

INDIA: Maharashtra Resilience Development Project Identification Mission

June 24–28, 2024

Aide Memoire

I. INTRODUCTION

1. A World Bank team¹ carried out the identification mission for the Maharashtra Resilience Development Project (MRDP) during June 24–28, 2024. The mission’s objectives were to: (i) discuss the project development objective, scope, and types of activities to be financed; (ii) agree on the institutional arrangements for project preparation and implementation; and (iii) identify project components and component-wise activities.

2. We would like to thank the Government of Maharashtra (GoM), and in particular the support and collaboration extended by the Maharashtra Institution for Transformation (MITRA), the Water Resources Department (WRD), the State Relief and Rehabilitation Department (R&R), and the Municipal Corporations of Sangli, Kolhapur, and Ichalkaranji. This Aide Memoire summarizes the findings and observations of the World Bank team and agreements reached, as discussed at the wrap-up meeting on June 28, 2024, chaired by Dr. Nitin Kareer, Chief Secretary, GoM, and by Mr. Praveen Pardeshi, CEO, MITRA.

II. PROJECT DATA AND MILESTONES

Table 1: Key Project Data

| Government Request | Proposed Financing | Implementation Period |
|---|--|------------------------|
| GoM submitted the Preliminary Project Proposal (PPR) to the Department of Economic Affairs (DEA) in May 2023 Screening Committee of DEA approved the project proposal on December 19, 2023 | IBRD: US\$280 million Counterparts: US\$120 million | 2025–2030 ² |
| Proposed Project Development Objective (PDO) | | |

¹ The mission was led by Jolanta Kryspin-Watson (TTL, Lead Disaster Risk Management [DRM] Specialist) and Satya Priya (Co-TTL, Senior Water Resources Management [WRM] Specialist, virtual participation), and included Abhas Jha (Practice Manager), Anup Karanth (Senior DRM Specialist), Deepak Singh (Lead DRM Specialist, virtual participation), Sangeeta Patel (Procurement Specialist), Savinay Grover (Senior FM Specialist), Varun Singh (Senior Social Development Specialist), Rumita Chowdhury (Social Safeguards Consultant) Neha Vyas (Senior Environmental Specialist), Yukio Tanaka (Senior Water Resources Specialist), Vijaysekar Kalavakonda (Senior Operations Specialist, IFC), Devika Panse (DRM Analyst), Sheena Arora (DRM Specialist), Tjark Gall (Urban Resilience Specialist), Dr. Abhijit Saha (Water Infrastructure Specialist), and Atul Khurana (Senior Program Assistant).

² Extended to 2030 to reflect five year project duration as requested by MITRA during the mission.

| To enhance resilient development in Maharashtra through climate-informed and integrated flood, drought, and landslide risk management, and develop state capacity for climate-informed disaster risk management. | |
|--|--|
| Proposed Components | Implementing Agencies |
| Climate-Informed Flood Risk Management | PIU WRD (MKVDC) |
| Multi-Hazard Resilience in Districts and Cities | PIU Sangli (SMKMC), PIU Kolhapur (KMC), PIU Ichalkaranji (IMC) |
| Upgrading Emergency Management Capacities | PIU R&R |
| Private Capital Mobilization for Risk Financing and Fiscal Resilience | PIU DoF |
| Implementation Support and Knowledge Management | PMU-MITRA |

3. The proposed project components and activities³ under preparation are as follows:

4. **Component 1 – Climate-Informed Flood Risk Management:** Reduce fluvial flood risk in the upper-Krishna sub-basin through a mix of mitigation solutions, including (a) Climate-informed reservoir operations, enhancement of data acquisition, data analysis and data utilization for reservoir operations towards better flood risk management, (b) Flood risk mitigation works in the Krishna River system identified and prioritized through a mathematical modeling exercise to determine their relative and collective effectiveness for flood mitigation, and (c) Feasibility studies for proposals to moderate extremely high flood intensities and reduce drought risk.

5. **Component 2 – Multi-Hazard Resilience in Districts and Cities:** Enhance resilience of selected vulnerable areas through: (a) *Landslide risk mitigation* in hotspots of selected districts using gray infrastructure where needed and green where possible, as well as landslide risk monitoring systems. (b) *Urban flood risk mitigation*, e.g., creating detailed risk assessments, maps, and resulting programs of measures, including storm water drainage and nature-based solutions. The focus will be on innovative measures that create co-benefits for residents. Activities shall feed a state-level initiative to establish a long-term planning and financing ecosystem for urban flood resilience, including, e.g., capacity development, multi-level cooperation, and data-enabled monitoring.

6. **Component 3 – Upgrading Emergency Management Capacities:** Strengthen emergency preparedness and response capabilities through the following: (a) Upgrade Emergency Operation Centers (EOCs) with state-of-the-art command and control facilities for improved situational awareness and decision-making, (b) Strengthen early warning systems, development of modules for lightning, landslides and flood early warning; designing effective and inclusive dissemination mechanisms through cell broadcasting; and community-based disaster risk

³ The list of activities is preliminary and subject to further analysis and discussions.

management and early action capacities, (c) Climate-informed multi-hazard risk assessments for districts, and (d) Establishment of knowledge and learning platform for resilient development planning.

7. Component 4 – Private Capital Mobilization for Risk Financing and Fiscal Resilience:

Enhance the financing capabilities and fiscal resilience of GoM through the development of disaster and climate-risk financing mechanisms for both investments in mitigation/adaptation and post-disaster financing, linking of existing disaster risk reduction mechanisms with risk financing strategies, and transfer of disaster risks to private capital markets, e.g., development of a comprehensive strategy that bridges the gap between resilience building investments and financial protection and reduces government's financial burden in post-disaster situations; ; and through development of actuarial risk model for issuance catastrophe (CAT) bonds and/or alternate risk transfer (ART) products/solutions. Additionally, the state's risk management capabilities shall be enhanced based on global tools that will help strengthen the capability of their public financial management systems (including climate budgeting and institutional assessment) to be responsive to disaster and climate risks.

8. Component 5 – Implementation Support and Knowledge Management. Project management activities include i) capacity building, and (ii) coordination, financial management, procurement, environmental and social risk management, communication, monitoring and evaluation, and stakeholder engagement (iii) development of a 'knowledge lighthouse'.

Preparation Progress

9. The mission discussed the status of project preparation, particularly considering DEA's readiness criteria of having 30 percent of civil work investments (about US\$120 million) ready for contracting before the negotiations, planned latest for March 2025. It was agreed that at least 35 percent of investments should be ready for contracting by March 2025, to consider potential exchange rate fluctuations or failure to attract competent bidders in certain incidences. Also, readiness conditions related to large consultancies, setting up of the project implementation arrangements and preparation of essential project documents will need to be met. The following investments have been identified as contributing to the readiness criteria:

- a. Remodeling spillway gates of Radhanagari dam
- b. Creating retention storages by restoration of natural drainage system
- c. Stormwater drainage upgrades in Sangli city
- d. Stormwater drainage upgrades in Kolhapur city

It was agreed during the mission that on-boarding of the DPR Preparation firms for these investments is a critical action for ensuring timely bidding of these works. Accordingly, the TORs for the same will be finalized and on-boarding ensured no later than September 30.

Flood Risk Mitigation Works in the Krishna River System

10. The mission reviewed the preparation status of the identified interventions by MKVDC. It was agreed that MKVDC will procure three separate consultant teams: i) one is the DPR

consultancy firm, that will primarily prepare the DPRs for the 'Feasibility Study of Krishna Basin 'Nalla' Network Rejuvenation and allied Natural Retention Storages' and 'River Cross-Section restoration and allied Feasibility Studies of different FRM Interventions for future investments', ii) another is the one that will brush-up and complete the existing DPR for Radhanagari dam spillway remodeling that misses some data and elements required for Central Water Commission (CWC) clearance prior investment; and iii) the other is Project Management Technical Consultant (PMTTC) that will support the preparation of all allied project documents and successful implementation of the Project till the end of project life. Given the urgency of DEA's readiness criteria, the RFP for DPR consultant and PMTC consultant are under preparation in expedited manner to award the contracts by the end of September 2024.

Landslide Risk Mitigation

11. The mission visited two active landslide-prone sites in Kolhapur district (Shipekarwadi and site adjacent to Panhala Fort). The discussion with key stakeholders (Local community, PWD, Forest Department, Groundwater Directorate of Surveys & Development Agency) indicated that the protection measures for the two site locations would require a detailed field survey, instrumentation to understand the geological movements/ processes and arrival of suitable landslide risk mitigation measures (*a combination of NbS and grey infrastructure shall be explored*). The mission requested the District Administration to provide the details of all six landslide-prone sites to be included as part of the MRDP.

Strengthening of District Emergency Operation Center (DEOC) and Disaster Recovery Center (DRC) at the proposed State Institute of Disaster Management (SIDM) Campus

12. The mission visited the DEOC and City EOC (CEOC) of Kolhapur, Sangli and Ichalkaranji. It was noticed that the City EOC of Sangli was equipped with infrastructure on the lines of an Integrated Command and Control Centre (ICCC) with live stream from the field providing valuable information to the EOC operators. Similar infrastructure was lacking in other DEOCs and CEOs. The DEOC at Kolhapur demonstrated a wide range of tailored initiatives/SOPS that are robust for field operations. The learnings from Kolhapur DEOC operations can be replicated in the neighboring districts and with the support of a robust DSS and strengthened capacities at DEOC and CEOC, the local administration should be capable of handling L1 and L2 disasters effectively.

13. It was agreed that the MRDP shall develop a training program and deliver specific skill-based training to local volunteers at the village and the district level. The strengthening of community-based DRM activities in the target districts shall also be undertaken as part of the MRDP.

14. The R&R Department, GoM, is proposing to establish a State Institute of Disaster Management at Nagpur. As MRDP is supporting the strengthening of DEOC and CEOC, it was proposed to the Bank mission to undertake the development of a Disaster Recovery Centre (a set up after a disaster to provide support to impacted areas and communities, backed by IT system and shared resources) at the proposed SIDM campus. The World Bank Task Team will work with the R&R Department to develop the required mechanism and outline DRC as an activity within the investment scope for R&R Department.

EWS for landslides and floods

15. The mission observed the need for setting up a landslide and flood EWS at select hyperlocal hotspots. It is proposed to deploy Local Landslide Early Warning Systems (Lo-LEWS) at critical hotspots wherein the exposure to human habitation and infrastructure is high. As the potential occurrence of landslides has increased significantly in the past 5 years, the risk of multiple landslides is extended over a larger area and for this the mission proposes to establish Territorial landslide early warning systems based on rainfall thresholds and local geological factors (Te-LEWS). The details of the LEWS will be explored further as part of the project preparation and in consultation with R&R Department, District Administration, select pilot communities and key state-level agencies including the local chapter of GSI, GSDA etc.

16. The current flood EWS is limited and has been piloted on the dissemination systems in the Kolhapur district. There is scope to significantly improve and expand this system across flood-exposed villages and towns. The mission discussed the possibilities of bringing in the required technology support / Flood DSS integrated into community-based local knowledge and resources. The design of the Flood EWS will be explored in consultation with MKVDC, R&R Department, the District Administration, select pilot communities, and other key state-level agencies.

Project Implementation Arrangements

17. The Project Implementation Units (PIUs) for all the components have been identified, including the respective PIU structure and compositions. However, these are yet to be notified. It was agreed during the mission that PMU-MITRA notifies all PIUs and create budget heads for all implementation agencies, followed by the initiation of budget allocation. Key positions within the PMU and PIUs shall be filled with trained staff specializing in environmental and social management, financial management, procurement, project management, and coordination. Critical consultancies shall be hired, including MKVDC PMTC, MKVDC DPR Consultant, Municipal Corporations DPR Consultant, and the R&R Dept. PMTC.

Fiduciary (Procurement and Financial Management)

18. All procurement under the project will be governed by the World Bank's *Procurement Regulations for Investment Project Financing (IPF) Borrowers for Goods, Works, Non-Consulting and Consulting Services*, dated July 1, 2016 (revised in November 2017, August 2018, and November 2020). According to the requirement of the Regulations, a Project Procurement Strategy for Development (PPSD) needs to be developed based on the anticipated procurement under the proposed project.

19. The requested information shall be shared in the FM questionnaire. The statutory audit of annual financial statements for FY20–21 to FY23–24 needs to be completed. A Procurement Plan for the first 18 months will have to be prepared, along with a Project Procurement Strategy for Development (PPSD) and a Project Implementation Plan.

Environment Management and Social Safeguards

20. Applicability of the Environment and Social Framework (ESF): Environmental and social requirements applicable to the proposed project are set out in the Bank's ESF⁴. Early and holistic consideration across project documents and adequate staffing in PMU and PIUs is crucial to ensure that all environmental and social requirements are met and will not hinder the fulfillment of DEA's readiness criteria.

21. Key ESF Instruments/Documents Required for Project Processing: Based on the understanding of project contours at identification stage, an Environment and Social Assessment (ESA) for the project will be required to develop project level instruments/documents for appraisal. These will include: (i) Environment and Social Management Framework (ESMF), (ii) Resettlement Policy Framework, (iii) Indigenous People Policy Framework (IPPF); (iv) Stakeholder Engagement Plan (SEP), (v) Environment and Social Commitment Plan (ESCP); and (vi) Labor Management Procedures (LMP), including Occupational Health and Safety Plan. All instruments are to be consulted with stakeholders and disclosed prior to Appraisal, following the requirements of the ESF. The project preparation needs to create and build-in mechanisms for: (i) consultation with key stakeholders; (ii) effective, efficient, and responsive communication program for stakeholder engagement; (iii) robust real time monitoring systems for accountability and evidence-based reporting. Findings/recommendations of ESA and other documents need to be integrated into project design/detailed project reports, Bidding Documents, and Implementation Plan to be prepared for the project.

22. Staffing for Environment and Social Management: For effective leadership and coordination on EHS aspects during the entire project cycle, it is imperative that suitable staff and experts (with required qualifications and experience) are deployed by the project to discharge functions and responsibilities associated with this role. It was agreed that current Social and Environment Specialists at the PMU will closely work with social and environmental counterparts to be hired at the PIU level and they will liaise with nodal officials from Implementation Agencies. Additional specialists will be required at both PMU level as well as at PIUs to provide the required support for project preparation and eventually its implementation. The mission requested the PMU to formalize the implementation arrangements and fill-in vacant positions at the earliest to fully kick start preparatory activities for EHS management. Specifically for social safeguards, it was agreed that three specialists (social development, gender, and labor) will be hired at the PMU level. This team will work with the social specialists hired at the PIU level. With increasing dependence on contractual staff, the proposed project will require developing a comprehensive Human Resource Policy for the direct employees which will enable the proposed project to align the requirements of World Bank's ESF.

Gender and Citizen Engagement

23. The project will seek to address gender gaps in the areas of climate change and disasters. Women are severely underrepresented in the state's disaster preparedness institutions. To address this issue, the project will aim to promote female employment, for example, in the State Disaster Response Force. During preparation, a gender action plan will be developed together with indicators to track the progress to increase women's participation in the workforce in the

⁴ <https://www.worldbank.org/en/projects-operations/environmental-and-social-framework>

state. Continuous citizen engagement, using different modes of engaging with stakeholders throughout the project, and adopting a structured approach for which SEP will be prepared in accordance with the ESF.

III. NEXT STEPS AND AGREED ACTIONS

Table 2: Proposed Tentative Milestones

| Preparation | Appraisal | Negotiations | Board |
|-------------|-----------|--------------|----------|
| 01/16/25 | 02/06/25 | 03/13/25 | 05/29/25 |

The key next steps for PMU and PIUs are as follows:

MITRA

1. Notify, create budget heads for, and ensure staffing of PIUs by July 31, 2024.
2. Prepare Procurement Plan for first 18 months and Project Procurement Strategy for Development (PPSD) by August 10, 2024.

MKVDC, Municipal Corporations, and Dept. of R&R

1. Initiate bidding for the respective Project Management Technical Consultants (PMTc) by July 15, 2024, and ensure that hiring is completed by September 30, 2024.
 - a. MITRA will conduct procurement for technical/ project management consultants hired for the municipal corporations. Procurement for urban flood mitigation will be done as a joint RFP by MITRA to enable synergies of flood mitigation across the three cities of Kolhapur Sangli and Ichalkaranji
 - b. MKVDC and Dept. of R&R will undertake procurement of their respective technical/ project management consultants.
2. Finalize bid documents for civil works identified as contributing to DEA's readiness (MKVDC & Municipal Corporations) by October 31, 2024, and deploy technical consultancies for achieving DEA's readiness by January 31, 2025.

To ensure fast progress in the proposed project preparation, the timely completion of the detailed actions listed in Table-3 is critical.

Table 3: Agreed Next Steps

| | Action | Agency | Deadline |
|----------|---|---------|----------|
| P | Project-level Key Actions | | |
| P1 | Notify all PIUs, create budget heads for all implementation agencies, and initiate allocation of budget | MITRA | Jul 15 |
| P2 | Fill key positions in PMU/PIUs with trained staff for environmental and social management, financial management, procurement, project management and coordination | All IAs | Jul 31 |
| P3 | Hire critical consultancies, incl. <ul style="list-style-type: none"> • MKVDC PMTC | MITRA | Sep 30 |

| | Action | Agency | Deadline |
|----------|---|-----------------|----------|
| | <ul style="list-style-type: none"> • MKVDC DPR Consultant • Municipal Corporations PIU • Municipal Corporations DPR Consultant • R&R Dept. PMTC | | |
| P4 | Prepare bid documents and requests for proposals and invite bids, evaluate and finalize awards in line with DEA requirements of 30 percent of civil works to be in the contract award stage before negotiations. | All IAs | Jan 31 |
| 1 | Component 1: Climate-informed Flood Risk Management | | |
| 1.1 | Share notified organizational chart and PIU structure with the World Bank | MKVDC | Jul 5 |
| 1.2.1 | Share RFPs for DPR and PMTC consultancies with the World Bank | MKVDC | Jul 5 |
| 1.2.2 | Tender RFPs for DPR and PMTC consultancies | MKVDC | Jul 12 |
| 1.3 | Share maps and GIS layer related to the proposed investments and estimated number of people affected by the project with the World Bank | MKVDC | Jul 12 |
| 2 | Component 2: Multi-Hazard Resilience in Districts | | |
| 2.1 | Conduct procurement for technical consultants to support DPR preparation of municipal corporations | MITRA | Sep 30 |
| 2.2 | Finalize DPRs for Sangli and Kolhapur city corporations | KMC, SMKMC | Oct 31 |
| 2.3 | Prepare urban storm water drainage DPR for Ichalkaranji | IMC | Mar 31 |
| 2.4 | Finalize DPR for development of comprehensive storm water master plans for all three cities | KMC, SMKMC, IMC | Sep 30 |
| 3 | Component 3: Upgrading State Emergency Management Capacities | | |
| 3.1.1 | Share the selected sites for landslide risk mitigation with the World Bank, including details of the selection criteria | R&R | Jul 5 |
| 3.1.2 | Draft landslide risk mitigation TOR | R&R | Aug 16 |
| 3.2 | Hire Project Management Specialist and EWS advisor | R&R | Jul 20 |
| 3.3.1 | Finalize PMTC TOR | R&R | Aug 7 |
| 3.3.2 | Issue PMTC RFP | R&R | Aug 20 |
| 3.4 | Draft five TORs for <ol style="list-style-type: none"> 1. Landslide EW (hyper-local) 2. Landslide EW (regional) 3. Flood EWS for Kolhapur 4. Techno-legal regime for fire safety, 5. Climate-informed multi-hazard vulnerability and risk assessment | R&R | Aug 16 |
| 3.5 | Develop Concept of Operations for DEOCs and emergency communications network | R&R | Sep 1 |
| 4 | Component 4: Private Capital Mobilization for Risk Financing & Fiscal Resilience | | |
| 4.1 | Discuss risk layering and PFM approaches to financial protection at different administrative levels | DoF | July 31 |

| | Action | Agency | Deadline |
|-------------|---|--------------|----------|
| 4.2 | Scope risk transfer mechanisms, incl. catastrophe bonds, catastrophe risk pooling for LGUs, results-based financing for climate resilience, enhancing financial resilience of municipal corporations in discussion with World Bank Treasury and Department of Finance Maharashtra | DoF | July 31 |
| FM/P | Fiduciary (Financial Management [FM] and Procurement [Pr]) | | |
| FM1 | Create budget line for MRDP and make available to the implementing agencies | MITRA | Jul 31 |
| FM2 | Share requested information in FM questionnaire | MITRA | Jul 31 |
| FM3 | Complete statutory audit of annual financial statements for FY20–21 to FY 23–24 | MKVCD, 3 MCs | Oct 31 |
| Pr1 | Prepare Procurement Plan for first 18 months | MITRA | Jul 15 |
| Pr2 | Prepare Project Procurement Strategy for Development (PPSD) | MITRA | Jul 31 |
| Pr3 | Prepare Project Implementation Plan | MITRA | Oct 31 |
| ES | Safeguards | | |
| ES1 | Assign Nodal E&S Officials | MITRA | Jul 5 |
| ES2 | Designate Nodal E&S Officers (existing officials) | PIUs | Jul 15 |
| ES3 | Appoint E&S Experts (with prior experience of Bank's safeguards) | MITRA | Jul 31 |
| ES4 | Engage E&S Experts to support preparatory activities (screening, TOR preparation, ESMP preparation) | PIUs | Jul 31 |
| ES5 | Engage a Consultancy Firm for preparing project level E&S instruments | MITRA | Aug 15 |

Annex 1: List of Officials Met*List of Government of Maharashtra Officials Met During the Mission*

| Name | Designation |
|----------------------|--|
| Dr. Nitin Kareer | Chief Secretary |
| Mr. Praveen Pardeshi | CEO, Maharashtra Institution for Transformation (MITRA) |
| Dr. Rajendra Bharud | Joint CEO, Maharashtra Institution for Transformation (MITRA) |
| Mr. Deepak Kapoor | Additional Chief Secretary, Water Resources Department |
| Dr. Sanjay Belsare | Secretary, Water Resources Department |
| Mr. Lahu Mali | Director of Disaster Management, Department of R&R |
| Mr. Atul Kapole | Executive Director, Krishna Valley Development Corporation |
| Mr. Shreedutt Kamath | State Training and Capacity Building Officer |
| Mr. Amol Yedge | District Collector, Kolhapur |
| Mr. K. Manjulekshmi | Municipal Commissioner, Kolhapur Municipal Corporation (KMC) |
| Mr. Shubham Gupta | Municipal Commissioner, Sangli, Miraj and Kupwad Municipal Corporation (SMKMC) |
| Mr. Omprakash Divate | Municipal Commissioner, Ichalkaranji Municipal Corporation (IMC) |
| Mr. H.V. Gunale | Chief Engineer, Pune Division (Nodal Officer for Krishna Bhima Sub-Basin) |
| Ms. Smita Mahne | Executive Engineer, Kohlapur |
| Mr. Yogesh Sawant | Executive Engineer, ITI |
| Dr. H.T. Dhumal | Chief Engineer, Nodal Officer for Bhima Basin |
| Prasad Sankpal | Disaster Management Officer, Kolhapur |

Annex 2: Mission Schedule (June 24–28, 2024) at Mission Start

| Time | Meeting | Location | Objectives | Participants |
|-------------------------------|---|---------------------------|--|---|
| Day 1: June 24, Monday | | | | |
| 10:00 to 12:30 | Mission Kick-Off | Sahayadri, Mumbai | <ul style="list-style-type: none"> - Overarching review of progress on agreed actions - Project implementation arrangements - E&S - Procurement & FM - Mission agenda and expectations | <p>GoM: MITRA, WRD, R&R Dept, MKVDC, DoF</p> <p>World Bank:</p> <p><u>In-Person</u></p> <p>Jolanta, Anup, Yukio, Tjark, Sheena, Vijayasekar, Sangeeta, Neha, Varun, Savinay, Atul</p> <p><u>Virtual</u></p> <p>Satya, Deepak, Abhijit</p> |
| 12:30 to 13:30 | Discussions on Component 4: Private Capital Mobilization for Risk Financing and Fiscal Resilience | Sahayadri, Mumbai | <p>Identify:</p> <ul style="list-style-type: none"> - Project activities - Institutional structure for managing the Climate and Disaster Risk Financing including for both mitigation/adaptation investments and post-disaster recovery and reconstruction financing | <p>GoM: MITRA, DoF</p> <p>World Bank:</p> <p><u>In-Person</u></p> <p>Jolanta, Anup, Tjark, Sheena, Vijayasekar, Sangeeta, Neha, Varun, Savinay, Atul</p> |
| 13:30 to 14:00 | Lunch and Team A departs from Mumbai to Pune by Road | | | <p><u>TEAM A:</u></p> <p>Yukio, Varun, Neha, Sangeeta, Savinay</p> |
| 14:30 to 17:30 | Discussions on Component 3: Upgrading State Emergency Management Capacities | Department of R&R, Mumbai | <p>Identify investments, institutional arrangements and next steps for:</p> <ul style="list-style-type: none"> - Emergency Operations Centers (SEOC, DEOC, emergency communications) and GIS Lab | <p>GoM: R&R Dept</p> <p>World Bank:</p> <p><u>TEAM B:</u></p> |

| Time | Meeting | Location | Objectives | Participants |
|--|--|---------------|--|--|
| | | | <ul style="list-style-type: none"> - Early Warning and Cell Broadcast - Landslide Hazard Assessment and EWS - Community First Responder Training - Climate inclusive multi-hazard risk vulnerability assessment - Resilience planning and design learning platform - PMTC, TPQA and PIU Operations | Jolanta, Anup, Sheena, Vijayasekar |
| 14:00 to 16:00 | Nature Based Solutions Opportunity Scan | MRSAC, Mumbai | Data Requirements for the NBSOS being undertaken by GFDRR for three project cities | GoM: MRSAC, MITRA World Bank: Tjark |
| Overnight stay in Pune and Oberoi | | | | |
| Day 2: June 25, Tuesday | | | | |
| <i>Pune Schedule</i> | | | | |
| 10:00 to 12:00 | E&S Requirements for Component 1: Climate Informed Flood Risk Management | MKVDC, Pune | | GoM: MKVDC World Bank: Yukio, Dr. Abhijit, Varun, Neha, Savinay, Rumita, Sangeeta |
| 12:00 to 13:00 | FM and Procurement for Component 1: Climate Informed Flood Risk Management | MKVDC, Pune | | GoM: MKVDC World Bank: Yukio, Dr. Abhijit, Varun, Neha, Savinay, Rumita, Sangeeta |

| Time | Meeting | Location | Objectives | Participants |
|-------------------------------------|--|--|---|--|
| 13:00 to 18:00 | TEAM A: Travel from Pune to Kolhapur by road (approx. drive time is 5 hrs., 233 kms via Mumbai – Satara highway and NH 48) | | | Varun, Neha, Savinay, Rumita |
| 14:00 to 17:00 | Discussions on Component 1: Climate Informed Flood Risk Management | MKVDC Office, Pune | Discussions on: <ul style="list-style-type: none">- PMTC RfP- DPR for Radhanagari Dam upgrades- ToR for re-sectioning and removal of obstructions in Krishna River- Status of studies on (a) Identification of obstructions to review flow and b) Identification of nallas to be stored. | GoM: MKVDC World Bank: Yukio, Dr. Abhijit, Sangeeta |
| Kolhapur Schedule | | | | |
| 09:30 to 10:30 | TEAM B: Travel from Mumbai to Kolhapur by Star Air S5-161 departs at 9:30 am and arrives in Kolhapur at 10:35 am. | | | Jolanta, Anup, Sheena, Tjark, Vijayasekar, Atul |
| 12:00 to 14:00 | Discussions on Component 2: Multi-hazard Resilience in Districts | Kolhapur Municipal Corporation, Kolhapur | Discussions on: <ul style="list-style-type: none">- SWD drainage DPRs- Identifying additional investments | GoM: KMC, MITRA World Bank: Jolanta, Anup, Sheena, Tjark, Vijayasekar |
| 14:30 to 17:30 | Site visits to SWD sites and continued discussions at KMC | Kolhapur | | |
| Overnight stay in Pune and Kolhapur | | | | |
| Day 3: June 26, Wednesday | | | | |
| Sangli Schedule | | | | |

| Time | Meeting | Location | Objectives | Participants |
|------------------------------|---|--|--|--|
| 08:30 to 09:30 | Team A travel from Kolhapur to Sangli 1:10 hours (46.8 km) via NH166 | | | |
| 10:00 to 13:00 | Discussions on Component 2: Multi-hazard Resilience in Districts | SMKC, Sangli | Discussions on: <ul style="list-style-type: none">- SWD drainage DPRs- Identifying additional investments | GoM: SKMC, MITRA World Bank: Anup, Vijayasekar, Tjark |
| 10:00 to 13:00 | Site visits to SWD sites and continued discussions at SMKC | Sangli | | |
| <i>Ichalkaranji Schedule</i> | | | | |
| 08:30 to 09:30 | Team B travels from Kolhapur to Ichalkaranji 45 min (27.7 km) via NH166 and Kolhapur Road | | | |
| 14:00 to 16:30 | Discussions on Component 2: Multi-hazard Resilience in Districts | IMC, Ichalkaranji | Discussions on identifying project investments | GoM: IMC, MITRA World Bank: Jolanta, Sheena, Savinay |
| 14:00 to 16:30 | Site visits to SWD sites and continued discussions at IMC | Ichalkaranji | | |
| 16:30 to 17:30 | Virtual Meeting with GFDRR and all | Virtual (teams join from their respective locations) | Introduction to the proposed NBSOS, data requirements and consultations on scoping the scan process | Anup, Vijayasekar, Tjark, Jolanta, Sheena, Savinay |

| Time | Meeting | Location | Objectives | Participants |
|--------------------------|--|-------------|-----------------------|---|
| | Municipal Corporations | | | |
| Pune Schedule | | | | |
| 10:00 to 17:00 | Discussions on Component 1: Climate Informed Flood Risk Management | MKVDC, Pune | Continued from Day 2. | GoM: MKVDC World Bank: Yukio, Dr. Abhijit |
| Overnight stay | | | | |
| Day 4: June 27, Thursday | | | | |
| Pune Schedule | | | | |
| 10:00 to 14:00 | Discussions on Component 1: Climate Informed Flood Risk Management | MKVDC, Pune | Continued from Day 3. | GoM: MKVDC World Bank: Yukio, Dr. Abhijit |
| 16:00 | Depart from Pune to Mumbai | | | Yukio |
| Kolhapur Schedule | | | | |
| 07:00 to 12:00 | Visit to landslide prone sites in Kolhapur | Kolhapur | | GoM: KMC, Dept. Of R&R World Bank: Anup, Jolanta, Neha, Rumita, Savinay, Sheena, Tjark, Varun, Vijayasekar |
| 14:10 to 14:55 | Depart from Kolhapur for Mumbai Star Airlines | | | Anup, Jolanta, Neha, Savinay, Sheena, Tjark, Varun, Vijayasekar, Yukio, Devika, Atul |
| Overnight stay | | | | |
| Day 5: June 28, Friday | | | | |

| Time | Meeting | Location | Objectives | Participants |
|-------------|-----------------|-------------------|------------|---|
| 16:00-17:00 | Mission Wrap Up | Sahayadri, Mumbai | | GoM: MITRA, WRD, R&R Dept, MKVDC, DoF World Bank: Abhas, Anup, Deepak, Jolanta, Neha, Savinay, Sheena, Tjark, Varun, Vijayasekar, Yukio, Satya (virtual), Atul |
| | Departure | | | All World Bank Task Team members |