project specific EMP and a RAP will be prepared. A study for this has already been commissioned and outputs have been reviewed by the Bank twice by now – the final report submission is awaited and expected to be ready by December 31, 2016.

### **Component C: Technical Assistance for Multi-Hazard Risk Management**

33. NDMA is managing this component which encompasses several activities. TOR for carrying-out these activities are under review. These will be further discussed and finalized along with the World Bank and other stakeholders. The mission pointed out to the SPIUs that Component C was not designed to be implemented by NDMA exclusively, and encouraged the SPIUs to take advantage of the funds made available by the project under this component and consider to conduct research studies in the context of long term climate change adaptation that are relevant for their own states.

### **Component D: Project Management and Implementation Support**

34. The key highlights that emerged during the discussions from an Implementation Arrangements perspective are as follows:

<b>State</b>	<b>Project Steering Committee (PSC)</b>	<b>SPIU Staffing</b>
<b>Goa</b>	PSC has been constituted. (last meeting in January 2016)	SPIU needs to expedite the filling of all key positions, especially an Environment and Social Specialist, Third Party Quality Consultant, GIS Specialist, IT Specialist, Internal Auditor, Communication Specialist.
<b>Gujarat</b>	PSC has been constituted.	The SPIU has in place a Project Management Support Consultants (PMSC) to assist the SPIU in the day to day project management, and a Design, Construction and Supervision Consultants (DCSC) to support the executing agencies and on site supervision of activities under the project. The mission requested the sharing of DCSC supervision report and review of the MPCSC designs.
<b>Karnataka</b>	PSC has been constituted (last meeting in March 11, 2016).	SPIU needs to expedite the process of filling the position of a Procurement Specialist in the SPIU and expedite hiring of consultants to take-up/complete design/assessment preparation
<b>Kerala</b>	PSC has been constituted Last meeting in February 2016.	The SPIU needs to expedite the process for filling-in positions of a Procurement Specialist and an Accountant.
<b>Maharashtra</b>	PSC has been constituted.	SPIU has appointed M/s KPMG as Project Management Support Consultants (PMSC) to assist the SPIU in day to day project management. The state have now appointed a Social Specialist too. The mission advised to expedite the hiring of Internal Auditor and Third Party Quality Auditor.
<b>West Bengal</b>	PSC has been constituted and has held three meetings since its formation.	The SPIU is well staffed. The state needs to appoint a Social Specialist, which stands delayed.



## V. Environment Management and Safeguards

35. *Overview:* The mission reviewed the implementation progress of Component B from an environment management and safeguards perspective and focused on: (a) status and quality of the environmental screening exercises, and its documentation/report preparation; (b) status on obtaining of required regulatory clearances/permissions; (c) progress of Environment Impact Assessment/s for the required sub-projects; (d) disclosure of document/s related to environment management; (e) institutional arrangements for ESMF/EMP implementation and; (f) compliance to EMP/environment, health and safety requirements for works, initiated.

36. Nodal Environment Officers/Experts are in place in Karnataka, Kerala, Maharashtra (with an additional support through PMSC), Gujarat (through PMSC) and West Bengal. Only Goa has not deployed any one so far. This has affected the preparation of sub-projects to an extent and is putting stress on the staffing at SPIU.

37. Gujarat, Kerala and West Bengal have substantially completed the Environment Screening exercises and are currently in the process of consolidating the screening reports based on suggestions provided by the Bank. Karnataka too have made progressed in completing the field verification but require to put the information together in a report form. Screening exercises for identified sub-projects have now begun in Maharashtra. The progress on the environment management aspects, including completion of screening exercises in Goa needs to be expedited – this requires that an Environment Specialist is brought on-board within the SPIU at the earliest. In Gujarat and West Bengal, civil works on selected sub-projects have initiated and EMP compliance monitoring is being undertaken by the SPIU/TPQA in West Bengal and by PMC in Gujarat.

38. On obtaining regulatory clearances (such as CRZ permission), West Bengal, Karnataka and Maharashtra (for saline embankments) have made the desired progress - all required clearances in place. The same is under process in case of Gujarat and it is expected that the permission/s will be in place before February 28, 2017. Kerala has identified five sites that require CRZ clearance, for which the mission urged on filing of applications at the earliest.

39. Keeping in mind the above status, the over-all rating on environment management for the project continue to be *'Moderately Satisfactory'*. A state-wise details have been provided in Annexure 4.

## VI. Social Safeguards

40. The mission reviewed with the project states the preparation and implementation measures for social safeguards. The overall progress in completing safeguard documentation and actions for their implementation is **moderately satisfactory**. Among all the project states, West Bengal is close to completing safeguards documentation, while other states have made only partial progress. Please see Annexure 5 for further details. The following presents the issues and key agreed actions with the states:

41. Multi- Purpose Cyclone Shelters: Consolidated social screening reports for MPCs to be submitted by all the project states before December 31, 2016. The mission has discussed

with all the states that the locational choices for the MPCS sites should be guided by usability and proximity of the site to the communities than the availability of government land.

42. Saline Embankments: Embankment strengthening will be executed in the states of Karnataka, Maharashtra, Goa. The SIA and RAP studies are in the process of commencement in Maharashtra and Goa. In Karnataka, the process for hiring consultants is expected to start soon. It is agreed that all states will submit the draft reports before February 28, 2017.

43. Underground Electrical Cabling Works: Underground electrical cabling works are proposed in Maharashtra, Goa, West Bengal and Gujarat. The preparation of SIA and RAP is in different stages in these states. West Bengal submitted revised RAP, while other states (except Goa) have commenced the studies. It is agreed that West Bengal finalize RAP before December 15, 2016; and other states will complete the RAPs before February/March 31, 2017.

44. Shelter Utilization and Management Committees: All Project States will finalize the approach and policy on Shelter Maintenance Committees and their utilization by December 31, 2016.

## VII. Procurement

45. Goa: (i) Goa's e-procurement portal assessment was completed and cleared to be used for Bank Financed project. All procurement under NCRMP II in Goa will be done through the state's e-procurement portal. (ii) The SPIU has come up with proposals for construction of MPCS/Fire Stations and procurement plan was prepared in STEP. (iii) The SPIU requested to single source TERI for conducting EIA/SIA assessment as the scope of work is very small and is estimated to cost about US\$ 18,000. Based on the justification provided, the Bank cleared for SSS for TERI and the agency is expected to be on-board very soon. (iv) The SPIU is working on with technical aspects and implementation of project procurement is 'unsatisfactory'.

46. Gujarat: (i) The Project Management Consultant (PMC) and DSC consultant are on board. (ii) On component A, GSDMA is still in the process of working out how best they can source selection of EWDS consultant as government is also in the process of implementing a parallel program. GSDMA will inform Bank on this decision and appropriate action on implementation of EWDS would be agreed. (iii) Under component B, 128 MPCS were planned and 30 MPCS were already tendered out. The mission noted that there were site issues for 36 MPCS and GSDMA is expected to sort out the site issues soon. Currently, the DSC consultant is designing 53 MPCS of which design for 27 MPCS were already finalized. The 27 MPCS were packaged into 12 packages and procurement plan for 12 packages were entered into STEP. Upon approval of procurement plan through STEP, bidding would be initiated. (iv) The progress on construction of roads is impressive. GSDMA has completed construction of 19 Roads in non-CRZ zone and another one road is 95% completed. The remaining 23 roads falling into CRZ zone were at contract signature stage. As informed by GSDMA in the earlier mission, it is likely that construction of all roads would be completed by March 2017. (v) For the UG Cable works, GSDMA had completed preparation DPRs. Currently, the process of engaging EIA/SIA consultant is underway. They have prepared 5 packages for UG Electrical Cabling works. The mission advised GSDMA to optimize packaging of UG Cable works to make bid packages more attractive. Upon finalization of packaging, GSDMA will prepare procurement plan for UG Cable works and upload it in STEP. A model Bidding document (Supply & Installation) for UG

Cable works was shared with GSDMA advising them to initiate work on it. (vi) The mission also discussed on engagement of TPQA consultant and it was agreed that PMC will be entrusted to carry out the TPQA works in Gujarat. (vii) Overall, Gujarat is well on track on implementation aspects and there are no specific issues are raised at this point.

47. **Karnataka**: (i) The SPIU has already started recruiting staff in the PIU - however, the Procurement Specialist is still not on board and the mission requested to expedite the recruitment of same as well as TPQA as it is very crucial for the project implementation. (ii) SPIU have submitted the draft Bid document of first package (consisting 7 roads with CRZ clearance) for roads for review and clearance. While reviewing, it was noted that the draft bid document requires further work on technical as well as environment and social aspects. The SPIU will re-submit the draft bid document upon receipt of technical clearances from the respective sector. (iii) The mission also advised that the SPIU to conduct and complete the EIA/SIA studies before initiating construction of Saline Embankment and Bridges. (iv) The overall implementation of procurement in Karnataka is 'unsatisfactory' as the SPIU is still at the finalization stage of DPRs.

48. **Kerala**: (i) The SPIU is yet to recruit a Procurement Specialist and the mission requested to expedite the recruitment process of the same as well as TPQA and internal / external auditor as it is very crucial for the project implementation. (ii) The mission was informed that the SPIU would like to recruit consultants for soil testing from the State empaneled list. As these contract packages are very small in nature, the mission advised SPIU to consider shortlisting of 6 best firms from the empaneled list and issue RFP. (iii) The mission also noted that site selection for MPCs are still under process and advised to expedite and finalize immediately. (iv) The SPIU have uploaded their procurement plan in STEP. As some of the sites are still at finalization stage, it is expected that there will be modification in the procurement plan.

49. **Maharashtra**: (i) The selection of Project Management Consultant (PMC) is at contract signature stage and is expected to be on board soon. The draft contract negotiation was scheduled on October 18, 2016. The SPIU confirmed that the PMC consultant will be on board by December 31, 2016. (ii) The SPIU had concluded contract signature with M/s. EQMS Consultancy firm following QCBS method for conducting EIA/SIA assessment on August 5, 2016 for a period of 6 months. It is a post review contract. During this mission, it was noted that there are issues related to contract management and the mission advised to resolve these at the earliest as it has implications to the downstream works, particularly for UG Cable works and Saline Embankment works. (iii) Consumer survey contract was concluded with Ms. Medhaj Concept Pvt. Ltd. on September 2, 2016 for a period of 3 months. It was noted that this assignment is well under progress. (iv) During the mission, SPIU informed that they have already identified a dedicated office location and are in the process of finalizing it. It is expected by SPIU will start function from the new office location by December 31, 2016. It was also noted that MEDCL has deputed one of their officer to SPIU for assisting implementation of UG Electrical Cabling works. The deputed officer will be on board by December 2016 and work progress is expected to improve thereafter. (v) This mission also discussed on requirement of TPQA consultant and it was agreed that SPIU will initiate hiring TPQA consultant. (vi) The SPIU have also prepared procurement plan through STEP and it's finalization is awaited. (vii) Overall, the implementation of project activities in Maharashtra is 'moderately satisfactory'.

50. **West Bengal:** (i) The implementation of EWDS is at initial stage. SPIU will engage EWDS consultant through competitive bidding process following CQS Selection method. Procurement of EWDS will happen only after finalization of design and specifications provided by the consultant. (ii) Under Component B, SPIU have already awarded contracts for 14 packages consisting of 150 MPCS to 2 contractors. The SPIU informed that, they are facing some contract management issues. Further, it was reported that despite their efforts, there are still 6 sites where construction work have yet to be initiated. The mission advised to resolve the issues by amending the contract agreement, if required. (iii) The TPQA consultant is on board. However, they are not able to mobilize personnel even after 6 months and SPIU is apparently facing problems particularly in terms of monitoring quality assurance aspects during the construction stage. This was highlighted by the technical mission team who visited the sites. The mission advised SPIU to resolve issues on TPQA contract and come up with alternative solutions if the performance of TPQA consultant is not improving. (iv) As the construction of MPCS are in full swing, the SPIU requested the mission to conduct Contract Management workshop for their Engineers. The mission suggested SPIU to finalize the date and inform the Bank so that a resource person can be sent for the workshop. (v) The mission also discussed implementation arrangements for Underground Electrical Cabling works. The SPIU informed that EIA/SIA assessment for these works is currently at the finalization stage. DPR for UG Cable works was completed - there will be 2 packages and procurement plan has been created in STEP as well. A model bid document (Supply & Installation) was also shared with the SPIU so that they can initiate preparing bid document for UG Cable works. (vi) Procurement for 150 MPCS has been completed while EWDS and UG Cable works is still remaining. Overall, procurement in West Bengal is 'satisfactory'.

51. All the SPIUs have uploaded their procurement plan in STEP as of this mission date. The mission noted that there are huge differences in terms of procurement performance. While Gujarat and West Bengal are far ahead in terms of performance, the remaining states are lagging behind due to various reasons. Therefore, the overall performance of the project is rated as '**Moderately Satisfactory**'. The mission also conducted risk assessment for the project and concluded that while procurement risk for Gujarat and West Bengal may be rated as moderate, the risk rating in other four states remains substantial. Therefore, the overall risk for the project is rated as '**Substantial**'.

### **VIII. Financial Management**

52. A mission was held and financial management aspects of the project were reviewed. Discussions were held with finance officials from NDMA also. The following financial management aspects were discussed:

53. **Budgeting and disbursement:** There is no budgeting constraint and all states have their separate budget codes to receive funds. The total disbursement from the Bank is USD 18.04 million, which represents 5.85% of the total loan amount of USD 308.40 million.

54. **Staffing:** Finance officers are yet to be appointed by the states of Maharashtra and Goa; it is imperative that the same is done at the earliest to ensure smooth financial management for the project.

55. **Internal Audit:** Internal auditors have been appointed in the states of West Bengal and Gujarat and are expected to commence work immediately as the two states have reported quite some expenditure for audit to be undertaken. At Goa, Maharashtra, Karnataka and Kerala, the process has not yet commenced. The states need to commence the process of appointment of internal auditor without any delay.

56. **External Audit:** The States need to ensure that a separate external audit is undertaken by the A.G. for both – the retroactive period, i.e period prior to August 11, 2015 and prospective period from August 12, 2015 to March 31, 2016. The report in this respect is due to be received by the Bank by December 31, 2016.

57. Further, separate visits were also made to the state PIUs of Gujarat and West Bengal. The details of the visit with regards to financial management aspects are mentioned at Annexure 7. Since there was negligible expenditure at other states, visits to Goa, Maharashtra, Karnataka and Kerala shall be made during the next mission.

58. The current performance rating is continued at **Moderately Satisfactory**. The same shall be reviewed during the next mission.

#### **IX. Next Implementation Support Mission**

59. The next mission will be planned in April, 2017.

**Annexure 1: Compliance of Key Agreement: January –February 2016 mission**

No.	Actions	Responsibility	Agreed Date	Compliance / Completion Date
<b>A</b>	<b>GOA</b>			
A.1	Submit to the Government the request for transferring ownership for 8 MPCS sites	SPIU	May 31, 2016	Govt. order issued transferring 11 sites to WRD & 1 site owner is WRD.
A.2	Finalization of TOR for EIA/ SIA (Environment Impact Assessment) study	SPIU	May 31, 2016	TERI hired for conducting EIA/SIA for saline embankment. Work order to be issued in next 15 days.
A.3	Submit Social and Environmental Screening reports for all proposed sub-projects	SPIU	July 31, 2016	One Screening report for Dabolim will be submitted by November 20, 2016.
A.4	Complete preparation of model DPR for Saline Bunds	SPIU	May 31, 2016	Design & DPR is under finalization. ESIA will be initiated once TERI is on-board. Tendering likely by April 2017
A.5	Appoint a consultant (firm) for conducting EIA for the proposed underground electrical cabling and preparing EMP/s	SPIU/ Electricity Department	June 10, 2016	State has not yet taken a decision on the modalities for hiring these consultancy services.
A.6	Complete the EIA and Social Impact Assessment (SIA) study for the proposed underground electrical cabling and embankment works	SPIU/ Electricity Department	September 30, 2016	Not yet initiated
A.7	Conduct a workshop to gain clarity on the need, process, role of various agencies/individuals and reporting requirements pertaining to Environment and Social Management	SPIU	June 30, 2016	Once Teri is on board, WB Experts will conduct the workshop. SPIU is ready to make arrangements.
A.8	Finalize staffing of SPIU (in particular: Environment and Social Specialist, Third Party Quality consultant, GIS Specialist, IT Specialist, Internal Auditor, Communication Specialist)	SPIU / Implementing Agencies (IAs)	May 31, 2016	TPQA and internal auditor positions will be posted on November 15, 2016. As discussed with Bank the TPQA's ToR will be tweaked to provide an Environment and Social Specialists for SPIU.

No.	Actions	Responsibility	Agreed Date	Compliance / Completion Date
A.9	Finalize dates for capacity building trainings on World Bank procedures and requirements	SPIU/WB	May 31, 2016	WB Experts to conduct the workshop. SPIU will make arrangements.
A.10	Government feedback of WB assessment on Goa's e-procurement portal.	SPIU	May 31, 2016	E-tendering portal is approved by World Bank & same will be used
A.11	Translation and disclosure of ESMF Executive Summary	SPIU	May 31, 2016	State to provide the link for Bank's record
A.12	Appoint Finance Officer at SPIU	SPIU	At the earliest	Divisional Accountant (Finance Officer) in place at the Division where the expenditure is made.
A.13	Create sufficient budget prevision in FY 2016-17	SPI	At the earliest	Agreed
A.14	Appoint an Internal Auditor as per agreed TOR	SPIU	May 31, 2016	Will be appointed
A.15	State AG to Agree on audit for the Project	SPIU	May 31, 2016	AG Audit Report for expenditure incurred in FY 15-16 is submitted to WB & NDMA.
<b>B</b>	<b>GUJARAT</b>			
B.1	Finalize the list of the 18 sites for MPCs and preparation of bids for construction	SPIU	May 31, 2016	Jan 31, 2017
B.2	Submit the design and tender of the 800-capacity MPCs to the Bank for approval	SPIU/DCSC	June 15, 2016	December 15, 2016
B.3	Finalize the Guideline on Shelter Management and Maintenance	SPIU	May 31, 2016	GR released on May 25, 2016
B.4	Finalize the list of emergency equipment for each MPCs	SPIU	May 31, 2016	Prepared and shared with the World Bank
B.5	CRZ clearance for 26 access/evacuation roads	SPIU	May 31, 2016	Clearance for 4 sites is pending. December 31, 2016
B.6	Prepare/ Conduct Environment Impact Assessment and Social Impact Assessment study for the proposed underground electrical cabling works	SPIU/PGVCL	June 30, 2016	By Aug 31, 2017
B.7	Prepare a plantation strategy for MPCs and roads by May 15, 2016	SPIU/PGVCL	May 31, 2016	By November 10, 2016

No.	Actions	Responsibility	Agreed Date	Compliance / Completion Date
B.8	Finalize staffing of SPIU	SPIU / IAs	May 31, 2016	Both DSC & PMSC appointed
B.9	Disclose translated ESMF Executive Summary	SPIU	May 31, 2016	Completed; Link Shared with the Bank
B.10	Appoint an Internal Auditor as per agreed TOR	SPIU	May 31, 2016	By November, 2016
B.11	State AG to Agree on audit for the Project	SPIU	May 31, 2016	Request to AG sent. Meeting fixed by November, 2016
<b>C</b>	<b>KARNATAKA</b>			
C.1	Finalize the list of MPCs sites	SPIU	May 31, 2016	Finalized list sent to World Bank on August 4, 2016
C.2	Finalize the use of MPCs in time of non-emergency	SPIU	May 31, 2016	Details Awaited
C.3	Finalization of TOR for EIA study covering saline embankments and selected roads	SPIU/Minor Irrigation Department	June 15, 2016	ToR for EIA/SIA submitted and approved by World Bank
C.4	Preparation of a consolidated Environment Screening Report for all embankment works and selected roads	SPIU	June 15, 2016	Consolidated version awaited
C.5	Perform Environment Impact Assessment and Social Impact Assessment study for all embankment works	SPIU/Minor Irrigation Department	June 30, 2016	ToR approved by World Bank. SPIU to initiate EOI
C.6	Prepare a plantation strategy for MPCs and roads by May 15, 2016	SPIU	May 31, 2016	Submission Awaited
C.7	Finalize staffing of SPIU (in particular: Procurement Specialist)	SPIU / IAs	May 31, 2016	Procurement Specialist to be hired – Under consideration
C.8	Disclose Translated ESMF Executive summary	SPIU	May 31, 2016	Shared with NDMA and Bank on June 10, 2016
C.9	Appoint an Internal Auditor as per agreed TOR	SPIU	May 31, 2016	As the Audit is taken up by State AG, internal auditor is not appointed. Internal Audit firm to be appointed for year 2016-2017 onwards based on ToR approved by World Bank. Process is underway



No.	Actions	Responsibility	Agreed Date	Compliance / Completion Date
C.10	State AG to Agree on audit for the Project	SPIU	May 31, 2016	State AG has already conducted audit for NCRMP-II for the year 2015-2016 on June 20, 2016.
<b>D</b>	<b>KERALA</b>			
D.1	Finalize the list of sites for MPCS	SPIU	May 15, 2016	On January 28, 2016
D.2	Submit CRZ request for 5 MPCS sites	SPIU	May 31, 2016	
D.3	Finalize staffing of SPIU (in particular: Procurement Specialist)	SPIU / IAs	May 31, 2016	Scheduled to complete in November 2016
D.4	Submit model DPR for Mararikulam MPCS	SPIU	May 31, 2016	To be resubmitted
D.5	Preparation of a consolidated Environment Screening Report	SPIU	May 31, 2016	By December 31, 2016
D.6	Prepare a plantation strategy for MPCS	SPIU	May 31, 2016	By April 2017
D.7	Disclose translated ESMF Executive Summary	SPIU	May 31, 2016	SPIU to share link
D.8	Appoint an Internal Auditor as per agreed TOR	SPIU	May 31, 2016	Scheduled to complete in November 2016
D.9	State AG to Agree on audit for the Project	SPIU	May 31, 2016	Action taken on 29/05/2016. Concurrence from State AG awaited.
<b>E</b>	<b>MAHARASHTRA</b>			
E.1	Finalize the list of sites for MPCS	SPIU	May 31, 2016	11 Sites finalized
E.2	Submission of Environment Clearance for saline embankments and underground electrical cabling	SPIU	June 30, 2016	For Saline Embankment CRZ clearance already obtained for For Underground cable work (3town) ,it will done by 3 <sup>rd</sup> week of December 2016
E.3	Conduct a workshop to gain clarity on the need, process, role of various agencies/individuals and reporting requirements pertaining to Environment and Social Management	SPIU	June 30, 2016	Completed on 20 & 21 <sup>st</sup> September 2016

No.	Actions	Responsibility	Agreed Date	Compliance / Completion Date
E.4	Finalization of TOR for EIA study covering saline embankments and underground electrical cabling works	SPIU	May 4, 2016	Contract has been awarded to M/s.EQMS Pvt Ltd and EIA&SIA will be completed by February 2017
E.5	Preparation of a consolidated Environment Screening Report	SPIU	June 30, 2016	1). November 30, 2016 for Saline Embankment 2). December 15, 2016 for 5 MPCS
E.6	Conduct EIA and SIA and prepare EMP/s for saline embankments/UGEC works	SPIU	June 30, 2016	In progress
E.7	Prepare a plantation strategy for MPCS and roads	SPIU	May 31, 2016	By March 31, 2017
E.8	Finalize staffing of SPIU	SPIU / IAs	May 31, 2016	3November 30, 2016
E.9	Finalize the process of putting in place a Project Management Consultants to assist SPIU	SPIU	May 31, 2016	November 10, 2016
E.10	Disclose translated ESMF Executive Summary	SPIU	May 31, 2016	Link to be shared with the Bank
E.11	Appoint Finance Officer at SPIU	SPIU	May 31, 2016	By 30 <sup>th</sup> November 2016 (PMC's Financial Officer will be on Board by 15 <sup>th</sup> November 2016
E.12	Appoint an Internal Auditor as per agreed TOR	SPIU	May 31, 2016	30 <sup>th</sup> November 2016
E.13	State AG to Agree on audit for the Project	SPIU	May 31, 2016	Agreed
<b>F</b>	<b>WEST BENGAL</b>			
F.1	Submission of Environment Clearance for underground electrical cabling	SPIU	May 15, 2016	In progress
F.2	Finalize the Guideline on Shelter Management and Maintenance	SPIU	May 31, 2016	By December 31, 2016
F.3	Finalize the list of emergency equipment for each MPCS	SPIU	May 31, 2016	By first week of November
F.4	Appoint a Social Specialist	SPIU	Immediately	Advertisement for the position posted on October 8, 2016. Last date for receiving

No.	Actions	Responsibility	Agreed Date	Compliance / Completion Date
				application is November 7, 2016
F.5	Preparation of a consolidated Environment Screening Report	SPIU	May 31, 2016	By December 31, 2016
F.6	Conduct an Orientation Workshop for line agency staff, contractors and other consultants	SPIU	June 15, 2016	By February 15, 2017
F.7	Conduct EIA and SIA and prepare EMP/s for underground electrical cabling works at Digha	SPIU	June 30, 2016	i. Draft SIA &rap report sent to Social Development consultant of World Bank on August 27, 2016. ii. Draft EMP &EIA report sent to World Bank on October 5, 2016. Suggestion from World Bank will be incorporated and revised EIA will be send on December 15, 2016
F.8	Prepare a plantation strategy for MPCs	SPIU	May 31, 2016	Submitted – reviewed and comments provided by the Bank during the mission
F.9	Appoint on Internal Auditor as per agreed TOR	SPIU	May 31, 2016	Internal auditor appointed
F.10	State AG to Agree on audit for the Project	SPIU	May 31, 2016	State AG already started Audit

**Annexure 2: Key Agreed Actions - October 2016 Mission**

No.	Actions	Responsibility	Agreed Date
<b>A</b>	<b>GOA</b>		
A.1	Submit to the Government the request for transferring ownership for 8 MPCS sites	SPIU	December 31, 2016
A.2	Finalization of TOR for EIA (Environment Impact Assessment) study for UGEC works	SPIU /Electricity Department	December 31, 2016
A.3	Submit Social and Environmental Screening reports for 12 MPCS proposed sites, and disclose the reports	SPIU	December 31, 2016
A.4	Complete preparation of model DPR for Saline Bunds	SPIU	December 31, 2016
A.5	Submit model DPR for Dabolim MPCS	SPIU/	December 31, 2016
A.6	Tendering of 12 MPCS sites	SPIU/	December 31, 2016
A.7	Conduct a workshop to gain clarity on the need, process, role of various agencies/individuals and reporting requirements pertaining to Environment and Social Management	SPIU	Once consultants/SPIU staff is on-board
A.8	Finalize staffing of SPIU (in particular: Environment and Social Specialist, Third Party Quality consultant, GIS Specialist, IT Specialist, Internal Auditor, Communication Specialist)	SPIU / Implementing Agencies (IAs)	Immediately
A.9	Share Dando Siolim MPCS structural designs		December, 2016
A.10	Initiate EIA/ SIA for Saline Embankments	SPIU	December, 2016
A.12	Appoint Finance Officer at SPIU	SPIU	Immediately
A.13	Appoint an Internal Auditor as per agreed TOR	SPIU	Immediately
A.14	State AG to Agree on audit for the Project	SPIU	Immediately
<b>B</b>	<b>GUJARAT</b>		
B.1	Resolve 40 MPCS sites land issue	SPIU	January 31, 2017
B.2	Resubmit the design (architectural and structural) of the 550 –capacity and 800-capacity MPCS to the Bank for modification	SPIU/DCSC	Immediately
B.3	Out of 49 MPCS sites without Land issues – Tendering of 21 MPCS sites Tending of 28 MPCS sites	SPIU	February 2017 March 2017
B.4	13 Road works to be tendered out	SPIU	December 31, 2016
B.5	Initiate Environment Impact Assessment and Social Impact Assessment study for the proposed underground electrical cabling works	SPIU/PGVCL	January 1, 2017
B.6	Appoint an Internal Auditor as per agreed TOR	SPIU	Immediately
B.7	State AG to Agree on audit for the Project	SPIU	Immediately
<b>C</b>	<b>KARNATAKA</b>		
C.1	Finalize the use of MPCS in time of non-emergency	SPIU	Immediately


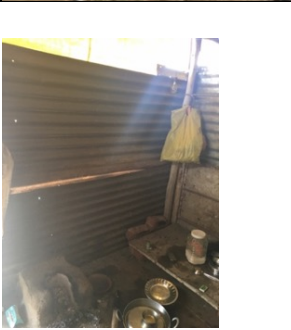
No.	Actions	Responsibility	Agreed Date
C.2	Finalization of TOR for engagement of consultant for design of MPCS, saline embankments and bridges	SPIU	Immediately
C.3	Preparation of a consolidated Environment Screening Report for all MPCS sites	SPIU	December 31, 2016
C.4	Initiate Environment Impact Assessment and Social Impact Assessment study for all embankment works, and limited Environment Assessment for Bridges and Roads	SPIU/Minor Irrigation Department	January 15, 2017
C.5	Submit structural design and revised DPR for Kodikaniyana Bridge to World Bank	SPIU	December 31, 2016
C.6	Submit the design for Manikatte saline Embankment to World Bank	SPIU	December 31, 2016
C.7	Prepare a plantation strategy for MPCS and roads	SPIU	December 31, 2016
C.8	Submit guideline on formation of Cyclone Shelter Management Committee	SPIU	December 31, 2016
C.9	Finalize staffing of SPIU (in particular: Procurement Specialist)	SPIU / IAs	Immediately
C.10	Appoint an Internal Auditor as per agreed TOR	SPIU	Immediately
C.11	State AG to Agree on audit for the Project	SPIU	Immediately
<b>D</b>	<b>KERALA</b>		
D.1	Submit structural design and model DPR for Mararikulam MPCS to World Bank	SPIU	Immediately
D.2	Submit utilization plan for all MPCS sites	SPIU	Immediately
D.3	Finalize staffing of SPIU (in particular: Procurement Specialist)	SPIU / IAs	Immediately
D.4	Finalize the consolidated Environment and Social Screening Report	SPIU	December 31, 2016
D.5	Initiate the selection of firm for Soil testing of all MPCS sites	SPIU	Immediately
D.6	Initiate bidding process for 20 MPCS sites		March 2017
D.7	Submit guideline on formation of Cyclone Shelter Management Committee	SPIU	January 10, 2017
D.8	Disclose translated ESMF Executive Summary	SPIU	December 31, 2016
D.9	Appoint an Internal Auditor as per agreed TOR	SPIU	Immediately
D.10	State AG to Agree on audit for the Project	SPIU	Immediately
<b>E</b>	<b>MAHARASHTRA</b>		
E.1	Finalize the architect drawing and structural designs of Saitwade MPCS and share with World Bank	SPIU	December 30, 2016
E.2	Preparation of a consolidated Environment Screening Report	SPIU	March 2017


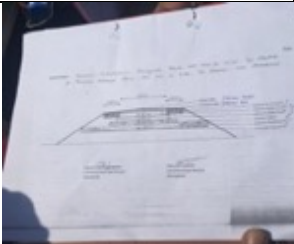
No.	Actions	Responsibility	Agreed Date
E.3	Complete EIA and SIA and prepare EMP/s for saline embankments/UGC works	SPIU	March 15, 2017
E.4	Initiate tending of Saline Embankment	SPIU / IAs	January 2017
E.5	Complete the Underground cabling consumer survey		December 01, 2016
E.6	Resubmit the DPR for U.G Alibag	SPIU	December 30, 2016
E.7	Finalize the process of putting in place a Project Management Consultants to assist SPIU	SPIU	Immediately
E.8	Appoint Finance Officer at SPIU	SPIU	Immediately
E.9	Appoint an Internal Auditor as per agreed TOR	SPIU	Immediately
E.10	State AG to Agree on audit for the Project	SPIU	Immediately
<b>F</b>	<b>WEST BENGAL</b>		
F.1	Resolve Contractual issues for MPCs	SPIU	December 15, 2016
F.2	Finalize the Guideline on Shelter Management and Maintenance	SPIU	December 31, 2016
F.3	Finalize the list of emergency equipment for each MPCs	SPIU	December 31, 2016
F.4	Appoint a Social Specialist	SPIU	Immediately
F.5	Finalize the consolidated Environment and Social Screening Report	SPIU	December 31, 2016
F.6	Conduct an Orientation Workshop for line agency staff, contractors and other consultants by	SPIU	February 15, 2017
F.7	Complete EIA and SIA and prepare EMP/s for underground electrical cabling works at Digha	SPIU	December 31, 2016
F.8	Appoint on Internal Auditor as per agreed TOR	SPIU	Immediately
F.9	State AG to Agree on audit for the Project	SPIU	Immediately

**Annexure 3: Multi-Purpose Cyclone Shelters – Technical Observations**


**GUJARAT**

The following is a summary from the proposed sites visited during the field mission:




Site 1	Dholera - Multi-purpose Cyclone Shelter (MPCS)
	<p><u>Architectural designs</u> – Improvements and changes are needed in the architectural designs in terms of the following: a) toilet position, b) kitchen, c) approach to disable toilets, d) location and details of generator room, e) additional fuel room, f) change windows opening passage to ventilators, g) bathroom details not worked out adequately, h) staircase height can be optimized-currently 3.5m, and i) provision of lofts missing.</p> <p>Finishing not good - Cement plastering too thick</p>
	<p><u>Signage and communication boards:</u> The signage boards at each site should contain the relevant information and correct information – about project name, contractor name and contact details.</p> <p>In addition, all signage and communication board must be also translated in local language</p>
	<p><u>Workers Safety-</u> Workers register missing onsite, safety gears and shoes, workers toilets no light, LPG to be provided for cooking and <i>Chula's</i> must be outside the living house. Labour facilities are poor standards, beds to be provided, proper bathing space with lighting and water storage tanks. However, First aid box was available</p>



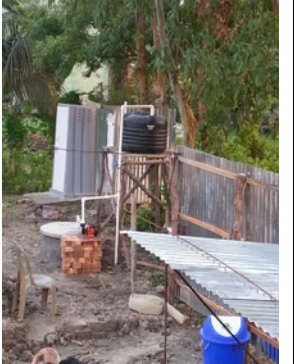
Site 2	Road – Aambali-Kamatalav (Completed road)
	<ul style="list-style-type: none"> <li>• <u>Compaction/ finishing</u>: In the completed road site, the mission noticed few issues regarding road compaction. The mission suggested turfing/ pitching as well as plantation that could be considered. The mission advised that prior to handing over the works, a final inspection should be conducted and a completion report should be prepared.</li> <li>• <u>Protection wall</u>:</li> <li>• <u>Safety</u>: The mission advised proper making of speed breakers, edge makers, reflectors or cat-eyes to be place on the road</li> </ul>
Site 2	Road – Mahadevpura approach road – Dholera (work yet to start)
	<p>Designs: The mission reviewed the designs for the road where work is yet to start and advised that WBM (Water Bound Macadam) to be change to WMM (Wet Mix Macadam) to make the roads more durable.</p>

## WEST BENGAL

Site 1	<b>MPCS at Shibkalinagar Ishan Memorial High School Block-Kakdwip, Dist.-South 24 Paraganas</b>
	<p><b>Construction</b></p> <ul style="list-style-type: none"> <li>▪ Satisfactory</li> <li>▪ Water stagnation at ground / intervention needed</li> <li>▪ Site falls in Zone IV, 135 degree hook for stirrups (IS 13920, Seismic Detailing of RC Structures), column and beam web reinforcement</li> <li>▪ Water stagnation observed in the ground floor of the building. Explore possibilities of keeping the ground floor dry.</li> </ul> <p><b>Quality</b>: Satisfactory</p>



<p><b>Site 2</b></p>	<p><b>MPCS at Rakhaskhali High School Block-Patharpratima, Dist.-South 24 Paraganas</b></p>
	<p><b>Construction</b></p> <ul style="list-style-type: none"> <li>▪ Satisfactory till date</li> <li>▪ Site falls in Zone IV, 135 degree hook for stirrups (IS 13920, Seismic Detailing of RC Structures), column and beam web reinforcement</li> <li>▪ Water stagnation observed in the ground floor of the building. Explore possibilities of keeping the ground floor dry.</li> </ul> <p><b>Quality</b></p> <ul style="list-style-type: none"> <li>▪ Formwork mechanism for ground floor beams should be on stiff ground</li> </ul>
<p><b>Site 3</b></p>	<p><b>MPCS at Sundarban Jalkalyan Sangha Vidyaniketan Block-Sagar, Dist.-South 24 Paraganas</b></p>
	<p><b>Construction</b></p> <ul style="list-style-type: none"> <li>▪ Unsatisfactory</li> <li>▪ All beam-column junctions has been repaired through grouting</li> <li>▪ Site falls in Zone IV, 135 degree hook for stirrups (IS 13920, Seismic Detailing of RC structures), column and beam web reinforcement</li> <li>▪ Water stagnation observed in the ground floor of the building. Explore possibilities of keeping the ground floor dry.</li> </ul> <p><b>Quality</b></p> <ul style="list-style-type: none"> <li>▪ Concrete quality unacceptable/honey combing, column out of plumb</li> <li>▪ TPQA to submit test results for grout and methodology executed for grouting</li> <li>▪ Undertake structural integrity test of the building and submit report with all calculations to the Bank for discussion.</li> </ul> 

<p><b>Site 4</b></p>		<p><b>1. MPCS at Radhakrishnapur High School Block-Sagar, Dist.-South 24 Paraganas</b></p> <p><b>Construction</b></p> <ul style="list-style-type: none"> <li>• Satisfactory</li> <li>• Water stagnation at ground / intervention needed</li> <li>• Zone IV, 135 degree hook for stirrups (IS 13920, Seismic Detailing of RC structures), column and beam web reinforcement</li> <li>• Water stagnation observed in the ground floor of the building. Explore possibilities of keeping the ground floor dry.</li> </ul> <p><b>Quality:</b> Satisfactory</p>
		<p><b>Good Practices</b></p> <p><b>Signage</b> – Clear Information and warning of construction site ahead</p>
		<p>Water takers elevated so that dust and debris do not contaminate water. Dustbin also provided for waste collection.</p>

## **Annexure 4: Environment Management and Safeguards**

1. **Overview:** The mission reviewed the implementation progress of proposed investments (MPCS; Roads, Bridges, Saline Embankments and Underground Electrical Cabling works) from an environment management and safeguards perspective and focused on the following: (a) status and quality of the environmental screening exercises, including its documentation/report preparation; (b) status on obtaining of required regulatory clearances/permissions; (c) commencement and progress of the Environment Impact Assessment/s for required sub-projects; (d) disclosure of document/s related to environment management; (e) institutional arrangements for ESMF/EMP implementation and; (f) compliance to EMP/environment, health and safety requirements for works, where execution has begun.
  
2. **Implementation Arrangements:** Nodal Environment Officers/Experts are in place in Karnataka, Kerala, Maharashtra (with an additional support through PMSC), Gujarat (through PMSC) and West Bengal. Only Goa has not deployed any one so far. This has affected the preparation of sub-projects to an extent and is putting stress on the thin staffing of the SPIU.
  
3. Gujarat, Kerala and West Bengal have completed/substantially completed the Environment Screening exercises and are currently in the process of collating/preparing final consolidated screening reports based on comments/suggestions provided by the Bank. Karnataka too has been made progress in completing the field work/verification but requires substantive effort to put the information together in form of a report. Screening exercises for identified sub-projects (where locations have been identified/firmed-up) has begun in Maharashtra. The progress on the environment management aspects, including completion of screening exercises in Goa needs to be expedited – this requires that an Environment Specialist is brought on-board within the SPIU set-up at the earliest. In Gujarat and West Bengal, civil works on selected sub-projects have initiated and EMP compliance monitoring is being undertaken by the SPIU/TPQA in case of West Bengal and by PMC in case of Gujarat.
  
4. **Regulatory Clearances:** On obtaining regulatory clearances (such as CRZ permission), West Bengal, Karnataka and Maharashtra (for saline embankments) have made the desired progress - all required clearances in place. The same is under process in case of Gujarat and it is expected that the permission/s will be in place before February 28, 2017. Kerala has identified five sites that require CRZ clearance, for which the mission urged on filing of applications at the earliest.
  
5. Keeping in mind the above status, the over-all rating on environment management for the project continue to be **‘Moderately Satisfactory’**. A state-wise summary of the discussions and key agreed actions is presented below.

### **GOA**

6. **Site selection and screening for MPCS:** The total number of Multi-Purpose Cyclone Shelters (MPCS) to be constructed in the state under the project are likely to be around 20. Out of the proposed 20 shelters, 12 sites have been identified and these have been handed over to the Water Resources Department (WRD). The process for site take over by the WRD for another 3

shelters is currently underway. Sites for the remaining shelters is yet to be identified/finalized. Approvals for these 15 sites are expected to be in place before December 31, 2016. For the remaining three to five sites, the same process will be completed once locations are identified/finalized. It is expected that 8 MPCSSs will be built within or close to the premises of schools while another two will be located within the premises of Fire Stations. The mission reiterated during a meeting on November 2, 2016 at Delhi that among the parameters that will inform the final selection of sites, the following are important: (a) need/requirement for a MPCSS based on population facing vulnerability specifically from prolonged inundation and flooding of certain areas; (b) availability of *pucca* housing and public buildings in the area; (c) land availability; (d) ecological sensitivity and; (e) usage of the facility during normal times. The mission clarified that in areas where the need for a MPCSS has been clearly identified, the SPIU should not rule out sites due to small constraints.

7. *Design/DPR for MPCSS*: The mission advised to complete the environment and social screening exercise for Dabolim (being prepared as a model DPR), based on which subsequent DPRs can be emulated. Further, the green building elements need to be incorporated in the design/DPR. Also, proper engagement with the Education Department and targeted communities and other stakeholders needs to be undertaken to ensure that proper utilization of the building can be ensured.

8. Detailed comments and guidance (including sample hand-outs) has been provided for the same by the Bank. The SPIU agreed that the model DPR will be completed by November 30, 2016 and all 12 MPCSS will be ready for tendering by December 31, 2016.

9. *Regulatory Clearances*: The mission advised the SPIU to expedite the screening process and phase the implementation based on the results from the screening exercises. The sites requiring CRZ clearance or forest land diversion or other regulatory permissions (such as tree cutting or permission from local bodies) should be taken-up for bidding in the second phase after the necessary approvals have been obtained. The phasing of civil works should be accordingly reflected in the Procurement Plan.

10. *Shelter Utilization and Management Plans* for the proposed MPCSS will be finalized/ shared by December 31, 2016.

11. *Disclosure of Information*: Once the consolidation of the screening report is completed (in line with the points mentioned above) by the SPIU, it shall be put onto the public domain, including the website and at the local level in line with norms spelt out in the ESMF.

12. The translated version of the Executive Summary of the ESMF in local language (Hindi/ Konkani) will also be shared with the Bank and NDMA for record, including the website link on which it is posted and local level/s of disclosure as sub-project locations are getting finalized.

13. *Saline Embankment Works*: The Bank team had supported and fully guided the preparation and finalization of the ToR for EA/SA studies earlier this year. The mission was informed that TERI will be on-board by November 30, 2016 to undertake the Environment and Social Impact Assessment studies (EIA/SIA) for the two proposed works under this sub-component. Based on

the assessment, a sub-project specific EMP and a RAP will be prepared. The WRD has to ensure that the design/DPR factors-in findings from the assessments and that the EMP is integrated in the Bidding Document before the tenders can be invited. Tendering is likely to initiate in March 2017.

14. *Underground Electrical Cabling Works:* The mission was informed that the Electricity Department, is yet to finalize an agency to conduct the Environment and Social Impact Assessment studies (EIA/SIA) for the proposed underground electrical cabling works. The Bank has been emphasizing that one agency should be hired to conduct assessments for both saline embankments and underground electrical cabling works to reduce transaction time and rationalize the cost. Since an agency has been selected for the former, the Electricity department can still reach out to the same organization for conducting the study. Based on the findings from the assessment, a sub-project specific EMP and a RAP will be prepared. The concerned department has to ensure that the design/DPR factors-in findings from the assessments and that the EMP is integrated in the Bidding Document before the tenders are invited. The Electricity Department is also yet to finalize the method of doing consumer survey and fixing route alignment for the works. The preliminary outputs will be required for the environment and social assessments and therefore this consultancy needs to start earlier than the EA/SA studies.

15. *Institutional Arrangements:* SPIU still has no designated Environment Specialist in the team. The mission reiterated that it is necessary to fill-up this position at the earliest – without this, slippages in meeting the requirements of ESMF is highly likely.

16. *Sensitization and Training on ESMF:* The mission suggested that a sensitization/training program should be conducted for SPIU and the line agency staff to ensure that the ESMF requirements are well understood. The mission has agreed to support such a training in the coming months for which the dates will be discussed and agreed with Govt. of Goa separately. However, before such a program can be organized, it is necessary to have the SPIU's environment and social positions filled-up and that the consultants are brought on-board.

17. *Key Activities/Agreements:* (i) Recruitment/deployment of Nodal Environment Officer – Immediate; (ii) bring TERI on board for the EIA study for saline embankments and initiate field work; (iii) get an agency on-board for undertaking the EIA study for underground electrical cabling works; (iii) Complete the Environment Screening Exercise for the identified 15 MPCs sites by December 31, 2016 – Bank has already provided written comments and guidance for this; (iv) Conduct a workshop to gain clarity on the need, process, role of various agencies/individuals and reporting requirements pertaining to Environment Management by January 20, 2017 – Bank will support this activity; (v) Disclosure of environment documents – as they are prepared and finalized and confirm disclosure of ESMF's executive summary in vernacular to the Bank and NDMA.

## **GUJARAT**

18. *Site selection and screening for MPCs:* The state has proposed to construct 128 MPCs. Of these, 21 MPCs are under construction as part of the 9 awarded contracts. Another 9 shelters are in the tendering stage and are likely to be awarded by end of November 2016. The mission was informed that DPRs are under preparation for 49 shelters while another 40 MPCs sites have land

issues – these are being looked into on a case by case basis and it is expected that most of the issues can be sorted out by January 31, 2017.

19. *Shelter Utilization and Management Plans* for the proposed MPCs will be finalized/ shared by December 31, 2016.

20. *Design/DPRs for MPCs*: High Flood Level (HFL) for each MPCs site needs to be provided in the DPR and a consolidated information needs to be shared with NDMA and the Bank. Improvements and changes are needed in the designs in terms of: a) toilet position, b) kitchen, c) approach to toilets for the physically challenged and its detailing, d) location and details of generator room, e) additional fuel room, f) change design of windows opening onto the passage to ventilators, g) work out the detailing for bathrooms, which currently has not been addressed adequately, and h) provision of lofts that are currently missing.

21. Possibilities of greener materials like fly ash bricks or autoclave aerated concrete blocks or hollow concrete blocks need to be explored and built into the BoQ. Likewise, the guidance provided by the Bank earlier on infusing green elements in the DPR pertaining to choice of door/window frames, glasses, paints, pavers, water and energy efficiency measures etc. need to be built into DPRs that are currently under preparation.

22. *EHS management during construction (MPCs)*: Information provided on the signage/ communication boards of the project must be corrected and the contractor contact details must be provided in both English and in vernacular. The mission found that the worker's register was not available on construction sites, safety gear and shoes were not provided and use was not enforced upon, worker's toilets had no light, LPG not provided for cooking and *Chulah's* were inside the living space. The mission expressed concern and sought immediate corrective action for improving labour facilities, which currently are of poor standard. The following needs attention and action: – proper beds, proper bathing and toilet spaces with lighting and water storage facility. It was agreed that a workshop for contractors covering environment, health and safety aspects and social safeguards and construction quality management will be organized before December 31, 2016.

23. Further some issues, including those pertaining to non-adherence to safety standards (lack of barricading, protruding rods, no-provision of PPE to workers, children near worksite, electrical safety practices etc.) and basic labor requirements (non-provision of basic accommodation, water, sanitation, first aid and clean fuel) were noted during the last mission. The mission reminded that much of this is country's own regulations and stipulations on environment, health and safety must be adhered to.

24. *Access/Evacuation Roads*: Under this sub-component, 43 access roads totaling about 156.74 km are proposed to be constructed. To date, out of 20 roads falling outside the CRZ area, 19 roads are 100% completed and 1 road is 95% completed in terms of physical progress. For the 23 roads that fall in the CRZ area, the state has obtained the necessary CRZ clearance, and 10 roads works have been tendered out while the remaining will be tendered by end of December 2016.

25. From the visits to two sites – Mahadevpura approach road (work not started) and Aambali-Kamatalav Road (where works have been completed), it was observed that: a) the communication

boards at the work sites did not contain all the necessary information. The mission requested to update the boards according to the project's standard requirements; b) Due to inadequate compaction and lack of any turfing, rain cuts were observed in the shoulder and slopes - this is to be corrected in completed and ongoing sub-projects and provided/included in the forthcoming works; c) Details at culverts need to be improved; d) road junctions, specifically where feeder roads meet project road or where project road meets another road need to be properly detailed out and integrated in the design, e) Traffic calming measures at road junctions, school and in settlement sections need to be provided for in the design. Some issues, including those pertaining to non-clearance of diversion and waterway; uneven shoulders (accumulating water) and lack of proper compaction/grading of berms; improper dressing of embankment slopes and site clean-up; faded markings; lack of smooth transition between CC and bitumen pavement and; non-painting of the speed hump (safety issue) were noted during the last site visit. An Action Taken report on this is still awaited. The mission once again advised that a checklist should be developed for verifying execution/completion of specific works to ensure quality is maintained before handing over of the asset. Some basic oversight (at critical stages) on the line agency from GSDMA's side is also needed.

**26. *Underground Electrical Cabling Works:*** The city of Gandhidham in the Western Coast of Gujarat has been selected for Underground Electrical Cabling. Paschim Gujarat Vij Company Limited, which is the executing agency for this sub-component, is currently preparing the DPR. The SPIU is in the process of hiring a consulting firm for undertaking the EIA/SIA study. The firm is likely to be on board by December 1, 2016. Based on the assessment and engineering proposition, a sub-project specific EMP and a RAP need to be prepared. GSDMA/SPIU and PGVCL has to ensure that the design/DPR factors-in findings from the assessments and that the EMP is integrated in the Bidding Document before the tenders are invited.

**27. *Screening Report/Documentation:*** Environment and social screening exercises have been undertaken for several of these sub-projects. While the screening forms are in order, the mission once again pointed out that a consolidated report needs to be put together. It will include the following in addition to the main screening checklist: (a) a summary presenting the methodology adopted and results of the exercise; (b) map/s (on a GIS platform with clearly demarcated sub-project location, natural environment features, access routes/roads, settlements, CRZ/forest/protected area boundaries etc.); (c) proceedings/ minutes of the consultations carried out; (d) photographs of the sub-project/site. Much of this information is available with the SPIU but needs to be collated together and shared with the NDMA and Bank.

**28. *Disclosure of Information:*** Once the consolidation of the screening report is completed (in line with the points mentioned above) by the SPIU, it shall be put onto the public domain, including the website and at the local level in line with norms spelt out in the ESMF.

**29.** The translated version of the Executive Summary of the ESMF in local language (Gujarati) will also be shared with the Bank and NDMA for record, including the website link on which it is posted. It will be confirmed that it has been made available at the local/sub-project level for reference and distribution among concerned stakeholders as sub-project preparation is moving forward.

30. *Institutional Arrangements:* SPIU currently has Project Management Consulting firm on board with a designated Environment Specialist. It was agreed that the Safeguards Experts in the PMC team will review the site conditions and assist PGVCL during the preparation of the DPR/EA/SA for underground electrical cabling works in addition to their services to R&BD for consolidation of screening reports, preparation of sub-project specific EMPs, and supervision of roads and MPCS during execution of works.

31. *Sensitization and Training on ESMF:* Since the works for a few MPCS and roads are under execution and a few more will be initiated soon, the mission suggested that a sensitization/training program should be conducted for contractors and the line agency staff to ensure that the ESMF/contractual requirements (including those related to work site safety management, labor and other regulations, construction management and site clean-up and rehabilitation) are implemented in letter and spirit. The mission has agreed to support a training in the coming months for which the dates will be discussed and agreed with GSDMA separately.

32. *Key Activities/Agreements:* (i) Finalize the consolidated Environment Screening Report by December 31, 2016; (ii) Conduct an Orientation Workshop for line agency staff, contractors and other consultants by January 31, 2017 – Bank will support this activity; (iii) Conduct EIA and prepare EMP/s for underground electrical cabling works by February 28, 2017; (iv) Obtain pending CRZ clearances for 10 road sub-projects before/by January 15, 2017; (v) Take corrective actions pertaining to environment, health and safety stipulations for roads (where civil works are either complete or are nearing completion) and MPCS (where construction is underway), including a completion compliance check mechanism prior to closure of civil works (detailed comments were provided during the site visits to Dholera sub-projects, Ahmedabad district); (vi) Include green building elements in case of shelters for which design/DPR preparation is underway (DSC consultant is currently working on 53 MPCS designs); (ix) Disclosure of environment documents – as they are prepared and finalized and confirm disclosure of ESMF's executive summary in vernacular to the Bank and NDMA.

## **KERALA**

33. *Site selection for MPCS:* The State has proposed the construction of 27 multi-purpose flood and cyclone shelters in nine coastal districts of Kerala. Of these, locations have been finalized for 23 sites after extensive consultation at various levels and a Govt. order too has been issued. The mission advised SPIU to expedite the process of finalizing remaining four MPCS sites (one each in Trivandrum, Kollam, Nyarekal and Ernakulum). The mission was informed that alternative sites are being sought for three while one in Kollam is being considered for scaling down the building footprint. The mission also requested for submission of utilization plan for all 27 MPCS.

34. *Regulatory Clearances:* The State has finalized the sites for the 27 proposed MPCS under the project and Environment screening exercises have been completed. Out of the 27 MPCS, 5 sites require CRZ clearances. The mission advised that the sites requiring CRZ clearance should be taken-up for bidding in the second phase after the necessary approvals have been obtained. The phasing of civil works should be accordingly reflected in the Procurement Plan. The mission requested that the SPIU share the final list of sites with GPS coordinates.



35. *Screening Reports/Documentation:* Environment and Social Screening Report prepared in January 2016 needs to be consolidated and the revised document should be shared with NDMA and the Bank. Over-all, the effort made by the SPIU in this direction was acknowledged and appreciated by the Bank.

36. *Planning/design and Specific Management Measures for MPCs:* The mission once again reiterated that the SPIU should consider type designs keeping in mind the following while designing MPCs in sites within existing school precincts: (a) proper campus planning factoring-in placement of the MPCs, access to other buildings/blocks and other uses such as main access, playground and internal pathways etc.; (b) impact on school activities on account of dust, noise and other disturbance resulting from demolition and construction works – for which site specific mitigation/management measures need to be planned and integrated into the bidding documents; (c) management of construction waste and debris from demolition (re-use and/or appropriate disposal) and; (d) proper consultations with School Administration, Department of Education, Parent Teachers Association and other stakeholders on design and construction scheduling.

*Designs/DPRs for MPCs:* The mission once again recommended integration of “green building” elements “such as natural lighting and ventilation, rain water harvesting, solar, use of non-lead based paints, wastewater management, solid waste management, plantation etc. in the design of MPCs and seek GRIHA certification for the same.

37. *Disclosure of Information:* Once the consolidation of the screening report is completed by the SPIU, it shall be put onto the public domain, including the website and at the local level in line with norms spelt out in the ESMF.

38. The translated version of the Executive Summary of the ESMF in local language (Malayalam) will also be shared with the Bank and NDMA for record, including the website link on which it is posted. It will be confirmed that it has been made available at the local/sub-project level for reference and distribution among concerned stakeholders as sub-project preparation is moving forward. Further, the mission suggested that project information brief/leaflets will be prepared to ensure that all relevant information is made available to local communities in simple and user friendly manner.

39. **Key Activities/Agreements:** (i) Integrate elements of “green buildings” such as natural lighting and ventilation, rain water harvesting, solar, use of non-lead based paints, wastewater management, solid waste management, plantation etc. and GRIHA certification requirements in the design of MPCs; (ii) Finalize the consolidated Environment Screening Report by December 31, 2016; (iii) Obtain CRZ clearance for the 5 sites by March 15, 2017; (iv) Disclosure of environment documents – as they are prepared and finalized and confirm disclosure of ESMF’s executive summary in vernacular to the Bank and NDMA.

## **KARNATAKA**

40. *Site selection for MPCs:* The State has proposed to construct 11 MPCs under the project. The mission was informed that all the sites have been identified and the required CRZ clearances have been obtained for all proposed locations.

41. *Design/DPRs for MPCs:* Approval for the DPR of Thekatte MPCs, as a model document, has been accorded by the Bank, which also incorporates the environment management aspects. The remaining MPCs DPRs shall be prepared on similar lines and will further incorporate additional design elements for GRIHA certification. The Bank will extend the knowledge support to streamline this process.

42. The mission requested SPIU to identify the purpose to which the MPCs will be put to use in normal time prior to finalizing the design, as the usage of the building in normal time will impact the design proposition. In doing this, it is critical to look at the entire site area in order to identify existing constraints that might limit the multi-purpose use of the shelter. The mission also reiterated that SPIU-Karnataka should share the utilization plan of all MPCs in line with previous agreements and it was agreed that this shall be shared latest by December 20, 2016.

43. *Planning/design and Specific Management Measures for MPCs:* There is a need for customization of plans and designs to fit the specific needs of each site. Keeping this in mind the observations made in Udupi and Uttara Kannada districts earlier, the mission reminded the SPIU to consider and integrate the following in planning and design of MPCs planned within existing school precincts: (a) proper campus planning factoring-in placement of the MPCs, access to other buildings/blocks and other uses such as main access, playground and internal pathways etc.; (b) impact on school activities on account of dust, noise and other disturbance resulting from demolition and construction works – for which site specific mitigation/management measures need to be planned and integrated into the bidding documents; (c) management of construction waste and debris from demolition (re-use and/or appropriate disposal) and; (d) proper consultations with School Administration, Department of Education, Parent Teachers Association and other stakeholders.

44. *Bridges:* The State has proposed two bridges under the project. Limited EA will have to be undertaken for Bridges and sub-project EMPs need to be prepared.

45. *Roads:* Under this sub-component, 47.63 km of roads has been proposed for construction. The CRZ clearance have been obtained for all the sites. DPR for Harikudru Road has been approved by the World Bank on August 16, 2016, which includes environment management dimensions to an extent (a few such as provision of silt fencing and use of erosion control blanket etc. needs to be added to the cost estimate). However, limited EA, CRZ clearance for revised/changed scope of work and finalization of the Bid Document is needed to move forward on this sub-project. Generic EMP has been shared with the PIU and the same can be incorporated after making the required changes while submission of the Bidding Document. The SPIU will resubmit the package for this sub-project after incorporating all the residual requirements (as mentioned above) latest by end of December 31, 2016.

46. *Saline Embankment:* The State has proposed to rehabilitate/construct 10.46 km of embankments under the project. The CRZ clearance has been obtained for all the sites. The preliminary design for Saline Embankment for Manikatte (7 km) is to be resubmitted to the Bank by November 30, 2016. The mission once again informed SPIU that an EIA and SIA study for all embankment works is required in line with the agreed ESMF for the project. As discussed in December 2015 mission and thereafter in the February 2016 mission, an environment agency/firm

has to be hired for undertaking the ESIA. The ToR has been shared with the PIU and the hiring process for getting a consultant on board needs to be expedited.

47. *Screening for all work categories:* Environment screening exercises have been completed for all the three districts. However, the mission once again found gaps in the information that is need to make the screening documentation complete. The Bank had also conducted a two-day training on Environment and Social Management for SPIU and line agencies on March 2-3, 2016, which has helped in moving a few things forward. It was agreed that once the screening exercise is completed, the draft report will be shared with NDMA and Bank for review.

48. *Integration of EMP into Bidding Documents:* The mission emphasized that the SPIU/line agency should both verify each bid document and ensure that the EMP (provided in the ESMF) for specific works is included in the bid/contract document/s. Further, it was clarified that in line with site conditions/requirements, as and where needed appropriate management/mitigation measures (adapting the Generic EMP to specific sub-project requirements) should be built into the Bidding documents.

49. *Disclosure of Information:* Once the consolidation of the screening report is completed (in line with the points mentioned above) by the SPIU, it shall be put onto the public domain, including the website and at the local level in line with norms spelt out in the ESMF.

50. The translated version of the Executive Summary of the ESMF in local language (Kannada) will also be shared with the Bank and NDMA for record, including the website link on which it is posted. It will be confirmed that it has been made available at the local/sub-project level for reference and distribution among concerned stakeholders as sub-project preparation is moving forward. Further, the mission suggested that project information brief/leaflets will be prepared to ensure that all relevant information is made available to local communities in simple and user friendly manner.

51. *Institutional Arrangements:* SPIU currently has one Environment expert (hired on December 3, 2015) as part of its set-up. The specialist needs to work with line agencies/ consultants to undertake/complete the activities/actions listed above.

52. *Key Activities/Agreements:* (i) Integrate elements of “green buildings” such as natural lighting and ventilation, rain water harvesting, solar, use of non-lead based paints, wastewater management, solid waste management, plantation etc. and GRIHA certification requirements in the scope of work for the Architect to be hired for design of MPCS; (ii) Finalization of ToR for EIA study covering saline embankments and selected roads by December 15, 2016 – Bank has already provided substantive comments during the review of draft ToR; (iv) Preparation of a consolidated Environment Screening Report by January 15, 2017; (v) Conduct EIA and prepare EMP/s for saline embankments/selected road works by March 31, 2017; (vi) Prepare a plantation strategy for MPCS and roads by January 15, 2017; and (ix) Disclosure of environment documents – as they are prepared and finalized and confirm disclosure of ESMF’s executive summary in vernacular to the Bank and NDMA.

**MAHARASHTRA**

53. *Site selection for MPCs:* The State has proposed to build 11 MPCs, and the SPIU shared a list of sites with the Bank during the mission.

54. *Saline Embankment:* The State has committed to build 50 km of saline embankments and bunds. At present, model design and model DPR of Kachali Pitkari (Alibag Taluka, Raigad district) has been approved by the Bank. The mission advised that an EIA and SIA study will be required for this sub-component and EA/SA findings and an EMP needs to be integrated into the DPRs and Bidding Documents respectively before the tender/s can be invited. The mission was informed the EQMS Consultancy has been hired for this purpose. A two day orientation cum review meeting on Environment Management and Safeguards was conducted by the Bank in September 2016 to ensure that the process and quality issues are addressed appropriately within the project cycle and more time is not lost at later stages. Tendering of the Saline Embankment works is expected to start around early February 2017.

55. *Underground Electrical Cabling Works:* The districts of Alibag, Ratnagiri and Saatpati have been identified for underground electrical cabling works. The mission was informed the EQMS will also undertake EIA/SIA for underground electrical cabling works. The Alibag DPR was cleared earlier but with

56. *Regulatory Clearances:* A written clarification has been obtained by the Kharland Board (line agency) on the CRZ clearance issue for works under NCRMP II. Some contracts under the underground electrical cabling works may require CRZ and/or other regulatory permissions. The precise triggers on this will be known once the EA is completed. For MPCs, the need for any clearances will emerge only after the sites are finalized and the screening exercises are undertaken.

57. *Integration of EMP into Bidding Documents:* The mission emphasized that the SPIU/line agency should both verify each bid document and ensure that the EMP (provided in the ESMF) for specific works is included in the bid/contract document/s. Further, it was clarified that in line with site conditions/requirements, as and where needed appropriate management/mitigation measures (adapting the Generic EMP to specific sub-project requirements) should be built into the Bidding documents.

58. *Disclosure of Information:* Once the consolidation of the screening report is completed by the SPIU, it shall be put onto the public domain, including the website and at the local level in line with norms spelt out in the ESMF. The translated version of the Executive Summary of the ESMF in local language (Marathi) will also be shared with the Bank and NDMA for record, including the website link on which it is posted. It will be confirmed that it has been made available at the local/sub-project level for reference and distribution among concerned stakeholders as sub-project preparation is moving forward. Further, the mission suggested that project information brief/leaflets will be prepared to ensure that all relevant information is made available to local communities in simple and user friendly manner.

59. *Institutional Arrangements:* SPIU currently has one Environment expert as part of its set-up. A Project Management Consultant with a designated Environment officer is also coming on-board shortly. The specialist will need to work with line agencies/ consultants to

undertake/complete the activities/actions listed above and ensure that a large number of critical environmental activities during preparation and execution are adequately supported.

60. **Key Activities/Agreements:** (i) Integrate elements of “green buildings” such as natural lighting and ventilation, rain water harvesting, solar, use of non-lead based paints, wastewater management, solid waste management, plantation etc. and GRIHA certification requirements in the design of MPCS; (ii) Preparation of a consolidated Environment Screening Report for MPCS by December 31, 2016; (iii) Conduct EIA and prepare EMP/s for saline embankments/selected road works by January 31, 2017; (iv) Disclosure of environment documents – as they are prepared and finalized and confirm disclosure of ESMF’s executive summary in vernacular to the Bank and NDMA.

## **WEST BENGAL**

61. *Site selection and progress on MPCS:* The State has committed to build 150 MPCS under the project. The type designs and structural designs have been cleared and finalized during the preparation stage of the project. Out of the 150 MPCS to be constructed under the project, on 65 sites work is in progress. The mission was informed that construction work for another 11 MPCS sites will start shortly, while on 6 sites, there has made no progress due to land problems and other local issues.

62. *Screening/documentation for MPCS:* Environment screening exercises have been completed for all the 150 MPCS locations. The mission found from last mission that largely the documentation undertaken was in order, and pointed out that the consolidated report should include the following in addition to the main screening checklist and photographs: (a) a summary presenting the methodology adopted and results of the exercise; (b) map/s (with clearly demarcated sub-project location, natural environment features, access routes/roads, CRZ/forest/protected area boundaries etc.); (c) consent letter/proceedings/minutes of the consultations carried out and (d) photographs of the sub-project/site. Much of this information is available with the SPIU but needs to be collated together. Over-all, the effort made by the SPIU in this direction was acknowledged and appreciated by the Bank.

63. *Disclosure of Information:* Once the consolidation of the screening report is completed (in line with the points mentioned above) by the SPIU, it shall be re-disclosed on the public domain, including the website and at the local level in line with norms spelt out in the ESMF.

64. *Shelter Utilization and Management Plans* for the proposed MPCS will be finalized/ shared by December 31, 2016.

65. *EHS Management during Construction of MPCS:* The mission visited three MPCS sites during this mission: 1. MPCS at Shibkalinagar Ishan Memorial High School, Block-Kakdwip, Dist.-South 24 Paraganas; 2. MPCS at Rakhaskhali High School, Block-Patharpratima, Dist.-South 24 Paraganas; 3. MPCS at Sundarban Jalkalyan Sangha Vidyaniketan Block-Sagar, Dist.-South 24 Paraganas. The mission noted the efforts made by the state in enforcing the EMP provisions and previously raised issues such as provision of project information board (bi-lingual), barricading (which was important given that construction is being carried within school campus), use of safety tapes, controlled entry, safety signage/warnings, insurance cover, labour license,

provision of portable toilets, water, first aid kit, fire extinguishers, use of acoustic generators, improved material stacking, etc. have been attended to despite the challenges of remoteness and comparatively difficult/time consuming access to some sites.

66. However, there is further streamlining and diligent continuous efforts required on part of the Contractors towards ensuring that purpose and objectives are understood well – it is not just about compliance but how following the stipulated measures reduces the risk of unwarranted issues and problems related to safety (including accidents), health and environment. Some areas/aspects requiring attention include: (a) electrical and fire safety practices; (b) scaffolding/bracing safety practices; (c) site grading to avoid accumulation of water; (d) drainage and channelization of water; (e) prevention against vector borne diseases and bites (insects/snakes); (f) repair/maintenance of access roads; (g) provision of clean fuel in labour camps; (h) waste management (solid and waste water); (i) more stringent enforcement on PPE use; (j) emergency response plan and establishing standard operating procedures for it and; (k) delivery of proper tool box talks by Environment and Safety Officers and Supervisors at site, for which they themselves need to be given some proper training. The mission also found deficiencies in the services provided by TPQA with regard to oversight on EHS issues – this includes not pointing out the deficiencies and ensuring that timely ‘corrective actions’.

67. The mission also suggested SPIU to monitor and record compliance on points mentioned in the CRZ permission/clearance letters.

68. *Underground Electrical Cabling Works:* The State has committed to lay 60 km of underground electrical cabling under the project. Digha (a seaside tourist city in the state) has been selected for underground electrical cabling works. 33 KV OH Line will be converted to underground cable from the railway crossing to Digha sub-station. This will cover approximately 30,000 households in the city. An EIA and SIA will be required for the proposed underground electrical cabling works. Based on the assessment and engineering proposition, a sub-project specific EMP and a RAP will be prepared. A study for this has already been commissioned and outputs have been reviewed by the Bank twice by now – the final report submission is awaited and it is expected that the final documents will be ready by December 31, 2016.

69. *Key Activities/Agreements:* (i) Finalization of the consolidated Environment Screening Report by December 31, 2016, including updating the sub-projects that where a change in location has been proposed; (ii) Verify/confirm the need to inform CRZ authority in cases where a change in location is proposed; (iii) Conduct an Orientation Workshop for line agency staff, contractors and other consultants by February 15, 2017 – Bank will support this activity; (iv) Complete EIA and prepare EMP/s for underground electrical cabling works at Digha by December 31 2016 and integrate the EHS requirements into the DPR/design and the Bidding Documents; (v) Revise the plantation strategy for MPCs by February 28, 2017 and; (vi) Take corrective actions pertaining to environment, health and safety stipulations for MPCs where construction is currently underway - several suggestions/comments were provided during the site visit and key ones are summarized above.

## **Annexure 5: Social Safeguards**

1. The Implementation Support Mission on NCRMP II took place on October 17 -21, 2016. During the mission, the Social Safeguards section was undertaken on February 1-13, 2016 in three project states: West Bengal, Kerala and Karnataka. Field visits to proposed sub-project sites were undertaken and observations and agreements were concluded with the project states.

2. The overall progress in the project states in completing safeguard documentation and actions for their implementation is moderately satisfactory. Among all the project states, West Bengal is close to completing safeguard documentation, while other states have made reasonable progress. The NMDA need to monitor and ensure completion of these activities. The following presents the state wise issues and agreements.

### **GOA**

3. The Proposed works in Goa includes constructing 28 MPCSSs, 12 MPCSSs at Fire Stations, improvement of 30 kms Khazan bunds, improving 30 kms length of roads and bridges and building 25 kms length of underground cabling.

4. **Screening reports MPCSSs:** The land and R&R issues will be established through social screening exercise which is underway. It is agreed that the screening exercise will be completed and consolidated report for all the sub projects will be submitted to the Bank and disclosed on Government website before December 15, 2016. The locational choices of the sites should be guided by usability and proximity of the proposed shelters than availability of government land.

5. **SIA reports for embankments and underground cabling:** The proposed strengthening of the embankments in the islands and laying electrical underground cabling should be studied for social impacts. The PMU is in the process to hire agency to conduct SIA study and the report will be submitted to the Bank before end February 2017.

### **GUJARAT**

6. The sub-components for Gujarat include: (1) improving 46 roads (2) constructing 112 MPCSS and (c) electrical underground cabling in Gandhigram. The PMU has conducted environmental and social screening for all the sub projects; but they have not been finalized in terms of a report as suggested during previous missions. The discussions with the PMU indicates none of the sub projects require any private lands.

7. **Locational issues of MPCSS:** The locational choices for MPCSSs appears mostly guided by the availability of vacant Government lands. While this is rational, what is more important is, MPCSSs usability and proximity to the communities in times of disasters. The PMU should submit the Consolidated Screening Report for the final sites to the Bank and disclose the report on the GSDMA website before December 15, 2016.

8. **Shelter Management Committees:** Draft guidelines on the lines of Odisha has been prepared and awaiting the formal approval. Local Shelter Management Committees will be formed

which will run and maintain the Shelters. Following this capacity building activities for communities and committees will have to be undertaken. It is agreed that the Policy on Shelter Management will be finalized before end December 2016; and work plan on capacity building activities will be shared with the Bank end January 2016.

9. **Social Impact Assessment for underground electrical cabling – Gandhigram:** The city Gandhigram is taken up for underground cabling for about 160 kms length. It is agreed that the PMU will conduct SIA and share the report before proceeding for tendering the works. It is agreed that the SIA report will be shared before end February 2017.

10. **Screening Reports:** The screening reports which are discussed above for all the states should contain the following –(a) Justification/vulnerability assessment for the proposed investment (which will also form the basis of the design); (b) Map (on a GIS platform) showing clearly the proposed location of the sub-project and the key social and environmental and other features such as water bodies, CRZ line, forest and protected areas (if any), settlements, roads etc; (c) Public consultation related documentation (consent letter; minutes of the meeting, with views/suggestions, if any; visual and attendance record/s); (d) Completed screening forms, and; (e) A summary/synthesis of the screening findings/results.

## **MAHARASHTRA**

11. The state of Maharashtra is building cyclone shelters, roads, embankments and underground cabling under the project. The screening reports for proposed sub projects yet to be completed which will inform land availability and R&R issues.

12. **Social, environmental preparation launch workshop for saline embankments and underground cabling:** A consulting agency was hired for conducting social screening, social impact assessment and preparing required RAPs for saline embankments and electrical underground cabling. The study will look into the livelihood aspects associated with the proposed embankments, and carry out stakeholder assessment and recommend community maintenance models for embankment, explore possible participation of nearby industries through CSR activities. For underground cabling, besides others, strip maps will be prepared with socio economic inventory of the final alignment. An inception report was submitted to the PMU which is under review. The draft study report will be completed before end February 2017.

13. **Multi-Purpose Cyclone Shelters (MPCS):** The department is in the process of finalising the MPCSs. The mission emphasized the site location should not just be guided by the availability of government lands; what is more important the proximity of the site to the communities so as to use the facility by the communities. These aspects are found to be on the lower while selecting the sites. It is agreed that the PMU will relook the choices and prepare a consolidated screening report and submit to the Bank and also disclose on the SDMA website before December 15, 2016.

14. **Shelter Management Committees:** Policy and approach for managing the cyclone shelters has not been finalised. This is very important and the PMU agreed to finalise the policy before end December, 2016; and work plan on capacity building activities for communities and the committees will also be shared with the Bank before end February 2017.



## **KARNATAKA**

15. **Social screening reports:** The social screening reports were prepared for roads and other sub projects. The draft reports were reviewed and provided comments. It is agreed that the PMU will submit the consolidated screening reports for all sub projects before December 15, 2016 to the Bank and will be disclosed on GoK website.

16. **Bridges – social documentation:** The two bridges – kodikanya and Manur – requires private land to the extent of one acre each. Following the ESMF, the land for both bridges are in the process of acquiring through land donation. Gift deeds are completed for Kodikanya Bridge. It is agreed that the PMU will submit a Land Assessment report for both bridges in terms of extent of land, their ownership, family profiles of the donated and gift deeds details to the Bank before December 15, 2016.

17. **MPCSs Utilisation and Management systems:** MPCSs in Karnataka will be built either in schools or open government lands and are planned to utilize for schools or community purposes. The PMU has to prepare utilization and maintenance plans for MPCSs and also the corpus fund requirements before end December, 2016 and share with the Bank.

18. **SIA for Embankment:** The ToR has been shared with the PMU for conducting SIA and EIA studies for the proposed saline embankment. The PMU is in the process of procuring the agency for conducting the safeguard studies. It is agreed that the PMU will keep the Bank abreast of the procurement and complete the studies before end February 2017.

## **KERALA**

19. **MPCSs Screening Reports:** The social screening completed for all 27 MPCSs. Out of 27, for four MPCSs the sites are not available due to locals resistance. The PMU decided that they will change the sites for these MPCSs and submit consolidated final screening report along with Panchayat resolutions to the Bank before end November 2016. The draft report will be disclosed on the PMU's website before December 15, 2016.

20. **MPCSs Utilisation and Management systems:** MPCSs in Kerala will be built either in schools or open government lands and are planned to utilize for schools or community purposes. The PMU has to prepare utilization and maintenance plans for MPCSs and also the corpus fund requirements before end December, 2016 and share with the Bank.

## **WEST BENGAL**

21. **Finalize draft RAP for Electrical Underground Cabling:** The preliminary RAP for electrical **underground** cabling at Digha was revised based on field works carried out on the revised route alignments. The report presents that there is no land acquisition and involves no displacements, except temporary relocation and access issues to adjacent properties. The document was reviewed and needs to be revised for impacts and budgets which were discussed with the consultants and the Discom. The RAP will be finalized before December 15, 2016. The RAP while

getting finalized, Discom may proceed for procuring civil work contractor as it involves no land acquisition and displacement.

22. **Validate and initiate approvals from different authorities for laying the UGC lines:** The UGC at many places is planned to be placed in the middle of the road wherever there other utilities such as underground drainage pipelines, etc are already located. The Discom will re-verify for such possibilities and initiate preparing drawings and appropriate approvals from the departments.

23. **MPCSs - Recruitment of social specialist and community mobilisers:** Given the volume of work related to social aspects and MPSCs management systems, the PMU agreed to recruit the social specialist and mobilisers before end December 2016.

24. **MPCSs Management systems:** The plans for maintenance and management of the MPCs is not yet finalized. The Government however indicated its plans for Panchayats to manage the MPSCs. As well, the Government is also planning for providing corpus fund for maintaining the shelters. The PMU will inform its final plans before end December 2016.

25. **Submit screening reports:** About 16 MPCs may undergo changes in the location. The PMU will redo the social and environmental screening and submit to the Bank for these MPCs before December 15, 2016.

26. **Mutation of lands for MPCs located on Private and Society lands:** This process is in progress. It has been emphasized that even for the lands belonging to societies/trusts, the formal agreements should be in place for using the lands for MPCs.

27. **Training for shelter management committees:** The PMU has to initiate plans for imparting the training to the committees on first aid, safety and the management of the shelters.

## Annexure 6: Saline Embankments

### A. Karnataka

1. As a part of a larger ISR Mission, Prabir Joardar, Embankment Specialist visited Karnataka (Bengaluru) and attended the review meeting chaired by the Secretary, Disaster Management. The status of progress of various components was reviewed including the same for the Saline Embankment component. Unlike other components, it was observed that Karnataka did not make any tangible progress in the preparation of DPR (including SEA) and Bid Documents for the Saline Embankment component.
2. Only one package, namely, Manikatta Saline Embankment for a stretch of about 7 km was included under the project. Earlier missions visited the site and suggested taking up of this work on a priority basis. Depending upon the overall cost of this work and considering the availability of funds, additional embankments in Mangalore area could be considered at a later stage. This approach was agreed to by the Project authorities, and the concerned field officers were advised to carry out detailed surveys and prepare draft DPR for the proposed works. The first draft DPR was presented to the Bank during a progress review meeting held at the NDMA on July 15, 2016.
3. The Embankment Specialist reviewed the DPR and his comments and observations were sent to the client for making corrections and elaborations with a view to improve the quality of the DPR – both in content as well as in presentation. It was expected that a revised DPR would be prepared by Karnataka and sent to the Bank for further review, guidance and subsequent approval/clearance. The main issues concerning the DPR are given below:
  - a. The presentation of the DPR should be improved. This DPR has been submitted in the name of Chief Engineer, Minor Irrigation, North Zone. Therefore, there is no need for putting signatures of junior officers on a large number of formats or sub-reports. The forwarding letter by the SPU is sufficient for the Bank to accept that the report was prepared under the guidance and supervision of the concerned Chief Engineer. ***It is expected that all reports will be read and quality assessed before these are forwarded to the Bank for Review.***
  - b. The DPR should contain the following
    - i) Executive Summary – usually about 5-10 pages
    - ii) Introduction
    - iii) Project Background – Here, the report should broadly describe the location, geographic features, climatic conditions, environmental and social setting of the project and surrounding areas
    - iv) Specific issues – Here, the DPR should describe in detail the problems being faced by the local people, their aspirations and needs, the threat they face from adverse weather conditions like cyclonic storms, Tsunami, floods etc., and how these are likely to impact the livelihood of the affected population
    - v) Proposed solution - Here, ***the structural measures which are proposed to be taken for the benefit of the population should be described.*** It should start with description of existing facilities (in this case – the existing saline embankment), results of condition and topographic surveys, the proposed interventions and

- improvement measures, assessment of need for the construction of new drainage structures, and/or need for improving or strengthening existing drainage sluices; proposal for protection of embankment against wave actions, if any; broad social and environmental issues needing attention; identification of sources of materials (earth, stone etc.).
- vi) Social and Environmental Impact Assessment (Limited or Detailed, as advised by the safeguard specialists of the Bank), and measures to be taken for reduction/mitigation of adverse effects, if any.
  - vii) Preliminary design of proposed structure including establishing design parameters like 'return periods', highest high tide level, highest flood level, assessment of impact of cyclone to flood and tidal levels; and fixation of the design highest flood/tidal water level for the saline embankment; providing adequate free-board to prevent over-topping of earthen embankment, etc. In addition, design discharge for the drainage sluices would need to be computed considering a reasonable tide lockage period – say 8 hours!
  - viii) Location map, borrow area location map, GA drawings, typical cross sections and L-section of the embankment shall be part of drawings to be appended to the main report. In addition, this report should also include a summary cost estimate and BOQ.
  - ix) All other detailed drawings, maps, detailed cost estimates, detailed calculations for hydraulic and structural designs of structures including establishing design discharges, design of embankment protection measures, slope stabilization using mangrove plantations, etc. should be part of Annexures to the main report.
- c. The draft report was silent about the aspect of connectivity. There exists a very strong demand for improving the first 1.6km of the embankment to single lane road standard as this portion of the embankment is important for the connectivity of the nearby village of Tumblekatta and the locally famous Shri Mahaganapati Temple which is situated there. It was learnt from local villagers that this embankment stretch, if improved and black topped, would also provide all weather connection to the area and could be used for evacuation purpose during disastrous situations. The DPR needs to look into this and provide necessary details with justifications.
- a. Apparently, not much though had been given to the economic and financial benefits of the project. A detailed cost-benefit analysis preferably with an analysis of internal rate of return forms an integral part of any DPR. This is totally missing in the current report. While estimating the benefits, the DPR should look in to the current agricultural and fishing practices in the benefitted area, incremental benefits, if any, after improvement of the saline embankment including the benefit of improved communication and transport of produce, etc. The risk of loss of life and property including potential loss of agricultural produce in the event of failure of existing embankment, and prevention of the same by the rehabilitated and strengthened embankment, should also find a place in the benefit stream. Only then it would be possible for estimating a reasonably accurate total benefit for any benefit-cost analysis.
4. The above paragraphs have been brought in this report as the SPU or IA failed to come up with any revised document or DPR. It was learnt that due to transfer of concerned officers, no progress could be achieved in the preparation of DPR for Manikatta Saline Embankment.

Further, the new officers responsible for the preparation of this DPR seem to have no idea of the requirements. They thought of engaging a local consultant to prepare the document without going through the background information and developing a clear understanding of the requirements. The above paragraphs have been repeated so as to provide the new set of concerned officers a clearer picture of the requirements.

5. The mission felt that just engaging a consultant to prepare a DPR will not yield any result. The local junior officers who were present during field visits and discussions would understand the requirements much better and would be in a position to rectify the defects in the DPR. External support may be necessary only for Social and Environmental Assessments and for financial and economic evaluation, benefit-cost analysis, etc. It is suggested that *the above exercises should be completed and a revised draft DPR prepared taking into account above observations and suggestions before any further steps could be taken up towards rehabilitation of Manikatta Saline Embankment.*
6. The SPU also generally agreed to the suggestions and informed the mission that the priority of Manikatta Saline Embankment has not been reduced and it is still the most important saline embankment proposed by Karnataka. A decision on other proposed saline embankment(s) will be taken up only after the designs and cost estimates for the Manikatta Saline Embankment have been finalized, and availability of surplus fund re-assessed. The mission agreed to this suggestion.

## **B. Goa**

7. The Embankment specialist visited Goa and had discussions with concerned officers during October 19-20, 2016. The DPR for Diwar Island has progressed reasonably well, and the hydrologic and hydraulic settings have been well established. There was some weakness in the design of the gabion retaining wall for the embankment, and also for prioritisation of lengths and locations of drainage sluices. Guidance was provided to the design engineers on these aspects.
8. Structural design of the gabion wall was reviewed and some improvement measures suggested. It is expected that with the modified design principle and methods, the stability of the gabion wall will prove to be more than what was initially estimated. However, the mission advised the engineers to consider various levels of river flow and check stability against lowest low and highest high water levels.
9. The top portion of the gabion wall (about a meter high) will be above the design high water level. However, under extreme conditions, this part of the wall would be subjected to wave actions. As the gabion is made of boulders without any binding materials or mortar, this water from waves is likely to pass through the wall and tend to erode the earthen embankment on the other side. The mission advised the IA to consider use of mastic asphalt or similar materials to make the face of the wall relatively impervious to wave actions.
10. The missions advised the IA to pin-point the locations of all drainage sluices and identify the drainage areas for individual sluices, and calculate the drainage discharges accordingly.

Further, the drainage period for the sluice is to be established considering the prevailing cropping pattern and allowable depth and duration of standing water. Tide-lockage period should also be considered while designing the ventage of drainage sluices. For smaller drainage areas, single or multiple pipe (1.2m dia.) drainage sluices may be considered for lower costs and ease in construction.

11. Sluices should be provided with two sets of gates – vertical gates on the country side, and flap gates on the river side. This will ensure more efficient drainage during rainy season, and could store sweet water behind the vertical gates post monsoon season. The IA should consult other states or other experienced engineers if they need any assistance in the structural design of gate components.
12. The IA intended to use laterite stones for filling the gabions. But not all lateritic materials are strong! Some laterite stones are highly eroded, easily crushable and are generally used for consolidation of shoulders of roads. Such stones are not suitable for gabion structures. Gabion structures would need strong stone materials, angular or round in shape, hard which cannot be easily crushed or eroded by water actions. Specifications for such stones have been provided in the specification for the gabions which should not be modified. Considering the availability of local materials and preference for laterites, the mission suggested that the ***IA should procure hard lateritic stones which could be locally available by blasting, or go for hard river boulders of appropriate sizes.***
13. The Embankment Specialist indicated some weaknesses in the benefit-cost analysis carried out by the IA, and advised to compute annual costs and annual benefits correctly. In addition, IA may carryout financial and economic analysis following standard methods and find out the Internal Rate of Returns. IA promised to do the needful regarding this.
14. The IA has identified independent consultants for the Social and Environmental Assessment and expects them to be deployed soon. There are no difficulties in engaging them now as the basic design parameters for the saline embankment have already been finalized.
15. The IA promised to carry out all these above mentioned activities the soonest, revise the designs and prepare the DPR accordingly.
16. The proposal for the restoration of a *bandara* near Poinguinim and construction of saline embankments along this channel was examined by the mission. It was observed that the cross-section survey carried out by the IA did not adequately capture the site conditions based on which any decision on the design can be taken. The mission advised that the site should be visited on foot and the landforms on both bank of the river carefully noted on a strip plan so that correct decisions on the needs and configurations of the proposed works can be taken. The IA promised to collect all required information and share the same with the bank for arriving at an appropriate proposal.

## **Annexure 7: Financial Management**

### **1. Gujarat**

**Budgeting and Expenditure:** For FY 2015-16, as against a budgeted expenditure of Rs 85 crores, Rs 34.22 crores was expended. For FY 2016-17, the budgeted expenditure is Rs 263.50 crores, and Rs 41.93 crores has been spent till October 25, 2016 this year.

**Staffing:** Director (Finance), GSDMA has been entrusted with the overall responsibility for the financial management aspects of the project. Further, two officials of the PMC also assist in carrying out of FM operations smoothly.

**Internal Audit:** The project is mulling whether to get the audit conducted by the existing firm by modifying its scope of work or appoint a fresh firm for conducting project internal audit. The decision of GSDMA shall be communicated to the Bank by November 15, 2016

**External Audit:** For NCRMP-II, the audit for FY 2015-16 has to be conducted by the A.G. It was informed to the mission team that the audit is going to commence soon. The audit report in respect of FY 2015-16 shall be due to be received by the Bank by December 31, 2016.

### **2. West Bengal**

**Budgeting and expenditure:** For NCRMP-II, revised sanction was received and as against receipts of INR 45.45 crores from GoI and INR 13.41 crores from state government, an amount of INR 52.89 crores was expended. For FY 2016-17, an amount of INR 134.85 crores for central share and INR 8 crores for state share has been released already. Actual expenditure on the project for the year (till October 25, 2016) is INR 82.92 crores.

**Staffing:** At SPIU level, finance manager has been appointed. At the district level, existing divisional accounts officer from Indian Audit & Accounts services, shall verify the contractor's bill. If required, the department shall secure position of accounts assistant for the project in the future.

**Internal Audit:** The mission was informed that M/s UA Shah & Co., Chartered Accountants have been appointed as internal auditors using the QCBS method of selection. Further, the mission held a meeting with the newly appointed auditors and certain financial management aspects of the project like internal controls, statutory compliance were discussed.

**External Audit:** For NCRMP-II, the audit for FY 2015-16 to be conducted by the A.G. is underway. It was informed to the project that audit report in respect of FY 2015-16 shall be due to be received by the Bank by December 31, 2016.