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# Project Information Document (PID)

Appraisal Stage | Date Prepared/Updated: 30-Apr-2025 | Report No: PIDIA01258

Public Disclosure Authorized

## BASIC INFORMATION

### A. Basic Project Data

| Project Beneficiary(ies) | Region | Operation ID | Operation Name |
|---|---|---|---|
| India | SOUTH ASIA | P505190 | Bihar Water Security and Irrigation Modernization Project |
| **Financing Instrument** | **Estimated Appraisal Date** | **Estimated Approval Date** | **Practice Area (Lead)** |
| Investment Project Financing (IPF) | 26-May-2025 | 09-Sep-2025 | Water |
| **Borrower(s)** | **Implementing Agency** | | |
| India | Water Resources Department (WRD), Government of Bihar | | |

Proposed Development Objective(s)

To improve irrigation services and enhance flood resilience in Bihar.

**Components**

Component 1. Climate Resilient Irrigation
Component 2. Flood Risk Reduction
Component 3. Water Governance
Component 4. Project Management
Component 5. Contingent Emergency Response Component

## PROJECT FINANCING DATA (US$, Millions)

### Maximizing Finance for Development

| | |
|---|---|
| **Is this an MFD-Enabling Project (MFD-EP)?** | Yes |
| **Is this project Private Capital Enabling (PCE)?** | Yes |

### SUMMARY

| | |
|---|---|
| **Total Operation Cost** | **552.37** |
| **Total Financing** | **552.37** |
| **of which IBRD/IDA** | **386.31** |

| | |
|---|---|
| **Financing Gap** | **0.00** |

**DETAILS**

**World Bank Group Financing**

| | |
|---|---|
| International Bank for Reconstruction and Development (IBRD) | 386.31 |

**Non-World Bank Group Financing**

| | |
|---|---|
| Commercial Financing | 0.50 |
| Unguaranteed Commercial Financing | 0.50 |
| Counterpart Funding | 165.56 |
| Borrower/Recipient | 165.56 |

Environmental And Social Risk Classification

Substantial

Decision

The review did authorize the team to appraise and negotiate

## B. Introduction and Context

Country Context

1. **Bihar is India's poorest state with 33.76 percent of its population below the extreme poverty line**, placing it at the bottom of the development ladder. Bihar is the third most populous state in India, after Uttar Pradesh and Maharashtra, with a population of 131 million.[1] According to a recent publication by the Reserve Bank of India[2]: (i) it has a very high population density of 1,106 people per square kilometer ($km^2$), far above the national average of 382 persons per $km^2$; (ii) its Per Capita Net State Domestic Product at current prices stands at INR 60,337, the lowest in India; (iii) the state has the highest Multi-dimensional Poverty Index (MPI) at 0.160, significantly above the national average of 0.07; and (iv) 88.7 percent of Bihar's population lives in rural areas.

Sectoral and Institutional Context

2. **Bihar's economy faces significant challenges due to natural disasters, primarily floods and droughts, which are being exacerbated by climate change.** The state's growth trajectory is impacted by the regular occurrence of these events, resulting in significant annual losses. Approximately 73 percent of the state's total area (93,600 $km^2$) is flood-

[1] Census of India, Population Projections for India and States 2011-2036, July 2020, Report of the Technical Group on Population Projections, National Commission on Population, Ministry of Health & Family Welfare, page 85, table 11.

[2] Handbook of Statistics on Indian States, 2023-24, Reserve Bank of India

prone. Between 2000 and 2024, Bihar experienced 12 major flood events, including an extreme flooding event in 2008 resulted in an estimated loss of around INR 174 billion (US$2.1 billion)[3]. Of Bihar's 38 districts, 28 are regularly affected by either floods or droughts, and some experience both within a single year. The state spends an average of INR 41.5 billion (US$500 million) annually to manage and mitigate the impacts of these disasters.

a) **Floods.** Bihar is the most flood-affected state in India, with recurrent floods primarily impacting North Bihar. The primary causes include excessive rainfall during the monsoon months (June-September), major water inflows from Nepal, and flat terrain. Flooding in the state is characterized by prolonged inundation and very high sediment loads in river water, which destroy crops, damage infrastructure and dwellings, and disrupt the livelihoods of the population. The resulting socio-economic stress leaves the rural economy in distress year after year. Approximately 3.09 million ha (m ha), or 55 percent of the total net cropped area of 5.65 m ha, in 28 districts fall under flood hazard categories, with 15 districts[4] being the worst affected.

b) **Droughts.** The southern and southwestern regions of Bihar experience frequent drought conditions, occurring on average once every two years. While North Bihar is generally less drought-prone, it can experience long dry spells. Droughts reduce reservoir storage, deplete groundwater levels, and lower crop yields (monsoon crops, especially rice). While weak or delayed monsoons are largely to blame, macro-level climate analyses indicate further shifts in Bihar's rainfall and temperature patterns over the coming decades. The Government of Bihar's (GoB) Fourth Agriculture Roadmap (FAR; 2023-2028) includes several schemes aimed at drought mitigation.

c) **Climate change.** Future climate projections indicate rising summer and winter temperatures, which will impact soil moisture and crop health. While minimum and maximum temperatures exhibit an increasing trend, overall monsoon precipitation is projected to decline by up to 4.5 percent across most districts by 2030, with a further reduction of up to 3.8 percent by the 2050s. At the same time, rainfall intensity is expected to rise, increasing the risk of floods, while the overall decline in precipitation could worsen water scarcity, stressing irrigation systems and threatening crop yields. Bihar's heavy dependence on agriculture, coupled with limited opportunities in other sectors, further exacerbates these challenges.

3. **Agriculture plays a crucial role in Bihar's economy, yet its overall performance remains relatively low.** Blessed with high precipitation, abundant surface and groundwater resources, and fertile soil, Bihar is a predominantly agrarian economy, with 77 percent of its population engaged in agriculture, contributing about 25 percent to the state's GDP. The main monsoon crops include rice (covering 60 percent of the net cropped area), maize, and jute, while winter crops primarily consist of wheat, maize, mustard, and lentils. However, yields for most crops remain below the national average, except for maize which is on par with the national average. With 91 percent of farmers being small and marginal (landholding size less than 2 ha) and operating on fragmented landholdings, low crop productivity continues to adversely affect rural livelihoods, particularly in agriculture and allied sectors – the state's primary economic mainstay.

4. **The potential for enhancing crop productivity in Bihar is constrained by inadequate irrigation services, which are further impacted by flood preparedness.** A key challenge is the low utilization of major and medium surface irrigation schemes, with only 2.82 million hectares (m ha) of the 3.72 m ha Irrigation Potential Created (IPC) being utilized, leaving a 0.9 m ha gap. This is largely due to poor maintenance, aging infrastructure, silted canals, lack of field channels, outdated hydraulic structures, and incomplete projects, particularly in Northern Bihar. Additionally, deficiencies in flood risk reduction infrastructure and preparedness systems exacerbate these challenges, as rising river levels and heavy sediment loads damage irrigation infrastructure, reducing its capacity and effectiveness. While the Water Resources Department

[3] https://www.fmiscwrdbihar.gov.in/fmis/history.html
[4] Darbhanga, Khagaria, Sitamarhi, Muzaffarpur, Patna, Bhagalpur, Samastipur, East Champaran, Madhubani, Nalanda, Saharsa, Supaul, Madhepura, Purnia, and Sheohar.

(WRD) has built 3,760 km of embankments to protect 36,460 km², unprotected areas remain vulnerable, and recurring floods necessitate constant repairs and reinforcements to sustain the irrigation network.

5. **The effectiveness of flood/drought preparedness and risk reduction infrastructure, irrigation systems, and overall water resources management is further hindered by numerous institutional challenges.** Key issues include (a) Inadequate policy and regulatory framework – Bihar's State Water Policy, drafted in 2010 and revised in 2014, remains unapproved, leading to weak institutional coordination, poor water accounting, and ineffective funding mechanisms. The outdated Irrigation Act (1997) and weak implementation of Participatory Irrigation Management (PIM) further limit progress. (b) Weak capacity of the Water Resources Department (WRD) – The WRD struggles with inadequate funding, low technical capacity, and weak stakeholder coordination, while private irrigation service providers remain underutilized. (c) Limited flood/drought forecasting (F/DF) and early warning systems (EWS) – The Flood Management Improvement Support Centre (FMISC) and its Mathematical Modelling Centre (MMC) provide operational forecasts for the Kosi Basin, but state-wide scaling and drought forecasting remain underdeveloped. (d) Inadequate decision-making tools – While multiple agencies collect water-related data, integration remains limited, preventing effective use in irrigation performance assessment and flood/drought early warnings. (e) Weak irrigation and agricultural services – Early efforts to transfer irrigation management to Water User Associations (WUAs) under PIM were hindered by poor governance, low farmer participation, and inadequate training. Additionally, agricultural services, including research, extension, and market linkages, remain underdeveloped, lacking strong community engagement. Addressing these institutional gaps is crucial for improving water management and disaster resilience in Bihar.

6. **The proposed Bihar Water Security and Irrigation Modernization Project (BWSIMP) aims to support transformation by combining multisectoral investments in irrigation and flood risk reduction with significant shifts in water governance.** While investments in irrigation and flood protection will be site-specific, the Project will focus on improving water governance through enhanced institutional capacity and stakeholder partnerships, ensuring that lessons learned can be applied and scaled across the state. The three complementary and mutually reinforcing investment areas are: (a) Rehabilitation and modernization of irrigation schemes, coupled with improved Operations and Maintenance (O&M) and implementation of On-Farm Development (OFD) and Climate Resilient Agriculture (CRA) activities, will ensure equitable distribution and management of water resources from head to field, improve crop productivity and mitigate the impacts of floods and droughts. (b) Flood risk reduction will strengthen infrastructure and introduce grey and green flood protection measures to safeguard agriculture and livelihoods. (c) Water governance reforms will enhance institutional capacity, promote stakeholder collaboration, and improve irrigation service delivery by strengthening the role of Water User Associations (WUAs) and fostering a farmer-centric approach. These integrated investments will ensure long-term sustainability and resilience in Bihar's water management.

## C. Proposed Development Objective(s)

### Development Objective(s)

To improve irrigation services and enhance flood resilience in Bihar.

### Key Results

7. The outcomes of the project would be measured through the following two PDO Indicators.

- PDO Indicator 1: Area (Hectare) under improved irrigation services and climate resilience
- PDO Indicator 2: People (Corporate, number, total, female, youth) with enhanced resilience to climate risks

## D. Project Description

8. **The Project is an Investment Project Financing operation with five components.** US$28 million of the loan amount will be disbursed through four Performance-Based Conditions (PBCs). The Project components are as follows.

9. **Component 1. Climate resilient irrigation (US$340.58 million, of which IBRD US$232.74 million).** This component aims at making irrigation and drought management more efficient and responsive in the face of increasing drought risks, to safeguard the well-being of people and land. Modernization of irrigation infrastructure and improved irrigation management will also mitigate flood impacts by enhancing canal and drainage capacity, diverting excess water during heavy rainfall, and reducing waterlogging. Additionally, climate-resilient agricultural practices, such as improved soil and water management, will help regulate runoff, enhance infiltration, and reduce erosion, further strengthening flood resilience. The Project will invest in structural and non-structural interventions through this component to restore Irrigation Potential (IP) in about 0.26 million ha of land and strengthen institutional arrangements that would lead to improved irrigation and drought management. This component will include the following four subcomponents:

i. ***Subcomponent 1.1. Rehabilitation and modernization of select irrigation schemes.*** The Project will rehabilitate and modernize three major irrigation schemes with a total cultivable command area of 0.65 million ha, restoring IP of 0.26 million ha out of the identified state-wide IPC-IPU gap of 0.90 million ha. Two of the three proposed schemes are in North Bihar, while the third is in South Bihar. The activities to be supported under this subcomponent will include (i) improvements of headworks; (ii) sediment management; (iii) lining and desilting of select canal/river reaches; (iv) modernization of hydraulic structures, including service outlets; and (v) on-farm development.

ii. ***Subcomponent 1.2. O&M models for improved irrigation services.*** In selected areas of restored commands, the Project will implement three different models of irrigation O&M: (i) strengthening the current WUA model; (ii) establishing WUAs in line with a new Gram Panchayat Model; and (iii) piloting a private Irrigation Service Provider (ISP). Activities to be supported under this subcomponent are (i) re-constitution of WUAs, with emphasis on participation of female cultivators, for which targeted outreach, membership drives, and leadership development programs will be organized; (ii) the WRD's handing over of system level canals and field channels to WUAs; (iii) engaging an ISP for the O&M of irrigation infrastructure in one medium scheme under a performance-based contract; and (iv) scoping study on upscaling of models, including changes based on learning.

iii. ***Subcomponent 1.3. Climate Resilient Agriculture in select irrigation scheme commands.*** Under this subcomponent, CRA will be implemented through the following activities: (i) establishing a Centre for Climate Resilient Agricultural Systems (CCRAS); (ii) demonstrating CRA practices; and (iii) promoting collaboration between agriculture service providers, self-help groups (SHGs) and/or Farmer Producer Organizations (FPO). The Department of Agriculture (DoA) will oversee this subcomponent. Technical assistance from development partners, including the 2030 Water Resources Group (2030 WRG) and the Bill and Melinda Gates Foundation (BMGF), will complement efforts under this subcomponent.

iv. ***Subcomponent 1.4. Training and capacity building.*** Activities to be financed under this subcomponent include: (i) strengthening of Water and Land Management Institute (WALMI); (ii) indoor staff training; (iii) staff exposure trips; (iv) staff workshops and seminars; (v) indoor farmer training; (vi) farmer exposure trips; (vii) farmer exchange visits; and (viii) farmer workshops. In addition, knowledge partnerships will be built between community institutions, public entities and eminent institutions to encourage proactive use of digitization and integrated data stacks generated during project implementation and to be further strengthened through a grid of sensors and spatial data sets.

10. **Component 2: Flood risk reduction (US$163.13 million, of which IBRD US$111.48 million).** This component aims to enhance the efficiency and responsiveness of flood management in flood risk zones, safeguarding people, land, and infrastructure. The Project will invest in grey and green infrastructure to protect assets in flood-prone areas across select reaches of rivers, covering approximately 0.12 million ha of land and protecting 2.4 million people from flood and erosion damages. This component will include the following two subcomponents:

i. ***Subcomponent 2.1. Strengthening of select reaches of embankments and riverbanks:*** Vulnerable embankments that have been weakened and reduced in height due to silting from previous floods will be strengthened and raised through civil works to reduce the physical exposure of land, infrastructure, and habitat to floods.

ii. ***Subcomponent 2.2. Integrating blue and green infrastructure solutions in flood/erosion management:*** The subcomponent will support nature-based and sustainable approaches to reduce flood risks, combining "green" elements (natural features) and "blue" elements (water-based features) to effectively manage and mitigate flooding. Activities that will be supported include: (i) flood-resistant landscaping, including flood-resistant plantings (native plants with deep roots) and vegetative buffers along water bodies, to stabilize soil and reduce erosion during floods; and (ii) laying of jute geo textile on identified embankment/canals prone to erosion.

11. **Component 3: Water governance (US$28.0 million, of which IBRD US$28.0 million).** Strengthening and reforming water institutions is essential to maximize and sustain the benefits of infrastructure investments under Components 1 and 2 and to advance water management in the state. This component includes incentive payments to implementing agencies upon successful verification of achievements related to institutional strengthening and reform as described by the following four PBCs: (A) Institutional mechanisms in place for O&M of irrigation schemes by WUAs and a private ISP at the system level; (B) Collaborative platforms for improved irrigation and drought management established and operationalized; (C) Advanced Tools for Flood Forecasting and Early Warning System (FF-EWS) developed and institutionalized in the remaining five flood-prone river basins in North Bihar; and (D) Policy and regulatory arrangements made to support sustainable water resource management in the state. This component will include the following four subcomponents:

i. ***Subcomponent 3.1. Revision of Standard Operational Procedure (SOP) and Irrigation Service Delivery rules; and Establishment of a PIM Cell and PIM Units in four Project Zones.*** Activities under this subcomponent will support the strengthening of institutional arrangements to improve O&M of irrigation schemes in the state through (i) revision of Standard Operational Procedures; (ii) establishment of PIM Cell and PIM Units; and (iii) revision of Bihar Irrigation Service Delivery Rules. Implementation of these activities, coupled with rehabilitation and modernization of the irrigation schemes under Subcomponent 1.1, and O&M activities under Subcomponent 1.2, will contribute to PBC A.

ii. ***Subcomponent 3.2. Establishment of*** **Hydrologic and Agricultural Information Support Centre** ***(HAISC) and development of advanced tools.*** Three activities will be supported under this subcomponent: (i) establishment of the HAISC; (ii) development of an advanced irrigation performance assessment (IPA) tool; and (iii) development of advanced tools for drought forecasting and early warning system (DF-EWS). Implementation of these activities will contribute to PBC B. Information generated by these tools will complement and inform CRA activities under Subcomponent 1.3, improve the adoption of climate-resilient practices and enhance farm-level decision making.

iii. ***Subcomponent 3.3. Strengthening of the Flood Management Improvement Support Centre and the Mathematical Modelling Centre.*** Activities to be financed under this subcomponent are (i) operationalization of flood monitoring using a real-time data acquisition system (RTDAS); (ii) procurement of topographic and

bathymetric survey data of the project area for better planning and execution of flood management interventions; (iii) investments in technology, personnel, and infrastructure, such as institutionalizing the use of high-performance computing equipment, high-end analytical tools, and advanced communication systems; (iv) development of an embankment asset management system; and (v) completion of river morphology studies. Implementation of activities under this subcomponent will contribute to PBC C.

iv. ***Subcomponent 3.4. Compilation of a new Bihar State Water Policy (SWP) and a Charter for Bihar State Water Regulatory Authority (BSWRA).*** This subcomponent aims to improve the overall policy environment that governs water institutions. The following two activities will be supported: (i) carrying out a scoping study for revision of the current Bihar State Water Policy (SWP), drafting the new SWP, and submitting it for approval; and (ii) preparing the charter (or terms of reference) for the Bihar State Water Regulatory Authority (BSWRA) to be constituted, including multi-stakeholder consultations, and submitting it for approval. Implementation of activities under this subcomponent will contribute to PBC D.

12. **Component 4: Project management (US$19.2 million of which IBRD US$13.12 million).** This component will support the effective implementation of project activities, the monitoring and evaluation of project implementation progress, and incremental operating costs, including audits. The component will support: (i) a Project Management Unit (PMU) in the WRD; (ii) a Project Management Technical Consultant (PMTC) to oversee and coordinate activities of the Project; (iii) Project Implementing Units in allied agencies; and (iv) monitoring and evaluation, including an Independent Verification Agency (IVA) and a project MIS that is integrated with the State Water Information System.

13. **Component 5: Contingent Emergency Response Component (CERC) (US$0 million).** This is an emergency response mechanism allowing rapid reallocation of uncommitted funds in the event of emergencies such as floods, droughts, or pandemics.

14. **The Project is expected to benefit the state's entire population through institutional and non-structural interventions, while approximately 4.34 million people across 72 blocks in 10 districts are expected to directly benefit from targeted structural interventions.** Irrigation interventions will directly benefit about 1.94 million people, 91 percent of whom are estimated to be small and marginal farmers with low household income. These farmers, in turn, provide employment for about 1 million landless agricultural workers, who generally lie below the poverty line. About 2.4 million people would benefit directly from flood management interventions. Nonstructural, institutional measures included under the Project, such as preparing a new SWP, are expected to benefit the entire population of Bihar.

| Legal Operational Policies | Triggered? |
|---|---|
| Projects on International Waterways OP 7.50 | Yes |
| Projects in Disputed Area OP 7.60 | No |

Summary of Screening of Environmental and Social Risks and Impacts

15. **Environmental Appraisal.** The project has the potential to have positive environmental impacts, primarily from improved water use efficiency through modernization of conveyance and agricultural interventions. Water use efficiency and climate-resilient agriculture can have far reaching beneficial impacts and improve farmers' incomes, provided integrated pest and nutrient management, crop diversification, and promotion of indigenous seed varieties are carried out alongside these interventions. The project also holds the potential for reduction of natural resource use (boulders, earth) in embankment construction by optimizing designs and adopting blue-green infrastructure. The project

components do not have any physical footprint within any protected areas. However, sections of the Rivers Kosi and Bagmati are “Critical Areas” for the endangered Gangetic River Dolphin, as per GoI studies, as they serve as essential links for maintaining a viable dolphin population by connecting the rivers of Nepal with the Ganga. These are thus “Critical Habitats” as per ESS 6.

16. The technical details indicate that the modernization and renovation of the irrigation infrastructure, including the Western Kosi Main Canal and Jhanjarpur Branch Canal, will not involve the abstraction of additional water. For flood protection works, the DPR includes strengthening of the embankments and developing of spurs and bed bars using gabions and other construction materials on the waterside of the embankment. Most of the construction will occur during the dry season, thus construction impacts on aquatic life are envisaged to be low unless there are instances of underwater works, which will be minimal. During the high water flows these areas would be submerged in water, the cavities in the rocks/ boulders in the gabions could serve as feeding grounds for dolphins. The project already includes embedded mitigation measures by adjusting the mesh size of the gabion wire cage to minimize harm to dolphins. However, some risks will remain until sedimentation in the infrastructure stabilizes and riparian species are established. The Environmental and Social Management Framework (ESMF) has an overarching Dolphin Program which will guide the development of site-specific mitigation measures and build awareness about dolphins in the river systems to protect dolphins. The Environmental and Social Impact Assessment (ESIA) will define the site-specific plans which will aim to: i) minimize impacts on riparian habitats ii) undertake proactive steps to avoid damage to the riparian habitats; iii) implement precautionary measures during underwater works, if any. These mitigation measures will be implemented by the Contractor with expert support, which will be in-bult into the Contract. The designs also use nature-based solutions to prevent erosion of embankments created thus enhancing the dolphin habitat. The draft ESIA also suggests conducting additional studies if design or project features change in a way that might impact the dolphin population, allowing for adaptive management.

17. The other key environmental risks during construction include (i) Occupational Health and Safety (OHS) issues due to waterside works; (ii) likely impacts on ecology and habitats - both aquatic and riparian; (iii) management of desilted material from canals; (iv) pressure on natural resources (expectedly boulder pitching, or gabion wall works); (v) health risk to construction workers, e.g. malaria and Kala-azar; and (vi) community health safety risks during construction. The other issues during construction, like dust and noise, challenges in obtaining regulatory permits, and capacity constraints at the Contractor level, are local and moderate and can be mitigated through good construction practices, community health and safety, strengthening the oversight by client by real-time reporting by Contractors.

18. **Social Appraisal.** The overall social impact is positive owing to project interventions focused on the improvement of the irrigation services, flood control, climate resilient agriculture, accountable and equitable access, as well as improved management of the water resources. The locations of some of the interventions as well as modalities for strengthening participatory irrigation management are proposed for evaluation. PIUs will be capacitated to ensure inclusion of vulnerable (scheduled castes; *Mahadalits,* Backward Classes, Extremely Backward Classes, Minorities, Women; small, marginal, landless farmers and women) in WUAs as well as community participation in project activities. Collaborations in climate-resilient agriculture among FPOs, SHGs, service providers, private sector entities, and local communities will be encouraged to attract private capital, drive innovation, and support sustainable management of water resources. The generic and site-specific instruments elaborate management and monitoring of social risks under civil works namely (i) physical and economic resettlement of non-title holders along select schemes identified for renovation; (ii) temporary negative impacts to communities (including community health and safety) due to civil works; (iii) labor management including labor influx and Sexual Exploitation and Abuse/ Sexual Harassment (SEA/SH). Creation of greenfield irrigation structures, private land acquisition and any impact on tribal areas is not envisaged. Given the assessment of risks and impacts at this stage of project preparation and client capacities, the social risk rating and SEA/SH risk rating is Substantial.

19. **Environmental and Social Management:** Environmental and Social standards ESS1, ESS2, ESS3, ESS4, ESS5, ESS6, ESS8 and ESS10 are relevant to the project. The following instruments have been prepared and their drafts disclosed during Appraisal: (i) Environmental and Social Management Framework including Labor Management Procedures (LMP), Resettlement Planning Framework (RPF), OHS Plan and Gender-Based Violence (GBV) Prevention Action Plan, and templates for Environmental and Social Management Plans (ESMPs); and (ii) Stakeholder Engagement Plan (SEP). In addition, site-specific ESIAs have been prepared for four sub-projects, which include: a) ESMPs; and b) Resettlement Action Plans (RAPs). The bid documents also include ESMPs, clear measures to overcome E&S risks and challenges, link approvals of OHS plans, and incorporate penalties for noncompliance. Integrated Pest Management Plan (IPM) and Integrated Nutrient Management Plan (INM) are agreed cornerstones of agriculture practices. The agreements, responsibilities, and reporting on mitigation and management measures are reflected in the Environment and Social Commitment Plan (ESCP).

## E. Implementation

### Institutional and Implementation Arrangements

20. **The implementation arrangements are aligned with the current institutional architecture of the GoB.** The WRD, responsible for overall surface water management, including irrigation and flood management, will be the project holder and Project Implementing Agency. The WRD will oversee overall project management and coordination through the Project Management Unit, which has already been established with officers experienced in World Bank procedures. The Project Management Technical Consultant (PMTC), a team of experts and consultants headed by a team leader, will provide technical support for project activities that exceed the skill set of the WRD. Additionally, the PMTC will assist in collating the information to document the achievement of PBCs.

21. **The PMU will be supported by two PIUs, representing the DoA and the Rural Development Department (RDD), in the implementation of the Project.** The DoA is responsible for enhancing agricultural productivity, including climate adaptation, and will lead the implementation of CRA activities. As a key player in the GoB's JEEViKA program and in alignment with the Command Area Development and Water Management (CADWM), the RDD will spearhead the implementation of OFD in restored command areas. Its responsibilities will include financing field channel formation and O&M in the restored commands, including through accessing MGNREGS funds. The Project will provide technical support for preparation of DPRs, with technical specifications for implementation. The RDD will also support community mobilization and awareness-building processes needed for forming and/or strengthening of WUAs in restored commands. JEEViKA has already organized women's SHGs and FPOs in the state and will complement this process in restored commands, if not already done. Both the DoA and the RDD will support the implementation of PIM in restored commands.

22. **A State Level Steering Committee (SLSC) chaired by the Chief Secretary to the GoB has been established.** The SLSC will meet at least twice a year and will be responsible for overall strategic guidance and oversight and for ensuring collaboration and resolving inter-department and inter-agency issues. The Principal Secretary of the State Water Resources Department will be the Secretary of the SLSC. The Additional Chief Secretary, the Principal Secretary, or the Secretaries of the State Ministries/Departments of Agriculture, Rural Development, Minor Water Resources, Planning & Development, Environment, Forest & Climate Change, Panchayati Raj, and Disaster Management will be the executive members of the SLSC. District Level Project Steering Committees (DLPSCs) will be constituted in all the districts where the Project is implemented, with District Collectors as the chairpersons to provide guidance at the field level.

23. **The district/circle offices in the project districts will form District Project Teams (DPTs) with deputed staff from the WRD, DoA, and RDD.** The DPTs will report to and provide all necessary field-level information to the nodal officers of

respective PIUs[5] and the Project Director of the BWSIMP, who will oversee the overall progress of the project implementation.

24. **Implementation will be guided through a Project Operations Manual (POM).** POM will be prepared by the PMU-PMTC, with each implementing entity providing its respective inputs, within three months from the project effectiveness date. All implementing agencies will adopt the POM and follow its guidance on procedures for implementation, fiduciary management, and M&E.

## CONTACT POINT

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### Implementing Agencies

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## FOR MORE INFORMATION CONTACT

[5] The project activities will be implemented through Project Implementation Units (PIU) established in WRD (field level units) each comprising of the Chief Engineer, the Superintendent Engineer and the Executive Engineer. About 20 divisions (out of 158 working divisions) of WRD are expected to be involved in project implementation. DoA and RDD will house the other PIUs

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## APPROVAL

| | |
|---|---|
| Task Team Leader(s): | Satya Priya LNU, Mehul Jain |

### Approved By

| | | |
|---|---|---|
| Practice Manager/Manager: | Sumila Gulyani | 25-Mar-2025 |
| Country Director: | Paul Procee | 30-Apr-2025 |