

## **Terms of Reference**

**for**

**Selection for “Engagement of Monitoring & Evaluation (M & E) Consultant for West Bengal Major Irrigation and Flood Management Project (WBMIFMP) in the State of West Bengal in India.”**

**West Bengal Major Irrigation and Flood Management Project  
[WBMIFMP]**

**[Funded by World Bank: AIIB: GoWB]**

**Irrigation & Waterways Department  
Government of West Bengal, India**

## **1. Background**

The Government of India applied for USD 290 million financing from the International Bank for Reconstruction and Development (IBRD) and Asian Infrastructure Investment Bank (AIIB) towards the cost of the **West Bengal Major Irrigation and Flood Management Project (WBMIFMP)** and intending to apply a part of the proceeds for Consultancy Services. The sub – borrower is Irrigation & Waterways Department (IWD), Government of West Bengal (GoWB).

WBMIFMP aims to improve the existing irrigation network in the Damodar Valley Command Area (DVCA) within the State of West Bengal, to optimize conjunctive and sustainable use of ground and surface water across the DVCA in different irrigation seasons, and to reduce flooding in the Lower Damodar Sub-Basin (LDSB) in West Bengal.

The duration of the project as envisaged now is for 64 months (August 2020 to November 2025). The Project will be executed by the Irrigation and Waterways Department of the Government of West Bengal by a 3-tier Project Management Unit (PMU) as the implementing agency / Employer, comprising a State Project Management Unit (SPMU), IWD being at the apex, having headquarters at Bidhannagar, District North 24 Parganas, followed by two District Project Management Units (DPMUs) at the next level and four District Project Implementation Units (DPIUs) of the IWD at the district level . The support of the Project Management Consultant (PMC) will be at the PMU at various levels i.e., the SPMU, DPMUs & the (DPIUs and is expected to fully assist the PMU in the planning and execution of the Project in all aspects under overall control of the IWD at the PMU.

## **2. Overview of the Project**

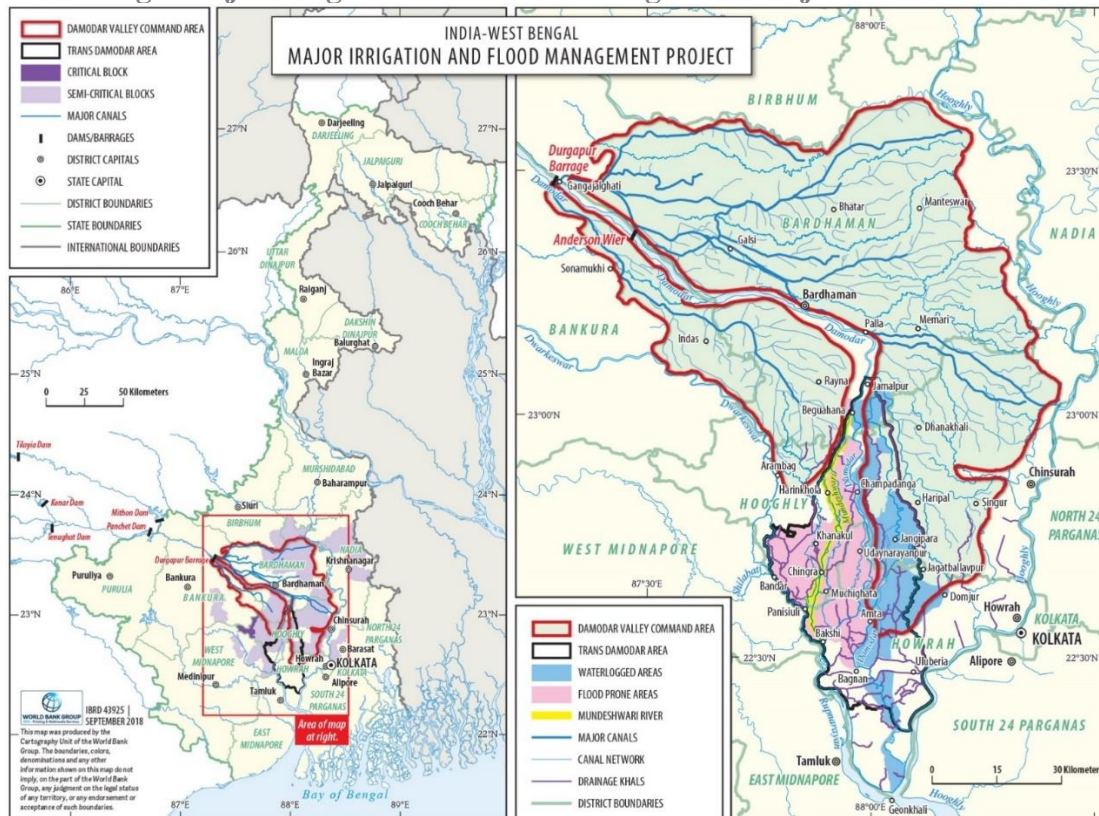
The Damodar River originates from the Chhotonagpur Plateau at Latehar District in Jharkhand and flows through the districts of Latehar, Hazaribagh in Jharkhand and enters Purulia District in West Bengal which is the lowermost riparian State in Damodar Basin. Five reservoirs have been built on the Damodar and its tributaries in Jharkhand to moderate floods in the lower basin area in West Bengal and for irrigation. These are operated by Damodar Valley Corporation (DVC). The Damodar River bifurcates into two main branches, i.e. Mundeswari and Lower Damodar (Amta Channel) near the border of Burdwan and Hooghly Districts, and both the channels traverse through the districts of Hooghly and Howrah, and ultimately meets River Hooghly, which debouches into Bay of Bengal.

## **3. Project Area:**

The project area considering both irrigation and flood management aspects is as follows:

## Country: India

### West Bengal major Irrigation and Flood Management Project



#### (i) Irrigation:

Northern Boundary: River Ajoy at Parulia, Block Katwa-I, District Burdwan (Latitude 233851 N).

Southern Boundary: Outfall of Nabinbabur Khal at Block Amta-I, District Howrah (Latitude 223547 N).

Western Boundary: Durgapur Barrage on river Damodar at Block Barjora, District Bankura (Longitude 871813 E).

Eastern Boundary: Howrah Burdwan Main Line of Eastern Railway at Nityanandapur, Block Balagarh, District Hooghly (Longitude 882517 E)

#### (ii) Flood Management

Northern Boundary: Bifurcation point of river Damodar into MundeSwari River and Amta Channel at Beguahana, Block Jamalpur, District Burdwan (Latitude 23088.34 N).

Southern Boundary: Outfall of Amta Channel in river Hooghly, Block Shyampur-I, District Howrah (Latitude 222059.76 N).

Western Boundary: Ichhapur at Block Khanakul-I, District Hooghly (Longitude 87450.43 E).

Eastern Boundary: River Saraswati at Eklakhi, Block Chanditala-II, District Hooghly (Longitude 881633.89 E).

The schematic drawing, brief project outlay, location and other particulars are available on the website [www.wbiwd.gov.in](http://www.wbiwd.gov.in) in the link “WBMIFMP”.

#### **4. Project Components**

The irrigation network downstream of the Durgapur Barrage (West Bengal) was developed more than 6 decades ago and is now degraded. This system is managed by IWD of GoWB. Dilapidated hydraulic infrastructure, loss of irrigation water due to seepage and silted distribution networks have reduced the system’s efficiency and led to water scarcity, particularly at the tail reaches. As a result, the gap between irrigation potential created vis-à-vis utilized is increasing, despite adequate water availability (around 140,000 hectare-meter (ha-m) or 1.4 billion m<sup>3</sup> for an ultimate 376,448 hectare (ha) of command area under Kharif irrigation on an average. This is only 20% of the total water availability at the barrage during monsoon. Tail end farmers are compelled to abstract groundwater, which increases the costs of cultivation. This trend increases when rainfall is erratic or insufficient. During Rabi season, water supply has so far been committed for 20,000 ha.

There is an urgent need to enhance the reliability and efficiency of water supply to increase water productivity and crop production, and to increase the amount of water that reaches tail-end areas. In response to these challenges, the West Bengal Major Irrigation and Flood Management Project (WBMIFMP) has been conceived. It aims to (i) ensure that water is distributed more equitably across the project command area, (ii) use of reduced water from the reservoirs during Kharif for Rabi irrigation and (iii) reduce flooding as much as can feasibly be achieved. A suitable system for real-time operation and monitoring of the irrigation management system, and private sector participation in operation and maintenance are being explored.

The project is structured under the following Components:

**Component A:** Irrigation Management - The component includes the following subcomponents: (i) Establishment of MIS, (ii) Improving the Quality of Service Delivery, (iii) Aquifer Management, and (iv) Capacity Strengthening.

**Component B:** Modernization of Irrigation Infrastructure - This component will invest in the modernization of irrigation infrastructure of the main (level 1), branch (level 2), distributary (level 3), and minor and sub-minor canals (level 4). Structural interventions on the canals include: desilting and reforming (restore shape and bank height) of selected canal sections across all canal levels; canal lining of unstable canal sections to ensure renewed canal section stability and hydraulic capacity; rehabilitating existing damaged flow control structures to restore and/or improve function, including measures to address foundation scour, structural

degradation and mechanical wear; improved irrigation management by real time flow data collection through sensors and mobile app to serve as inputs in the decision support system and to perform need-based operation to ensure need based and equitable distribution of canal water at the entry point of *chaks*; improving of outlet structures (fully closeable and lockable), further ensure need-based supply and to avoid water wastage; and improving weirs and drop structures and arrangement of tail regulation as needed to maintain operational head in canals; sub-surface pressurized pipe systems that will deliver water to faucets on each plot; and cross regulator construction.

**Component C: Flood Management** - This Component will invest in structural measures to reduce flooding in the Project area. Structural measures will include investments to ensure that the flood flow discharge is more evenly shared between the Mundeswari and Amta Channel. Increasing flood discharge capacity in Mundeswari requires dredging to restore/increase the low flow to moderate flood discharge capacity to reduce/limit peak discharge that will be shared in the Amta for all flood events.

**Component D: Project Management** - This component will strengthen capacity of the Project Management Unit set up for management of the project, monitoring and evaluation (M&E) (including, inter alia, the areas of procurement and financial management) through the provision of inventories, consultant services, training, and financing of incremental operating costs. Intermediate results indicators include the number of Project monitoring reports submitted on time annually. This component will (i) finance the preparation of several technical studies.

## 5. Implementation Arrangements

Project Implementation Arrangement within the Govt. of West Bengal is as below:

At the State level, a State Level Technical Steering Committee (SLTSC) headed by the Chief Secretary has been established and consists of the Heads of all concerned Departments. The SLTSC will review preparation and implementation progress, coordinate between Departments and provide guidance on policy matters

IWD Govt. of WB is responsible for project implementation. It has set up a State Project Management Unit (SPMU) headed by a Project Director (PD) / Chief Engineer of the IWD. The PD is supported by two Additional PDs / Superintending Engineer (SEs), 5 Deputy PDs / Executive Engineers (EEs) which includes 1 Executive Engineer - - Electrical & Mechanical., Accounts Officials and other support staff. Nodal officers from the Agriculture, Agri-Marketing, Fisheries, Horticulture & Food Processing Industries and Water Resources

Investigation and Development Department (WRIDD) are members (Partner Departments) of the SPMU. At the district level, two District Project Management Units (DPMUs) have been established (one for Howrah and Hooghly, and one for Bankura and Burdwan) for coordination and monitoring which are headed by Additional Project Directors. The DPMUs are functional with a skeleton staffing structure. These DPMUs will also comprise Heads of DPIUs of other concerned implementing Departments, e.g. Agriculture, Agri-Marketing, Food Processing Industries and Horticulture, Fisheries and WRID to ensure inter-departmental coordination at District Level. During project implementation Project components and sub-components execution will be overseen by the District Project Implementation Units (DPIUs) headed by the Deputy Project Directors in the rank of Executive Engineers in case of IWD and by other appropriate district level officers of partner departments. While the DPIUs of IWD will be full-time dedicated staff, such DPIUs of other Departments will implement project components in addition to their own duties.

The SPMU has engaged/in the process of engaging other consultancy services in the areas of Communication Strategy & IEC, Asset Management, Capacity Strengthening & Training of the Project Officials of the IWD, Transaction Advisory for engagement of Irrigation Service Providers (ISPs)-Phase-II, Aquifer Mapping & Groundwater Assessment (in consultation with the State Water Resources Investigation & Development Department (WRIDD) and Groundwater Management (in consultation with WRIDD).

## **6. Project Management Consultant (PMC)**

The IWD has engaged a PMC to manage the project through assistance to SPMU, DPMUs and DPIUs such that envisaged activities of the project are completed within agreed timelines, within budgeted costs and in full compliance with the Financing Agreement of the Project with the World Bank and in adherence to all applicable safeguard policies.

The broad scope of services related to M&E activities of the PMC are:

Maintaining a comprehensive MIS and GIS from SPMU, DPMU, DPIU and update project progress on regular basis.

Operation & maintenance and updating of GIS based Project MIS including establishing linkages with the existing Mobile app already developed for irrigation monitoring

Capturing relevant data from the Integrated Financial Management System of the State Finance Department

Developing, operating & maintaining a Grievance Redressal Mechanism as a module in the MIS and also imparting training to the PMU officials to use the MIS after completion of the Project

Collecting /capturing data relating to the PDO Indicators as well as Intermediate Results Indicators and present those to the M&E Consultant to be engaged separately by the Client

Preparation of Annual Work Plans, Budgeting, Financial Monitoring Reports (FMRs)

Project Monitoring and Progress Reports, Completion Reports at each DPIU, DPMU and SPMU including the projected cash flow, up to date project expenses etc.

Updation of Procurement Plan and uploading all procurement activities /on the STEP Portal of the World Bank

Coordinating with the implementing departments (IWD, Agriculture, Agri Marketing, Fisheries, Food Processing Industry, & Horticulture Departments), the SHGs /FPOs and offering the same set of services to those implementing departments as provided for the IWD

The PMC's list of key experts includes one M & E Consultant. The M & E Consultant of the PMC will act as a bridge between SPMU and external M & E Consultant to be appointed for the Project in a manner that M & E activities are performed on time subject to the requirements of the Project as envisaged through the Project Implementation Manual (PIM) and also as per the project requirements.

## **7. Objectives of Engagement of M & E Consultancy**

The purpose of M & E consultancy is to effectively monitor project progress and achievement, and to analyse prevailing baseline conditions with statistical data and information related to technical, socio- economic, agricultural, environmental, institutional, and related areas relevant to the Project. It will provide mid-term and end-of-project evaluations with sufficient data and information to assess the project's success. The M&E Consultant will be responsible for monitoring Project progress, Project impact, and achievement of the Project Development Objectives (PDO) and Intermediate Result Indicators, and will establish the M&E System based on a review of M&E needs and establish necessary practical procedures and measures in order to operationalize M&E (data collection and processing). The M&E system will be based on the agreed PDO indicators and annual performance targets presented in the Results Framework. It will fetch / generate data and information from various sources- - Project MIS, conducting periodic surveys, official records, secondary sources & undertake remote sensing analysis, and analyse them for progress review and assist the Project Director SPMU on regular basis. It will also provide necessary data and information to the World Bank Review Missions from time to time.

The M & E Consultant will be responsible for preparing all support documentation including coding guides, interviewer and supervisor manuals, and the data entry manual. Hard copies and electronic versions of all documentation will be provided to SPMU.

The M& E consultant will work in close coordination with the PMC, the Lead Consultant for the project, and report to the Client/World Bank/ AIIB, in a manner that the assigned tasks specified are delivered on time with full satisfaction of the Client. The consultant will also be flexible in generating additional information/analysis/studies as per the requirements which could emerge in course of experiences to be gained and likely issues to be flagged during periodic review of progress monitoring.

**8. The broad objectives of works for M&E Consultant are summarized below:**

- Study and review M&E needs, plans of the project and relevant data including a baseline survey to be done before /at project effectiveness and also additional surveys to be conducted during mid-term review and project completion. Main sources of data would be the Project MIS and Web GIS and the PMC would assist the M & E Consultant to capture these data. The Consultant may need to identify other secondary sources for collection /verification of data.
- Production of monitoring system in the form of an operational manual for collection, compilation and analysis of data. The monitoring system will be based on the agreed PDOs and annual performance targets presented in the Results Framework.
- Independent monitoring of project progress & completion and compliance with the PDO Indicators as well as component-wise Intermediate Results Indicators.
- Project impact & project compliance with social and environmental safeguards, monitoring implementation of the overall Environmental and Social Management Plan (ESMP) and Resettlement Action Plan (RAP) and of specific sub-Project (contract package) ESMPs and supervision of their implementation. The M & E Consultant will also help reinforce overall transparency and governance during Project implementation and produce a manual that includes the modalities /procedures of above.
- Monitoring the performance of the Irrigation Service Providers (ISPs) and the achievement of their contractual KPIs. It may be noted that the KPIs are presently being developed by a Transaction Advisor (i.e., Deloitte), engaged for the project, which will be made available to the M&E Consultant. For evaluation of the performance of the ISPs, the M & E Consultant will use the data captured using remote sensing technologies as much as possible to ensure transparency and accuracy (e.g., actual ET to monitor irrigation supplies). Other relevant data such as discharge data of canal, are to be collected from the PMC /IWD.
- Supporting the World Bank during the Supervision Missions, Mid-term Review and Implementation Completion stage by sharing /providing the requisite data /feedbacks as may be sought by the Bank and the experience gathered during the assignments.
- To prepare baseline, mid-term & project completion M & E reports, mainly based on the PDO & Intermediate Results Indicators as well as considering all other issues as mentioned in this ToR, that are relevant for evaluating the performance of the project.



- To organize workshop and presentations among the stakeholders on project progress and response sharing and lessons learned.
- To provide capacity building for relevant project stakeholders on the use of monitoring system and tools including identifying M&E capacity gaps and design appropriate training package, including, *inter alia*, training in monitoring the performance of the ISPs.
- To conduct regular field monitoring / spot-check on project sites and provide feedback for project improvement.

## **9. Scope of Services**

### **Scope of Services (Task) and Expected Deliverables**

#### **Task 1: Analyzing project activities & M & E needs**

The M & E Consultant will need to study various components of the WBMIFMP and understand status of present implementation and plan for future implementation, review project documents, including WBMIFMP's Project Implementation Plan (PIM), Progress Reports and Project Appraisal Report (PAD), contracts, other reports; discuss with SPMU, Head of Departments (HODs) of Irrigation and Water Resources Department (IWD), and concerned officials of other implementing Departments, i.e., Water Resources Investigation & Development, Agriculture Department, Food Processing & Horticulture Department, Fishery Department and Agri-Marketing Department, and other entities related to the implementation of the WBMIFMP. The M & E Consultant will familiarize themselves with the Project MIS and Web-GIS software along with various modules and submodules under these softwares being developed for the project and understand the process of generating data at different levels of hierarchy (DPIU/DPMU/SPMU) and their frequency of data capturing, validation and submission of data into the system. The M & E Consultant would need to undertake sample field visits to acquaint themselves with the geography and terrain of the project universe, study various project activities for concurrent evaluation (including work being done under various line agencies) and to have periodical discussions with proposed ISPs (Irrigation Service Providers).

#### **Task 2: Developing Monitoring System & preparing M&E Manual**

The monitoring system to be depicted in the M&E Manual, should provide guidance on the minimum requirements and agreed M&E approaches for the implementation of the WBMIFMP. The purpose of this document is to clarify and formalize M & E procedures, recognize key performance indicators, PDO as well as Intermediate Results Indicators, define reporting format and familiarize themselves with roles and responsibilities of project staff and SPMU/DPMU/DPIU. Thus, it is supposed to be the reference guide on M&E issues for the SPMU staff and line department officers. The PDO and Intermediate Results Indicators as

agreed with the Bank have been captured from the PAD and placed as Annex-A & Annex-B, respectively for ready reference.

### **Task 3: Collection, compilation, analysis of data & reporting.**

With a view to do the independent monitoring of progress of the project and compliance with the PDO as well as Intermediate Results Indicators, the M & E Consultant needs to collect, compile and analyze relevant data based on a detailed working plan. This Plan showing the frequency, data source and methodology should be developed as per guidelines provided in the M & E Plan shown in Annex-A & B. As already mentioned, the Project MIS & Web GIS would be the main data source. It is mentioned that PMC would mostly be responsible for uploading relevant data in the Project MIS on real time basis. Other than the PMC, various data relating to irrigation delivery would also be uploaded by the Govt. Irrigation Operators /Managers as well as Irrigation Service Providers, as the case may be, on real time basis. Similarly, flood inundation data at flood monitoring points measured at selected gauging stations would also be uploaded on the MIS by the IWD personnel. The M & E Consultant may also undertake field verification to validate the relevant MIS data, subject to the following conditions:

- a) In Irrigation sector, for the purpose of collecting data on areas brought under new & improved irrigation services and compliance with agreed delivery schedule of the ISPs contract, 1 (one) distributary canal should be selected at random from each of the clusters of critical, semi-critical and safe Blocks within the overall command area during the Kharif & Rabi /Boro irrigation seasons. Further to above, 1% of the total number of Mouzas covered under the command area of each of such canals (subject to a maximum of 10 Mouzas) may be selected for ground truthing of remote sensing data. Similarly, in case of verifying compliance with irrigation water supply from Main Canal to Distributary Canal and length of main canals modernized, 5% of the total length of each of the two main canals over a continuous stretch comprising at least one distributary canal offtaking from the main canal and at least 50 m stretch of canal lining, should be selected.
- b) In case of flood management works, a zone covering not more than 5% of the total length of the river embankment rehabilitated and at two flood monitoring points having flood level measurement gauges, may be selected at random.

The M & E Consultant would analyze the available data, extrapolate missing data /collect any secondary data as may be required, state the methodology of analysis and prepare the report encompassing the extent of achievement to the agreed indicators, with respect to the set targets. The Reporting format should be acceptable to the World Bank.

**Task 4: Other aspects to be incorporated in the Report.** Apart from the PDO and Intermediate Results Indicators, the Report should cover the following aspects:

- a) Monitoring implementation of the overall Environmental and Social Management Plan (ESMP) and Resettlement Action Plan (RAP) and of specific sub-Project (contract package) ESMPs /Contractors' ESHS-MSIP and supervision of their implementation. A suitable reporting format would have to be devised for this purpose, which should be acceptable to the World Bank.
- b) Performance Indicators of the ISPs, which are not included in the list of PDO indicators, but may crop up after finalization of the ISP contracts.
- c) Status of compliance / achievements in regard to the Procurement Performance Indicators as shown in Annex-C.

#### **Task 5: Frequency of Survey & Reporting**

##### **(a) Baseline**

The M & E Consultant, on being engaged would undertake a baseline assessment to capture the status of process compliance /achievement of the PDO /Intermediate Results Indicators and also other indicators relevant to the assignment and mentioned in this ToR.

##### **(b) Mid Term**

The M & E Consultant would be required to conduct a mid-term review, period of which would be specified by the Bank, before their Review Mission (sometimes around March 2023) and prepare a mid-term M & E report for appraisal by the Bank. The Mid-Term report will be in-depth and more analytical encompassing beneficiary surveys, assessment of training efficacy, KPI achievements of the ISP and other related aspects.

##### **(c) Annual M&E Report**

The M&E Consultant will prepare 2 Annual M& E Reports (first one in August 2024 & next in August 2025) sourcing information from project MIS data, official records, ISP related performances incorporating KPI and relevant primary data to be sourced from the project area. These reports will be prepared keeping in view progress of PDO and Intermediate Result Indicators, & other relevant aspects as detailed in Task-4, Paragraph 9.

##### **(d) At Project Completion**

The project is scheduled to be completed in November 2025. The PMC is to prepare a Beneficiary Implementation Completion Report (ICR) 3 months before prior to the project closing date. The M & E Consultant will be required to prepare its end term M & E report

based on the ICR prepared by the PMC and sourcing additional information, if required, in a manner acceptable to the World Bank, with narratives on overall performance of the project. The End-Term M&E report will be in-depth and more analytical encompassing beneficiary surveys, assessment of training efficacy, KPI achievements of the ISP and other related aspects. This report will be submitted to the Bank on immediately after completion of the project. The M & E Consultant will also be responsible for further modifications of their Report as may be required by the Bank.

#### **Task 6: Workshops and Sharing of Learning**

The M & E Consultant will produce the reports (described in the Deliverables and Schedule section below) in formats agreed with the SPMU /World Bank during inception. All reports will require draft versions with presentations made at SPMU by the M& E Consultant to brief them about the status of the Consultancy and monitoring outputs and evaluating impacts and solicit feedback before finalizing. The M & E Consultant is expected to make regular presentations on project performance at multiple levels (including State Level Technical Committee, District Level Technical Committee, SPMU, DPMU, DPIU etc. led by the Team Leader to be agreed by the SPMU). In addition, the M & E Consultant will develop special publications and Videos success stories in both verbose as well as video format, upload some of the success stories on the website of WBMIFMP, and other lessons learned. All reporting and presentations should be made in an easy-to-understand manner, using graphics, spatial representation of data, schematics, photographs, videos, etc. as useful illustrations. The reports concerning beneficiary engagement in the project area will be prepared in local language (Bengali) for wider dissemination and appreciation of information and knowledge.

### **10. Period of engagement of the M&E Consultant**

The M& E Consultant will be engaged for a period of 18 months during November 2022 to November 2025 in Phases.

## 11. Time Schedule for Deliverables

Sr no	Deliverable	Description	Schedule (months after signing the contract)
Phase-I (From Contract sign up to finalization of baseline M & E Report)			
1	<b>Inception Report</b>	Monitoring and Evaluation Strategy, Work Plan and Methodology Deployment schedule of key staff;  Outline / ToC for the M & E Reports;	30 days. Upon IWD review, the comments are to be incorporated and send within 15 days of receiving IWD comments.
2	<b>M&amp;E Manual</b>	Following chapters may be included: <ol style="list-style-type: none"> <li>1. Introduction</li> <li>2. Project Summary</li> <li>3. M &amp; E requirements and the relevant indicators</li> <li>4. Data sources, &amp; formats for providing the data to the M &amp; E Consultant by the PMC for each of the M &amp; E requirements</li> <li>5. The period for which the data to be provided to the M &amp; E Consultant for preparation of their reports.</li> <li>6. Calendar of field visits &amp; Workshops.</li> </ol>	2 months. Upon IWD review, the comments are to be incorporated and send within 15 days of receiving IWD comments.
3	<b>Baseline M &amp; E Report</b>	Chapters & contents of the Report may include, but not be limited to the following, subject to the advice /suggestions of the World Bank <ol style="list-style-type: none"> <li>1. List of indicators (PDO /Intermediate /Others) required for preparation of the report.</li> <li>2. Narrative on methodology and periodicity for posting the data relating to the indicators in the MIS and suggestions for improvement, if any.</li> <li>3. Extent of compliance /achievement at the time of preparation of the report, on the basis of MIS reports, other reports /documents and field verification to the extent specified.</li> </ol>	Within 6 months, from date of award. Upon IWD review, the comments are to be incorporated and send within 15 days of receiving IWD comments.

Sr no	Deliverable	Description	Schedule (months after signing the contract)
		<ol style="list-style-type: none"> <li>4. Narrative on overall performance at the time of assessment.</li> <li>5. Suggestions for betterment of performance, if any.</li> </ol>	
Phase-IIA (Mid-term review)			
4	<b>Mid-term M &amp; E Report</b>	<p>Chapters &amp; contents of the Report may include, but not be limited to the following, subject to the advice /suggestions of the World Bank.</p> <ol style="list-style-type: none"> <li>1. List of indicators (PDO /Intermediate /Others) required for preparation of the report.</li> <li>2. Extent of compliance /achievement at the time of preparation of the report, on the basis of MIS reports, other reports /documents and field verification to the extent specified.</li> <li>3. Narrative on overall performance at the point of assessment.</li> <li>4. Highlighting key issues /areas of weakness that are impeding time bound execution of the project and achieving the required performance level.</li> <li>5. Other M &amp; E tasks that may be assigned by the World Bank during the Mid-term Review Mission.</li> <li>6. Suggestions for betterment of performance, if any.</li> </ol>	<p>Total 4 months, to be reckoned from 2 months before the date of Mid-term Review by the Bank. Next 2 months would be for incorporation of the comments /view /suggestions of the Bank. It is expected that the submission of the report would be more or less coterminous with the Mid-term Review Mission by the Banks (tentatively June 2023)</p>
Phase-IIB (Annual Reports)			
	<b>Preparing Annual M&amp; E Reports</b>	<p>Annual M&amp; E reports will focus on M&amp; E activities to be outlined in the Inception report and their compliances and will include but not be limited to the followings:</p>	<p>One report each in August 2024, and August 2025 respectively. It should take 1.5 months for each of the Annual Reports. Upon</p>

Sr no	Deliverable	Description	Schedule (months after signing the contract)
5		<ol style="list-style-type: none"> <li>1. Component wise physical &amp; financial progress.</li> <li>2. Progress of PDO achievement.</li> <li>3. Progress of achievement of Intermediate Result Indicators.</li> <li>4. Other aspects already mentioned in Task-4 under “Scope of services”, vide Paragraph 9.</li> <li>5. Special Report as Appendix to Annual Report as covered in Sr. 7 below:</li> </ol>	IWD review, the comments are to be incorporated and send within 15 days of receiving IWD comments.
Phase-III (End-term , i.e. project completion)			
6	<b>End- term (Project Completion) M &amp; E Report</b>	<p>Chapters &amp; contents of the Report may include, but not be limited to the following, subject to the advice /suggestions of the World Bank.</p> <ol style="list-style-type: none"> <li>1. List of indicators (PDO /Intermediate /Others) required for preparation of the report.</li> <li>2. Extent of compliance /achievement on completion of the project on the basis of MIS reports, other reports /documents and field verification to the extent specified.</li> <li>3. Narrative on overall performance and impact of the project on completion.</li> <li>4. Lessons learnt and good practices to be shared.</li> <li>5. Special Report as Appendix to End-term (Project Completion) Report as covered in Sr. 7 below.</li> </ol>	5 months, to be reckoned from 3 months before the project completion date.
Special Reports to be submitted as Appendices to the Annual Report & End-term Project Completion Report)			
7	<b>Field monitoring (spot check) report as Appendix to the Annual Reports, vide Sr No. 5 above</b>	<p>Chapters &amp; contents of the Report may include, but not be limited to the following, subject to the advice /suggestions of the World Bank</p> <ol style="list-style-type: none"> <li>1. Progress</li> <li>2. Issues</li> <li>3. Suggestions for handling the problems and improvement of performance</li> </ol>	To be decided in consultation with the World Bank

Sr no	Deliverable	Description	Schedule (months after signing the contract)
8	<b>Workshop / Training completion report</b>	Summary of the followings are to be provided in a format acceptable to the World Bank 1 Workshop for SPMU 2 Workshops for DPIUs	This will be organized between Mid-Term and End Term evaluation of the project in consultation with the SPMU

**Note:**

1. The M & E Consultant would be required to discuss each of the deliverables with the IWD over PPTs, one at draft reporting stage and the other before submission of the final version.
2. The Team Leader (TL) of the M & E Consultant with other experts should also be available for discussions /presentation during the review missions of the Banks, within their intermittent input periods, either physically or online, depending on the mode of holding the missions.
3. All deliverables (draft as well as final versions) should be submitted in soft copy (by Gmail) and in 3 (three) hard copies. On completion of the assignment, all the reports are to be submitted in one pen drive).
4. Breakdown of total 18 months, already explained in the Table below Para 11, is summarily explained for better clarity. Time allotted for Baseline M&E report is 6 months which includes timeline for submission of Inception report and M& E Manual (i.e., Sr No 1 and Sr No 2). Time allotted for Mid Term Report is 4 months (Sr No 4). For two (2) Annual M& E reports, time allotted is 3 months (Sr No 5, @ 45 days per Annual report). Time allotted for End Term Project Completion Report is 5 months (Sr No 6). It is to be noted that 3 months earmarked for 2 Annual Reports also include deliverables under Sr No 7 & Sr No 8.

## **12. COMPOSITION OF REVIEW COMMITTEE TO MONITOR CONSULTANTS WORK**

The Chief Engineer & Project Director (CE & PD) will constitute an internal committee within SPMU to monitor the progress of the M&E Consultant's work. The committee will have the following composition:

- i. APD II, III & IV (Members, Senior most will function as the Chairman)
- ii. DPD -IV (SPMU)- Member
- iii. DDO, SPMU- Member
- iv. T.L, PMC- Member
- v. M & E Expert of the PMC-Member



### **13. PROCEDURE FOR REVIEW OF PROGRESS REPORTS, INCEPTION, STATUS, FINAL DRAFT AND FINAL REPORTS**

All deliverables of the M&E Consultant will be reviewed by the internal committee of the SPMU. This committee will appraise the CE&PD about the progress of the work of the M&E consultant. The comments and feedback received from the committee members will be consolidated, discussed and shared with the CE&PD. After completion of internal consultation and review, a consolidated observation will be shared with the World Bank for further inputs, if any. After that, M&E Consultant will be asked for incorporating changes in the report.

### **14. Role of Key Experts and Non-Key experts**

#### **Key Experts**

**M & E Team Leader:** She /He will acquire comprehensive knowledge about the project, PDOs, Intermediate Indicators and associated indicators and other requirements of M & E for successful accomplishment of the task. She /He will lead the design of the M& E system in consultation with IWD/SPMU and other stakeholders following the process and procedures followed by the World Bank/AIIB and draw a roadmap for M & E Implementation.

As a part of the above stated broad job description, the Team Leader will keep close coordination with all the stake holders, particularly with the domain experts to be deployed in the team and supervise their contributions in the project and other four implementing departments. The M & E Team Leader will be responsible for delivery of services as outlined under “Deliverables” and adhere to the timeline of deliverables specified in the TOR. The Team Leader will maintain close coordination with the relevant staff of IWD and SPMU, DPMU, DPIU in successful completion of the tasks, organize presentation and discussions and brief the project functionaries from time to time. Will be responsible for coordinating with the World Bank/AIIB review missions in explaining M & E activities and the results thereof.

**Water Resource Specialist:** She /He will be responsible for providing inputs, technical knowledge and expertise to the study team in the areas of irrigation using surface as well as ground water, assessing irrigation efficiency in the canal network, pressurized irrigation (micro irrigation), and flood management. The expert should have sufficient knowledge on irrigation/flood monitoring following application of remote sensing technologies and GIS software package to enable him to detect changes in the project area which will contribute towards assessing project impact.

**Survey Specialist:** She/He will be responsible for conducting Baseline, mid- term and end term survey of the project area that includes finalization of survey design, tools for investigation (questionnaire design, coding plan, instruction manual for the survey and

training to the enumerators), organizing data collection, analysis and reporting and participating in discussions with the review missions of the World Bank from time to time. She/he will also be responsible for conducting special studies (beneficiary survey/special surveys as per needs. Will assist the M & E Team Leader in carrying out special analysis regarding project outcome indicators, analysis of secondary data and establishing causal impact on the project outcome, and will adopt a flexible approach in providing need-based analysis relevant to project objectives.

**Environmental Specialist:** She /He will work closely with the study team for incorporating the environmental management requirements, Environmental management plan implementation, monitoring the safeguards mechanism as per project requirements. She/he, after perusing the ESMP & Sub-Project ESMPs /Contractors' ESHS-MSIP will suggest the study team about the parameters that are required to be captured during baseline, midterm and end term surveys which will provide clear directions on the progress of the environmental indicators for project monitoring and evaluation.

**Social Development Specialist:** She /He will have the key responsibility in providing inputs to the study team in monitoring social safeguard measures and implementation of the Resettlement Action Plan, as considered in the Contractors' ESHS-MSIP, as well as the status of capturing and addressing the grievances in the GRM of the Project MIS.

**Non-Key experts:**

**Data Analyst cum MIS Specialist:** She /He will be responsible for providing needful analysis relating to progress monitoring, analytics depicting trends, statistical analysis from data harnessed from MIS, Web GIS/ Secondary sources/Primary sources on real time basis to M & E Team Leader and SPMU. The incumbent will be responsible for keeping updated information on progress monitoring in respect of statistical highlights, prepare PPT presentations and cater to the analytical requirements for the implementing authorities. She/he will also be responsible in understanding of data generation, data submission and data validation process followed in the project MIS and web GIS.

## 15. Suggested person-months

### a) Person-month requirements: Key Experts

Sl. No	Key Position	Preferred minimum educational qualification	Preferred experiences or eligible assignments.	Estimated person months
1	M & E Team Leader	Graduate in Civil Engineering with Post Graduate in Water Resource Engineering/ Project Management.	At least 20 years of experiences in Water Resource Sector with specific experience in M & E assignments at senior level in at three major projects out of which at least one should be World Bank/ ADB /JICA assisted Project. She /he should possess skill and experience in designing result based M&E system and tools and conversant with theory of Change, and Project Impact Evaluation of major projects, preferably in water resources sector.	18
2	Water Resource Specialist (1 No.)	Graduate in Civil Engineering with Post Graduate in Water Resource Engineering/ Geo-Informatics. . It is desirable to have a post graduate diploma in remote sensing in case of candidates who have not done post-graduation in Geo-Informatics.	At least 10 years of work experiences in Water Resource Sector with specific experience/exposure in remote sensing /GIS in at least two major projects, preferably in water resources sector.	18
3	Survey Specialist	At least Master degree in Economics/Statistics/Social Science.  Should be conversant with Questionnaire design, data collection, and data validation and reporting and familiarity with Statistical software package for processing survey data.	At least 10 years' experience in the conduct of largescale survey for Project Impact Assessment under "with and without project concept" particularly in the areas of major irrigation, project evaluation, assessing benefits under irrigation/input service providers.  Should have demonstrated skills in preparation of analytical reports in World Bank funded/other international agency funded projects in the development sector following multidisciplinary approach	12

Sl. No.	Key Position	Preferred minimum educational qualification	Preferred experiences or eligible assignments.	Estimated person months
4	Environmental specialist (1No.)	Graduation in Civil Engineering or Equivalent, and Post-Graduation in Environmental Engineering / Environmental Science / Environmental Management	<p>At least 10 years of experience in the preparation of Environment Impact Assessment of large-scale infrastructure projects, preferably in water resources sector, during last five years at least one of which should be under World Bank funding.</p> <p>The specialist should also be fully conversant with National and State legislations, formulation of various policy frame-works and action plans, and with the safeguard policies of the World Bank. The Expert should be conversant in local language (Bengali)</p>	18
5	Social Development & Gender Specialist (1 No.)	Post-Graduation in Sociology / other relevant field	<p>At least 10 years' experience in designing and implementing social assessment / development programmes in large-scale infrastructure projects. The Expert should have working experience on issues pertaining to vulnerable community, resettlement and rehabilitation, religion and gender and a solid background on handling consultations with multiple stake holders, at least in one World Bank project. The Expert should be conversant in local language (Bengali)</p>	18
Total			84 Person-months	

**b) Manpower requirements: Non Key Experts**

<b>Sl. No.</b>	<b>Position</b>	<b>Preferred minimum educational qualification.</b>	<b>Preferred experiences or eligible assignments</b>	<b>Estimated man months</b>
1	Data Analyst cum MIS Specialist– 2 Nos.	Graduate in Computer Application or equivalent	At least 5 years' experience in designing, software/database development and operation of MIS and experience in conducting beneficiary surveys in the rural sector	2 X 18 = 36

**Note:** In order to do field survey / measurements to the extent specified in the ToR, the M & E Consultant may additionally recruit Surveyor / Work Assistant and incorporate the cost involvement thereof additionally, in his quoted price.

**15. Location of M & E Consultant** It is desirable that the M&E Consultant would set up /use its office at Kolkata, preferably closer to the office of SPMU (located at *Jalasampad Bhavan*, Sector II in Salt Lake City Kolkata), for effective coordination with the SPMU and delivery of outputs as per the TOR.

**16. DATA, SERVICES AND FACILITIES TO BE PROVIDED BY THE CLIENT**

1. The Consultant would be permitted to access the followings:
  - WBMIFMP MIS and WebGIS Portal - - [www.wbmifmp.wb.gov.in](http://www.wbmifmp.wb.gov.in)
  - “Project Appraisal Document (PAD) of the World Bank”;
  - “Project Implementation Plan (PIM)”- prepared by the PMC, Tractebel Engineering Pvt Ltd
  - “Rapid Irrigation Modernization Assessment of DVCA”- - Charles M Burt, Ph.D, P.E, San Luis Obispo, California, USA, [cbyrt@calpoy.edu](mailto:cbyrt@calpoy.edu)
  - “Transaction Advisor- Engagement Partner Players for management, Operation and Maintenance of Irrigation Delivery System under WBMIFMP’, prepared by Deloitte Touche Tohmastu India LLP.
  - Contract documents on sample basis (one for embankment improvement, one for river desiltation- - both in flood management sector and one for irrigation modernization).
2. The Consultant will work in close consultation with the PMC & the PMU set up of the IWD.
3. The IWD shall not provide any office area for the M&E Consultant and the Consultant will have to set up office space in Kolkata closer to IWD office area during the tenure of

this consultancy., However, space may be provided intermittently for their working/discussions purpose for a few hours in a day, at the office of the PMU.

4. Transport for movement of the personnel & experts of the Consultant will have to be arranged by him.
5. Necessary introductory letters /supports would be provided to the Consultant for interaction with all the stakeholders /government departments, including the IWD. However, collection of required data would remain as the sole responsibility of the Consultant.

<b>Annexure A: Monitoring &amp; Evaluation Plan: PDO Indicators</b>					
<b>Sr No</b>	<b>Indicator Name</b> <i>Baseline Value &amp; End Targets &amp; Achievement Condition</i>	<b>Definition/Description</b>	<b>Frequency</b>	<b>Data source</b>	<b>Methodology &amp; Responsibility for Data collection</b>
1	Area provided with new/improved irrigation or drainage services (in hectare) <i>Baseline: 0.00 ha</i> <i>End Target: 376, 448 ha</i>	This indicator measures the total area of land provided with irrigation and drainage services under the project, including in (i) the area provided with new irrigation and drainage services, and (ii) the area provided with improved irrigation and drainage services.	Annual (Crop Year, from July of any calendar year to June of the next calendar year)	MIS Reports	PMC /IWD would analyze the RS data supported by ground verification and would upload the output in the Project MIS. M&E Consultant will, capture the Project MIS Reports and validate by independent field verification to the extent specified in ‘Task 3: Collection, compilation, analysis of data & reporting’ , as and when required, for the purpose of preparation of Baseline, Mid-Term & Completion Report.
2	Area provided with improved irrigation or drainage services <i>in operations supported by the World Bank.</i> (in hectare) <i>Baseline: 0 ha</i> <i>End Target: 376, 448 ha</i>	Measures the total area of land provided with new or improved irrigation or drainage services <b><u>in operations supported by the World Bank.</u></b>	Annual (Crop Year, from July of any calendar year to June of the next calendar year)	MIS Reports	PMC /IWD would analyze the RS data supported by ground verification and would upload the output in the Project MIS. M&E Consultant will capture the Project MIS Reports and validate by independent field verification to the extent specified in Task 3: Collection, compilation, analysis of data & reporting’, as and when required, for the purpose of preparation of Baseline, Mid-Term & Completion Report.
3	Compliance with agreed water delivery schedule of the Irrigation Service Providers’ (ISPs) contracts. (in percentage) <i>Baseline: 0.00%</i> <i>End Target: 90.00%</i>	A water delivery schedule will be agreed as part of the annual contract. The M&E consultant will monitor the performance of the ISPs against the agreed delivery schedule.	Annual (Crop Year, from July of any calendar year to June of the next calendar year)	MIS Reports	PMC /IWD would upload the data in the Project MIS. M&E Consultant will capture MIS Reports, as and when required, for the purpose of preparation of Baseline, Mid-Term & Completion Report.
4	Compliance with bulk water supply from Main Canal to Distributary Canal. (in percentage) <i>Baseline: 0.00%</i> <i>End Target: 90.00%</i>	IWD and the Operator will sign annual bulk water delivery contracts that define the amount of water that will be delivered to the head of the Distributary canal. The M&E consultant will monitor the	Annual (Crop Year, from July of any calendar year to June of the next calendar year)	MIS Reports	PMC /IWD would upload the data in the Project MIS. M&E Consultant will capture MIS Reports, as and when required, for the purpose of preparation of Baseline, Mid-Term & Completion Report.

<b>Annexure A: Monitoring &amp; Evaluation Plan: PDO Indicators</b>					
<b>Sr No</b>	<b>Indicator Name</b> <i>Baseline Value &amp; End Targets &amp; Achievement Condition</i>	<b>Definition/Description</b>	<b>Frequency</b>	<b>Data source</b>	<b>Methodology &amp; Responsibility for Data collection</b>
		compliance with the contract			
5	Rate of reduced flood depth at the monitoring points compared with equivalent flood depth from 2008-2017. (in percentage) <i>Baseline: 0.00%</i> <i>End Target: 30.00%</i>	This indicator will measure how much percentage of inundation depth is reduced at the monitoring point compared with similar level of historical events from 1999-2017. The following historical data of depth by return level will be used as base for comparison: (i) 0.76 to 0.9 m for range of 1.98 to 3.1-year return period; (ii) 1.4 m for 9-year return period; and (iii) 1.52 m for 20-year return	Annual (Calendar year)	MIS Reports	PMC /IWD would upload the data in the Project MIS. M&E Consultant will capture MIS Reports, as and when required, for the purpose of preparation of Baseline, Mid-Term & Completion Report. As already stated in 'Task 3: Develop a project baseline Collection, compilation analysis of data & reporting', the M & E consultant may undertake field verification.
6	Arrest in the rate of decline of groundwater levels in semi-critical blocks in each defined groundwater management area. (Text) <i>Baseline: 0.00%</i> <i>End Target:</i> <i>50% in area south of Damodar River;</i> <i>50% in area between Damodar and Hooghly rivers</i>	The indicator will measure groundwater level at selected observation wells in each of two areas: i) south of Damodar River and ii) between Damodar and Hooghly rivers during the 5-week pre-monsoon period. The indicator will be considered achieved if the pre-monsoon groundwater level in at least 50 percent of the predefined observation wells in semi-critical blocks in each of the two areas is equal to or above the baseline groundwater level (normalized for trend and rainfall). The baseline groundwater level is the average of trend-corrected pre-monsoon water level in the	Annual (Calendar year)	Report of State Water Investigation Directorate (SWID) under WRIDD /MIS Reports	GW data, in the baseline condition would be collected from the existing inspection wells of the SWID, by the PMC /IWD and uploaded on the MIS. At a later stage, additional wells with real time monitoring sensors would be installed by SWID under this Project, from where the data would be transmitted to the Project MIS. M&E Consultant will capture Reports of the SWID /Project MIS Reports, as and when required, for the purpose of preparation of Baseline, Mid-Term & Completion Report.



<b>Annexure A: Monitoring &amp; Evaluation Plan: PDO Indicators</b>					
<b>Sr No</b>	<b>Indicator Name</b> <i>Baseline Value &amp; End Targets &amp; Achievement Condition</i>	<b>Definition/Description</b>	<b>Frequency</b>	<b>Data source</b>	<b>Methodology &amp; Responsibility for Data collection</b>
		observation wells over 2012–18.			
7	No deterioration of groundwater level trends in safe blocks in each defined groundwater management area. (Text) <i>Baseline: 0.00%</i> <i>End Target:</i> <i>100% in area south of Damodar River;</i> <i>100% in area between Damodar and Hooghly rivers</i>	The indicator will measure groundwater level at selected observation wells in each of two areas: i) south of Damodar River and ii) between Damodar and Hooghly rivers during the 5-week pre-monsoon period.  The indicator will be considered achieved if the pre-monsoon groundwater level in 100 percent of the safe blocks shall not have a deteriorating trend.  The baseline groundwater level is the average of trend-corrected pre-monsoon water level in the observation wells over 2012–18.	Annual (Calendar year)	Report of State Water Investigation Directorate (SWID) under WRIDD /MIS Reports	GW data, in the baseline condition would be collected from the existing inspection wells of the SWID, by the PMC /IWD and uploaded on the MIS. At a later stage, additional wells with real time monitoring sensors would be installed by SWID under this Project, from where the data would be transmitted to the Project MIS. M&E Consultant will capture Reports of the SWID /Project MIS Reports, as and when required, for the purpose of preparation of Baseline, Mid-Term & Completion Report.

**Annexure B: Monitoring & Evaluation Plan: Intermediate Results Indicators**

Sr No	Indicator Name <i>Baseline Value &amp; End Targets &amp; Achievement Condition</i>	Definition/Description	Frequency	Datasource	Methodology and responsibility for data Collect
1	Three modules of MIS functional. (Text) Baseline: None End Target: Fully Functional	The MIS modules with the following following functions: (i) administrative functions, (ii) irrigation operations and decision support system, and (iii) performance monitoring and irrigation efficiency evaluation, will be functional.	Annual (Calendar year)	MIS Reports	The M&E Consultant will collect reports of the relevant modules from the MIS.
2	Grievances registered related to delivery of project benefits that are resolved. (In percentage)  Baseline: 0.00% End Target: 80.00%  Of which females	Grievances will cover all aspects of project implementation, including, inter alia, grievances related to involuntary resettlement. The GRM will also include a pro-active element through which the PIU will seek comments from beneficiaries once a year, as well as establishing the systems for receiving and processing unsolicited comments/complaints.  This breakdown indicator will measure female beneficiaries' access to the GRM. The issue might involve gender specific issues.	Annual (Calendar year)  Annual (Calendar year)	MIS Reports /Registers  MIS Reports /Registers	All the grievances and redressal of those would be uploaded on the Project MIS, by the PMC on real time basis. M&E Consultant will, capture MIS Reports and reconcile with other primary sources, e.g. registers etc. as and when required, for the purpose of preparation of Baseline, Mid-Term & Completion Report.  All the grievances and redressal of those would be uploaded on the Project MIS, by the PMC on real time basis. M&E Consultant will, capture MIS Reports and reconcile with other primary sources, e.g. registers etc. as and when required, for the purpose of preparation of Baseline, Mid-Term & Completion Report

Sr No	Indicator Name <i>Baseline Value &amp; End Targets &amp; Achievement Condition</i>	Definition/Description	Frequency	Datasource	Methodology and responsibility for data Collect
3	Asset Management Plan prepared (Yes /No) Baseline : No End Target: Yes	The Project will finance introduction of rational asset management, including establishment of a geo-tagged asset database, budget planning, development of maintenance standards, and reporting on these. The indicator will measure if asset management is prepared.	Annual (GoI Financial year)	MIS Reports	The M&E Consultant will capture MIS Reports as and when required, for the purpose of preparation of Baseline, Mid-Term & Completion Report.
4	Groundwater study completed to the satisfaction of the Bank.(Text)  Baseline : Not yet started End Target: Completed	This indicator will monitor whether the groundwater study completed to the satisfaction of the Bank.	Annual (Calendar year)	Progress Reports	The M&E Consultant will collect data from SPMU and verify with SWID under WRIDD, for the purpose of preparation of Baseline, Mid-Term & Completion Report.
5	Percentage of women engineers recruited by IWD. (in percentage) Baseline : 4.5% End Target: 7.0%	The indicator will measure the Project's addressing the gender gap identified during the Project preparation. The Project will increase the number of women engineers hired to 7% from the baseline of 4.5% by a) outreach activities targeting female students enrolled in STEM courses across local universities; b) gender-sensitive infrastructure in IWD premises such as separate toilets, adequate lighting, separate seating spaces, etc. and c) strengthened anti-sexual harassment cell.	Annual (Calendar year)	Progress reports	The M&E Consultant will collect data from SPMU.

Sr No	Indicator Name <i>Baseline Value &amp; End Targets &amp; Achievement Condition</i>	Definition/Description	Frequency	Datasource	Methodology and responsibility for data Collect
6	Length of main canals modernized (in km) Baseline : 0.0 km End Target: 181.92 km	This indicator measures the length of the two main canals modernized, including installation of flapgates, repair of cross-regulators and selected lining.	Annual (GoI Financial year)	MIS Reports	PMC /IWD would upload the data in the Project MIS. M&E Consultant will capture MIS Reports, as and when required, for the purpose of preparation of Baseline, Mid-Term & Completion Report. As already stated in 'Task 3: Develop a project baseline Collection, compilation analysis of data & reporting', the M & E consultant may undertake field verification.
7	Length of river embankment rehabilitated. (in km) Baseline : 0.0 km End Target: 136.6 km	This indicator will measure progress of rehabilitation work on the left and right banks of the Amta Channel and Mundeswari river by total length of completed works.	Annual (GoI Financial year)	MIS Reports	PMC /IWD would upload the data in the Project MIS. M&E Consultant will capture MIS Reports, as and when required, for the purpose of preparation of Baseline, Mid-Term & Completion Report. As already stated in 'Task 3: Develop a project baseline collection, compilation analysis of data & reporting', the M & E consultant may undertake field verification.
8	Number of Project monitoring reports submitted on time annually. (Number) Baseline : 0 End Target: 4	This indicator measure the number of Project monitoring reports submitted on time annually.	Annual	Progress reports	The M&E Consultant will collect relevant Reports from the SPMU

## Annex-C Procurement Performance Indicators

<b>Indicator</b>	<b>Measure</b>	<b>Indicator measure performance related to</b>
<b>Average length of procurement processes</b>	<b>Number of days between date of award and date of invitation to bid.</b>	<b>Timeliness, cost effectiveness, and quality of planning</b>
<b>Time for bid evaluation</b>	<b>Number of days between bid opening and publication of award.</b>	<b>Timeliness, efficiency, and cost-effectiveness of process</b>
<b>Processes cancelled/Cases of Rebidding</b>	<b>Percent of bid processes declared null before contract signature.</b>	<b>Quality of planning, quality of bidding documents, and overall quality of process.</b>
<b>Distribution of awards by procurement method</b>	<b>Number of processes awarded by procurement methods.</b>	<b>Compliance with applicable rules, cost-effectiveness, and competitiveness.</b>
<b>Bidders' participation</b>	<b>Average number of bidders submitting a bid in each bid process.</b>	<b>Quality of process, quality of bidding documents, quality of procedures, compliance with procedures</b>
<b>Number of contracts with cost increases over award amount</b>	<b>Percentage of Cost increases due to amendments and change orders</b>	<b>Quality of process, documents, and specifications; quality of competition.</b>

<b>Indicator</b>	<b>Measure</b>	<b>Indicator measure performance related to</b>
<b>Number of contracts completed as per the original delivery period</b>	<b>number of contracts which were not delayed</b>	<b>Quality of contract management</b>
<b>Number of contracts that went into arbitration/ dispute</b>	<b>Number of contracts delayed due to arbitration</b>	<b>Quality of contract management</b>
<b>Number of complaints received, addresses and resolved</b>	<b>Total number of complaints recorded, addressed, closed</b>	<b>Quality of overall procurement process</b>

End